SOLID WASTE MANAGEMENT PLAN

KENT COUNTY, MARYLAND

2007 - 2017

YEAR 2013
REVISION/AMENDMENT

Prepared For:
The County Commissioners
of Kent County
400 High Street
Chestertown, MD 21620

Prepared By:

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Cover and Cover Sheet ..... 2 pages
Public Hearing, Solid Waste Management Plan (Pending) ..... 1 page
Motion to adopt Solid Waste Management Plan (Pending) ..... 1 page
Letter of Approval, Maryland Department of the Environment (Pending) ..... 1 page

Table of Contents

Chapter 1 Introduction
1.1 Solid Waste Management Goals and Objectives ..... 1-2 to 1-6
1.2 Organization for Solid Waste Management ..... 1-7 to 1-8
Table 1, Distribution of Solid Waste Employees 1-7
List of Officials 1-8
Figure 1, Solid Waste Management 1-9
1.3 Regulations Affecting the Solid Waste Plan 1-10
Authority 1-10
Relationship to Other Plans and Laws 1-10

Chapter 2 Kent County, Background Information
Cover page 2-1
2.1 Population 2-2
Table 2, Average Household Size 2-3
Table 3, Population Projections by Age 2-3
Table 4, Draft Demographic & Socio-Economic Outlook 2-4
Figure 2, Population Trends 2-5
2.2 History, Location and Resources ..... 2-6 to 2-9
Agriculture 2-6
Figure 3, Regional Setting 2-7
Figure 4, Municipalities & Federal Facilities 2-8
Climate 2-9
Minerals 2-9
Table 5, Temperature and Precipitation 2-10
Commerce 2-11
Manufacturing 2-11
Maritime Industry 2-12
Public Utilities 2-12
Table 6 – Kent County Public Utilities 2-13
2.3 Kent County, Maryland Land Use Ordinance ..... 2-14 to 2-15
Table 7, Kent County Zoning Requirements
For Solid Waste Facilities 2-15
2.4 Kent County Comprehensive Plan ..... 2-16 to 2-17

Chapter 3 Existing Solid Waste Practices
Cover page 3-1
3.1 Existing and Projected Solid Waste Generation 3-2
Table 8Municipal Solid Waste and
Recycling Data and Projected Annual Generation 3-3
3.2 Existing County Solid Wastes Collection Practices ..... 3-4 to 3-5
Table 9, Licensed Professional Waste Haulers 3-5
3.3 Existing Solid Waste/ Recycling Acceptance Facilities ..... 3-6 to 3-7
Solid Waste/ Recycling Drop-off Centers ..... 3-6 to 3-7
Figure 5, Drop-off Center Locations,
University of Maryland Shore Regional Health 3-8
Table 10, Kent County ADC Map Coordinates of
Waste/Recycling Acceptance Facilities 3-9
3.4 Sludge, Septage, Motor Oil, Autos, Scrap Tires, Asbestos. 3-10 to 3-13
Sewage Sludge 3-10
Septage 3-11
Motor Oil 3-11
Autos 3-11
Asbestos 3-11
Scrap Tires 3-11
Computers ..... 3-11 to 3-12
Scrap Metal, Mixed Paper, Glass, Alum & Tin Cans 3-12
Plastic Bottles & Jugs 3-12
Yardwaste 3-12

Chapter 4 Assessment of and Constraints on Solid Waste Facilities
Cover page 4-1
4.1 Assessment of County Solid Waste Disposal Systems ..... 4-2 to 4-4
Midshore Landfill 4-2
Dulin Rubble Landfill ..... 4-2 to 4-3
Solid Waste Distribution and Disposal 4-3
4.2 Constraints Imposed on the Site Selection of New Solid
Waste Acceptance Facilities ..... 4-4 to 4-7
Table 11, Soil Associations of Kent County, MD 4-8
Hydrology, General ..... 4-9 to 4-12

Hydrology, Potential Site for a Future
Rubble Landfill Adjacent to the
Closed Nicholson Landfill 4-10
Hydrology, Dulin Rubble Landfill ..... 4-10 to 4-11
Other Constraints 4-11
Figure 6, Existing Land Use Map, Kent County 4-12

4.3 Recycling Plan for Kent County ..... 4-13 to 4-17
Collection ..... 4-13 to 4-15

Processing 4-15
Marketing 4-15
Table 12, Marketing Trends 4-15
Incentives 4-16
Education 4-17
4.4 Public School Recycling Plan for Kent County ..... 4-18 to 4-23
Description of Public School Recycling Plan ..... 4-18 to 4-20
Overview 4-18
Paper 4-18
Books, Cardboard, Plastic Bottles, Metal Cans 4-19
Electronics, Toner, Cartridges, Oil, Antifreeze, Batteries 4-19
Other Materials ..... 4-19 to 4-20
Roles and Responsibilities for Refinement, Development 4-20
How Materials will be Collected ..... 4-20 to 4-22
Schools Included in Recycling Plan 4-22
Schedule for Plan Activities,
Development and Implementation ..... 4-22 to 4-23
Evaluate, Modify and Celebrate the Recycling Program 4-23
4.5 Emergency Response for Hazardous Waste Accidents 4-24

Chapter 5 Kent County Plan of Action
Cover page 5-1
5.1 Kent County Plan of Action, Introduction 5-2
5.2 Solid Waste Disposal Systems and Acceptance
Facilities 5-3
Sanitary Landfills 5-3
Rubble Landfills 5-3
Residential Solid Waste Drop-off Centers 5-3
Midshore Landfill 5-3
Midshore Regional Recycling Program 5-4
Recycling Drop-Off Centers 5-4
Composting Area 5-4
5.3 Management of Individual Waste Streams ..... 5-4 to 5-6
Septage and Sludge 5-5
Sludge Reduction and Removal 5-5
Motor Oil 5-5
Autos and Dead Animals 5-5
Hospital Waste 5-5
Hazardous Waste 5-5
Litter 5-5

Fluorescent and Compact Fluorescent Bulb Recycling 5-6

5.4 Sizing, Staging and Capacity of Solid Waste Facilities 5-7
5.5 Scheduling of Facility Operations 5-7
Table 13, Timing and Funds Allocated for
Future Solid Waste Landfill 5-7
5.6 Apartment Building & Condominium Recycling Program 5-8 to 5-12

Appendix A - Hazardous Materials Guidelines

Appendix B - Zoning Regulations

Appendix C – Kent County Septage Regulations

CHAPTER ONE

Introduction

This plan, dated February 2007 was prepared for and adopted by the County Commissioners of Kent County by the Public Works Department/ Waste Management Division, Planning and Zoning Department, Department of Water and Waste Water, Soil Conservation and these agencies hereby certify that to the best of their knowledge this plan has been prepared in accordance with the Code of Maryland Regulations (COMAR) 26.03.03.

The revision dated **January 2011** will include the following changes:

- Change in the collection process under the Recycling Division
- Igloo Program in Kent County
- School Recycling Program
- Change in operating hours at drop-off centers
- General updates to County Officials and organizational charts

This revision dated August 2013 will include the following changes:

- Tipping Fee Increase at the Midshore Regional Landfill in Ridgely, Maryland. Increased from $58.00 to $60.00 per ton.
- Operational changes with the Midshore Regional Recycling Program. Maryland Environmnetal Service is operating the Igloo/Recycling Center Program.
- Corrugated Cardboard is now being accepted at all recycling (Igloo) centers in Kent County.
- Implementation of the Apartment Building and Condominium Recycling Program (ABCR Program).
- Maryland State mandated recycling rate for Kent County increased from 15% to 20%.
- General updates to County Officials and Organizational Chart.

The original Kent County Solid Waste Management Plan was prepared by Greenhorne and O'Mara of Riverdale, Maryland. It was submitted to the County Commissioners on December 11, 1973 and, after approval by the Commissioners, was forwarded to the Division of Solid Waste Control of the Department of Health and Mental Hygiene on December 20, 1973.

There are no subsidiary solid waste management plans for the towns or other entities within Kent County. Betterton, Chestertown, Galena, Millington and Rock Hall comprise the incorporated towns of Kent County.

1.1 Solid Waste Management Goals and Objectives

The major goals of the original Plan were implemented by the establishment of the three residential trash drop off centers at Galena, Nicholson, and Sharptown, the closing of all open dumps and the transferring of all operations to the Nicholson Landfill. Additional ordinance and regulations regarding solid waste management were passed including the "Solid Waste Ordinance" (code bill 6-75) which went into effect in early 1976 and is still used today to outline acceptable waste collection and disposal practices.

The Management Plan subsequently has been rewritten several times to reflect the changing solid waste practices within the County. In April, 1980 the Kent County Planning Department completed a rewrite and revision of the plan presenting the portions of the original plan that had been implemented. The revised Plan also recommended the proposed methods by which the County intended to continue to discharge its responsibility to handle and safely dispose of the variety of wastes that are produced within the County.

In December, 1983 the Management Plan was updated by Robert E. Short, P.E., a consulting engineer for Kent County.

On January 30, 1991 the plan was revised by Century Engineering, Inc., Towson, Maryland but not adopted by the County due to potential changes in the disposal of solid waste.

The last update, completed in February 2007 included:

- Continue jointly disposing of Solid Waste with Queen Anne's County, Talbot County and Caroline County at the Mid Shore Municipal Solid Waste Landfill a lined landfill in Easton, Maryland that is operated by the Maryland Environmental Service, and the future site in Caroline County following year 2010.
- An update of recycling activity and continued cooperation, support with the Mid-Shore Regional Recycling Program
- A future solid waste disposal site to be located within Kent County which will serve Kent County, Queen Anne's County, Talbot County and Caroline County.
- Continued post closure inspections of the closed Dulin Rubble Landfill and Nicholson Landfill.
- Sewage Sludge Management Practices
- Septage Management Practices
- Maritime Industry
- Infectious Waste

Resource Recovery which had been encouraged in the past by the appointment of the Solid Waste Advisory Committee in March, 1979, and the appointment of an Ad Hoc Waste Management Task Force in 1981 has been further strengthened by the Maryland Recycling Act of 1988 and the subsequent Recycling Plan for Kent County, 1990. With the new legislation in place, resource recovery/recycling will continue to play an important part in solid waste management.

On July 1990, the Counties of Caroline, Kent, Queen Anne's and Talbot submitted to the Maryland Department of the Environment (MDE) their individual final recycling plans. Through these plans, each county outlined goals and objectives of their comprehensive recycling plans and identified the programs which the counties will adopt to achieve these goals. Realizing the advantages of joint cooperative efforts, the four Eastern Shore counties began to develop the Midshore Regional Recycling Program (MRRP) using the counties' final recycling plans as the foundation. The MRRP is an essential part of the fully integrated regional solid waste management program. As such, it will be incorporated into the counties' 10 year solid waste management plans.

MDE completed its review of the four counties' final recycling plans on March 1991. Approval of the plans took place authorizing the four counties (MRRP) to report recycling reports and activities to Maryland Department of the Environment as one.

The quad-county region has a population of approximately 123,344 Recycling histories of Kent, Caroline, Queen Anne's, and Talbot Counties as a region project a retrieval rate of 14.26%. Current commercial and independent recyclables retrieval rate in the region is an additional 33.32%. It is, therefore, conceivable that 47.58% of the recyclable solid waste stream can be recovered collectively.

The recycling goals and objectives shall be achieved through the continuation of a cooperative processing, marketing and collection plan and potentially includes:

- Recycling at drop-off centers
- A central materials recovery facility
- A yard waste processing program
- A public education/information campaign
- An upgraded regional collection program

These processes will continue to exist with other recycling mechanisms. The capital and annual costs of the MRRP shall be funded by a financial structure consisting of federal, state and private grants, recycling surcharge fees, recycling revenues, tipping fees, loans and general county funds.

In summary the current solid waste management plan reflects these recent legislative changes and also Kent County's continuing responsibility in protecting the public health and welfare from the solid waste stream generated within the County.

The goals of the Solid Waste Management Plan are consistent with those of the original plan prepared in 1973. The major goal is to develop a systematic program within the county to maintain, and whenever possible, to improve:

- the quality of water and air;
- the optimum use of land; and
- the conservation of natural resources

The long-range plan is to create a balance between the generation and disposal of solid wastes by the implementation of innovative, yet accepted, management techniques and the provision of adequate solid wastes disposal and handling facilities.

The goals of this program will be accomplished through the continuing improvement, refinement and replacement of existing facilities and the addition of new facilities or methods to meet the changing conditions of Kent County, Maryland. Continue to maintain and assure that the Solid Waste Plan conforms to the Kent County Comprehensive Plan regarding county land use.

The County has consistently strived to meet the goals mentioned above. The major objectives proposed to achieve these goals in the future follow:

1. Maintain and improve, as necessary the operation and facilities at the three established residential recycling/waste drop-off centers.

2. Promote waste minimization by implementing the following Resource Recovery/Recycling objectives:

    a. Maintenance and improvement of the 4 regional recycling drop-off centers.

    b. Continued refinement of a source separation incentive, in the form of a waste disposal user fee, to reward voluntary recyclers financially.

    c. Further participation with the Mid Shore Regional Recycling Program to optimize achievement of Recycling goals.

    d. Public Education about the importance of recycling and waste reduction.

3. Assure the proper monitoring procedures of the capped Nicholson Landfill and Dulin Rubble Landfill.

4. Continue with the contractual agreement for solid waste disposal with the Maryland Environmental Service and along with Queen Anne's County, Talbot County and Caroline County continue to transport solid waste from Kent County to the regional landfill.

5. As part of a regional four county association, locate and place an option on or purchase a parcel of land to serve as a solid waste landfill for the four counties. The life expectancy of the parcel shall be 20 years.

6. Continue review of the State-of-the-Art waste to energy conversion and resource recovery as applicable to a small rural community.

7. Continue to control the disposal of hazardous waste generated within the county and prohibit importation of hazardous wastes (for disposal) from outside of the county.

8. Continue to explore more cost effective options for the removal and disposal of household hazardous wastes.

9. Public participation is introduced at informational meetings whenever significant changes in the solid waste program are contemplated. Public participation also occurs at required public hearings for waste disposal facilities or acceptance of plans such as this plan. It is intended that the county will continue to involve the public through the hearing process and study methods to expand opportunities for public input.

10. Through the provision of recycling drop-off centers, Kent County will continue to encourage homeowners to recycle. Continue to meet or exceed the mandatory 15% recycling goal, mandated by the Maryland Recycling Act. In 2015, Kent County's mandatory recycling rate will increase to 20%. This increase is part of Maryland's "Zero Waste" initiatives.

1.2 Organization for Solid Waste Management:

The Kent County Public Works Department is responsible to the County Commissioners of Kent County for the management of the Solid Waste/Recycling Program. The Public Works Department is directed by Administrator and County Attorney Ernest Crofoot and the Waste Management Division Chief within the Department is Marty T. Holden. The Administrator and Waste Management Division Chief are both hired by the County Commissioners.

The office of the Kent County Public Works Department is located at 709 Morgnec Rd., Chestertown, Maryland and currently employs a full and part-time staff of 13 to manage the Solid Waste/Recycling Programs.

Number of Employees		
Full-Time	Part-Time	Position
2		Supervisory Solid Waste & Recycling
2	5	Attendants at trash & Recycling Drop-off Centers
2		Motor Equipment Operator II
1		Maintenance Worker
1		Secretaries
8	5	Total Staff

Table 1
Distribution of Solid Waste Program Employees

Maintenance of the Nicholson Landfill and Dulin Rubble Landfill is the Waste Management Division responsibility. Solid waste is hauled from each of the three solid waste/recycling drop-off centers to the Mid Shore Regional Landfill by the Solid Waste Division.

LIST OF KENT COUNTY OFFICIALS

County Commissioners

Ronald H. Fithian, President
William W. Pickrum
William A. Short

County Administrator

Ernest A. Crofoot, Attorney/Administrator

Kent County Public Works Department

Marty T. Holden, Deputy Director
Waste Management

Kent County Department of Water & Waste Water

Mike Wojton, Deputy Director

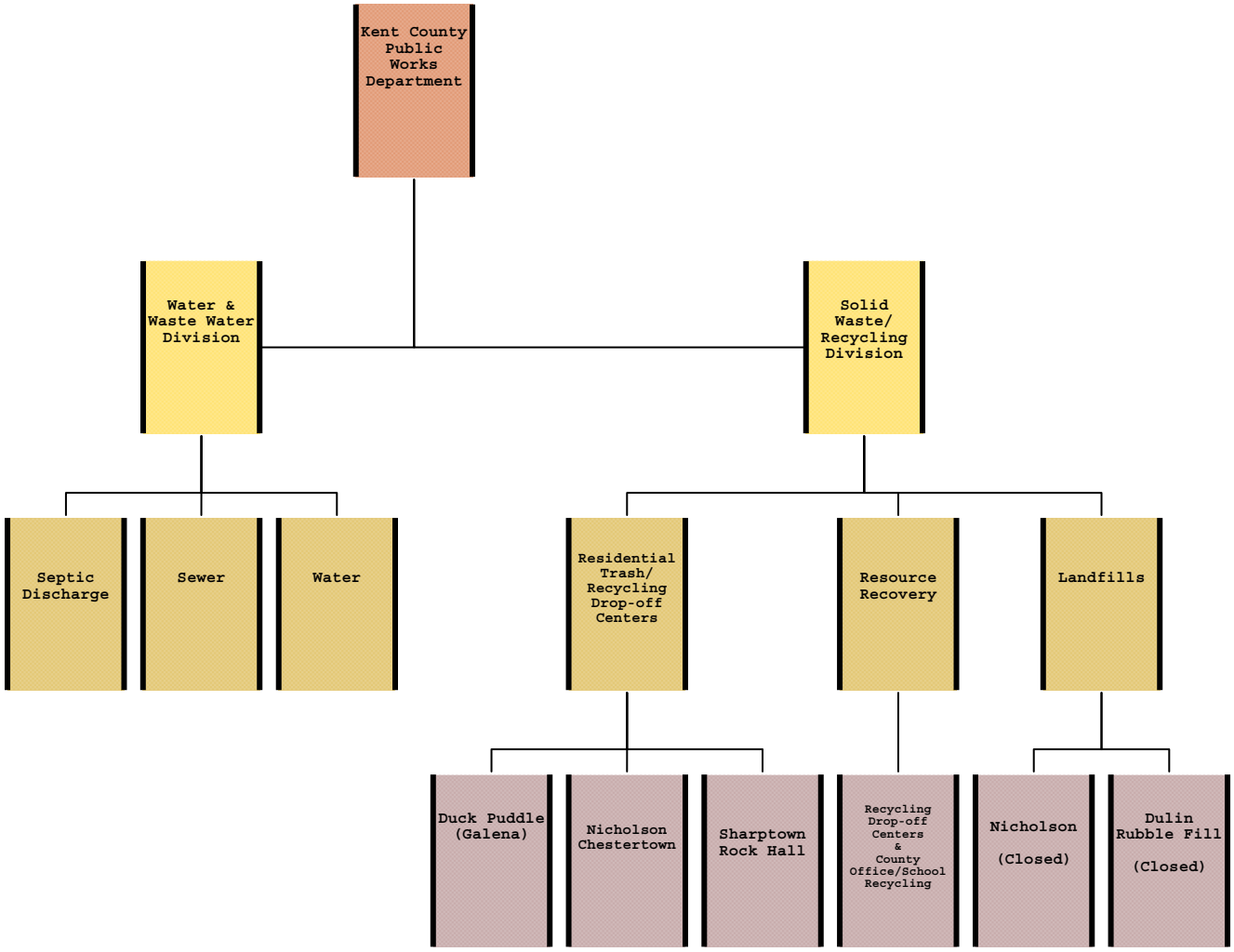
Kent County Health Department

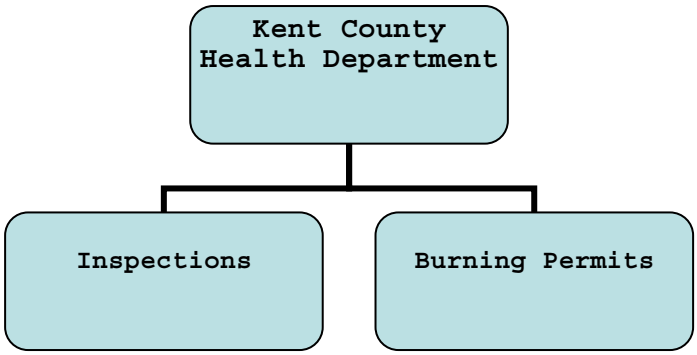
John C. Beskid, Director

Kent County Planning Department

Amy Moredock, Director of Planning

FIGURE 1
SOLID WASTE MANAGEMENT
KENT COUNTY, MARYLAND





1.3 Regulations Affecting the Solid Waste Plan

Authority

The Kent County Solid Waste Management Plan has been prepared, as required, and in accordance with, the provisions of Environment Article, Title 9, Subtitle 5 of the Annotated Code of Maryland. The Plan will be reviewed and updated if necessary, every three years.

Code of Maryland Regulations (COMAR) 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) was used as a guideline.

Relationship to other Plans and Laws

Kent County is required by State law to prepare a variety of specific plans and ordinances. Among these is the Solid Waste Management Plan included herein. While the Solid Waste Plan provides detailed information and policy, it was written to be in compliance with and conform to the County Comprehensive Plan.

The Kent County Zoning Ordinance and Solid Waste Ordinance were also consulted in the preparation of the Solid Waste Management Plan.

EPA and RCRA guidelines regarding pollution prevention and water quality are included by inference throughout.

Article IX, "Sewerage Disposal Facilities," Chapter 5, Code of Public Laws of Kent County was consulted regarding removal and disposal of septic effluent or septage in Kent County and Kent County Ordinance - Sewage Sludge Land Application in "AZD" and "RR" Districts were consulted to determine requirements for disposal of sewage sludge and septage.

CHAPTER TWO

2.1 Population

Kent County has experienced both a prolonged recession and subsequent consistent growth in population within the last century. During 1900-1940 the population dropped from 18,786 to 13,465. The trend of negative growth during this period was typical of a rural setting as the entire country experienced a significant migration from rural to urban areas.

Since World War II, however, the County has experienced slow, controlled growth. This trend is expected to continue with an annual growth ranging from .16 to 1.3. During the period 2000 – 2010, the county's population increased by 5.2% from 19, 197 to 20,197.

The population distribution within the County is scattered with the exception of the two major towns of Chestertown and Rock Hall. The 2010 census figures indicate an estimated overall county population of 20,197. Approximately 5,250 of the county's population resides in Chestertown and 1,310 in Rock Hall. Approximately 8,161 people live in the five incorporated towns within Kent County. The remaining population of 12,036 live on farms, in small subdivisions and in rural non-incorporated villages.

The United States Bureau of Census releases information on population density every ten years. The most recent figures indicate that about 74% of the population lives in rural areas (the Bureau considers residents of Chestertown urban and all other County residents rural).

The rural demographic nature of the County places a unique strain on central collection and therefore the management of solid waste. However, the slow projected growth of the County is not expected to create any adverse demands on existing and proposed County facilities during the term of the Plan and the Solid Waste Plan will be flexible to accommodate the possibility of accelerated growth that could result as industry and housing move out of urban areas.

Regardless of the pace of growth within Kent County, the solid waste Plan will attempt to assure that expansion is orderly and does not harm the ecological character of the region that provides a good balance between business, family-owned business, light industry commercial watermen, recreational boating, hunting, agriculture and tourism.

While the county's population from 2000 to 2010 increased by 5.2 percent, the number of housing units increased by 12 percent for a total of 10,549 housing units. The census bureau defines a housing unit as living quarters in which the occupants live separately from any other individuals in the building and that have direct access from outside the building or through common hall.

The average household size has continued to decrease which is a reflection both of smaller families and the types of households moving into the County – older couples with children living elsewhere.

Table 2

Average Household Size

Historical				Projected					
1970	***1980***	***1990***	***2000***	***2010***	***2015***	***2020***	***2025***	***2030***	***2035***
3.02	2.62	2.49	2.33	2.23	2.21	2.18	2.14	2.12	2.10

SOURCE: Projections prepared by the Maryland Department of Planning, November 2010. Historical population data through 2000 are from the U.S. Census Bureau. 1990 population is from modified age, race and sex data (MARS) and 2000 population from modified race data, both from the U.S. Census Bureau. Historical jobs, total personal income and per capita personal income data through 2000 are from the U.S. Bureau of Economic Analysis (BEA).Projections are rounded, therefore numbers may not add to totals.

Of the 10,549 housing units, 2384 are considered vacant which includes those for seasonal use. The number of seasonal housing units has continued to increase. At 23% Kent County ranks third in the state behind Worchester County and Garrett County for percentage of housing units that are considered as vacant. This underscores the increasing desirability of second homes in Kent County and directs us to consider this in planning for all public facilities and when designating growth areas.

Table 3

Population Projections by Age

	Historical				Projected					
Selected Age Groups	***1970***	***1980***	***1990***	***2000***	***2010***	***2015***	***2020***	***2025***	***2030***	***2035***
0-4	1,169	948	1,140	888	920	920	920	870	860	870
5-19	4,751	3,890	3,429	3,809	3,460	3,290	3,370	3,440	3,400	3,350
20-44	4,762	5,626	6,354	5,937	5,470	5,680	5,780	5,760	5,810	5,660
45-64	3,347	3,704	3,927	4,855	6,000	6,080	6,040	5,670	5,260	5,550
65+	2,117	2,527	2,992	3,708	4,440	5,330	6,100	7,160	8,080	8,420
Total	16,146	16,695	17,842	19,197	20,300*	21,300	22,200	22,900	23,400	23,850

SOURCE: Projections prepared by the Maryland Department of Planning, November 2010. Historical population data through 2000 are from the U.S. Census Bureau. 1990 population is from modified age, race and sex data (MARS) and 2000 population from modified race data, both from the U.S. Census Bureau. Historical jobs, total personal income and per capita personal income data through 2000 are from the U.S. Bureau of Economic Analysis (BEA).

*Projections are rounded, therefore numbers may not add to totals.

TABLE 4

KENT COUNTY DRAFT DEMOGRAPHIC AND SOCIO-ECONOMIC OUTLOOK

	Historical				Projections						
	1970	1980	1990	2000	2010	2015	2020	2025	2030	2035	2040
Population Characteristics:											
Total Population	16,146	16,695	17,842	19,197	20,300	21,300	22,200	22,900	23,400	23,850	24,300
Male	7,858	8,026	8,615	9,192	9,700	10,220	10,650	10,990	11,230	11,410	11,590
Female	8,288	8,669	9,227	10,005	10,600	11,090	11,560	11,910	12,170	12,440	12,720
White**	12,158	12,895	14,199	15,553	16,630	17,540	18,380	19,060	19,560	20,030	20,510
Nonwhite**	3,988	3,800	3,643	3,644	3,670	3,770	3,830	3,840	3,840	3,820	3,800
Selected Age Groups:											
0-4	1,169	948	1,140	888	920	920	920	870	860	870	890
5-19	4,751	3,890	3,429	3,809	3,460	3,290	3,370	3,440	3,400	3,350	3,310
20-44	4,762	3,704	3,927	4,855	6,000	6,080	6,040	5,670	5,260	5,550	6,150
45-64	3,347	2,527	2,992	3,708	4,440	5,330	6,100	7,160	8,080	8,420	8,400
65+	2,117	16,695	17,842	19,197	20,300	21,300	22,200	22,900	23,400	23,850	24,300
Total	16,146	16,060	16,714	17,849	18,610	19,606	20,500	21,136	21,523	21,851	22,198
Total Household Population	15,440	16,060	16,714	17,849	18,610	19,606	20,500	21,136	21,523	21,851	22,198
Total Households	5,109	6,133	6,702	7,666	8,350	8,875	9,425	9,875	10,175	10,425	10,700
Average Household Size	3.02	2.62	2.49	2.33	2.23	2.21	2.18	2.14	2.12	2.10	2.08
Labor Force:											
Total Population 16+	11,525	13,264	14,467	15,657	17,270	18,240	19,060	19,810	20,370	20,880	21,310
In Labor Force	6,727	7,707	9,197	9,733	11,250	11,690	11,910	12,040	12,110	12,220	12,450
% in Labor Force	58.4	58.1	63.6	62.2	65.1	64.1	62.5	60.8	59.5	58.5	58.4
Male Population 16+	5,551	6,300	6,911	7,362	8,090	8,610	9,010	9,390	9,660	9,870	10,040
In Labor Force	4,176	4,367	4,937	5,003	5,710	5,930	6,030	6,140	6,230	6,280	6,360
% in Labor Force	75.2	69.3	71.4	68.0	70.6	68.9	66.9	65.4	64.5	63.6	63.3
Female Population 16+	5,974	6,964	7,556	8,295	9,180	9,630	10,050	10,420	10,710	11,010	11,270
In Labor Force	2,551	3,340	4,260	4,730	5,540	5,760	5,880	5,900	5,880	5,940	6,090
% in Labor Force	42.7	48.0	56.4	57.0	60.3	59.8	58.5	56.6	54.9	54.0	54.0
Jobs by Place of Work:	7,303	8,066	10,269	11,603	12,600	13,400	14,000	14,600	15,000	15,400	16,000
Personal Income:											
Total(million of constant 2005$)	$256.1	$256.1	$300.6	$475.4	$666.0	$822.0	$1,006.7	$1,177.2	$1,303.4	$1,412.2	$1,517.0
Per Capita (constant 2005$)	$15,761	$15,761	$17,995	$26,602	$34,570	$40,701	$47,262	$53,025	$56,919	$60,350	$63,604

** For 2000 to 2030 white population is equal to "white alone," and non-white population is equal to "all other races."

SOURCE: Projections prepared by the Maryland Department of Planning, November 2010. Historical population, households, and labor force data through 2000 are from the U.S. Census Bureau. 1990 population is from modified age, race and sex data (MARS) and 2000 population from modified race data, both from the U.S. Census Bureau. Historical jobs, total personal income and per capita personal income data through 2000 are from the U.S. Bureau of Economic Analysis (BEA).

Projections are rounded, therefore numbers may not add to totals.

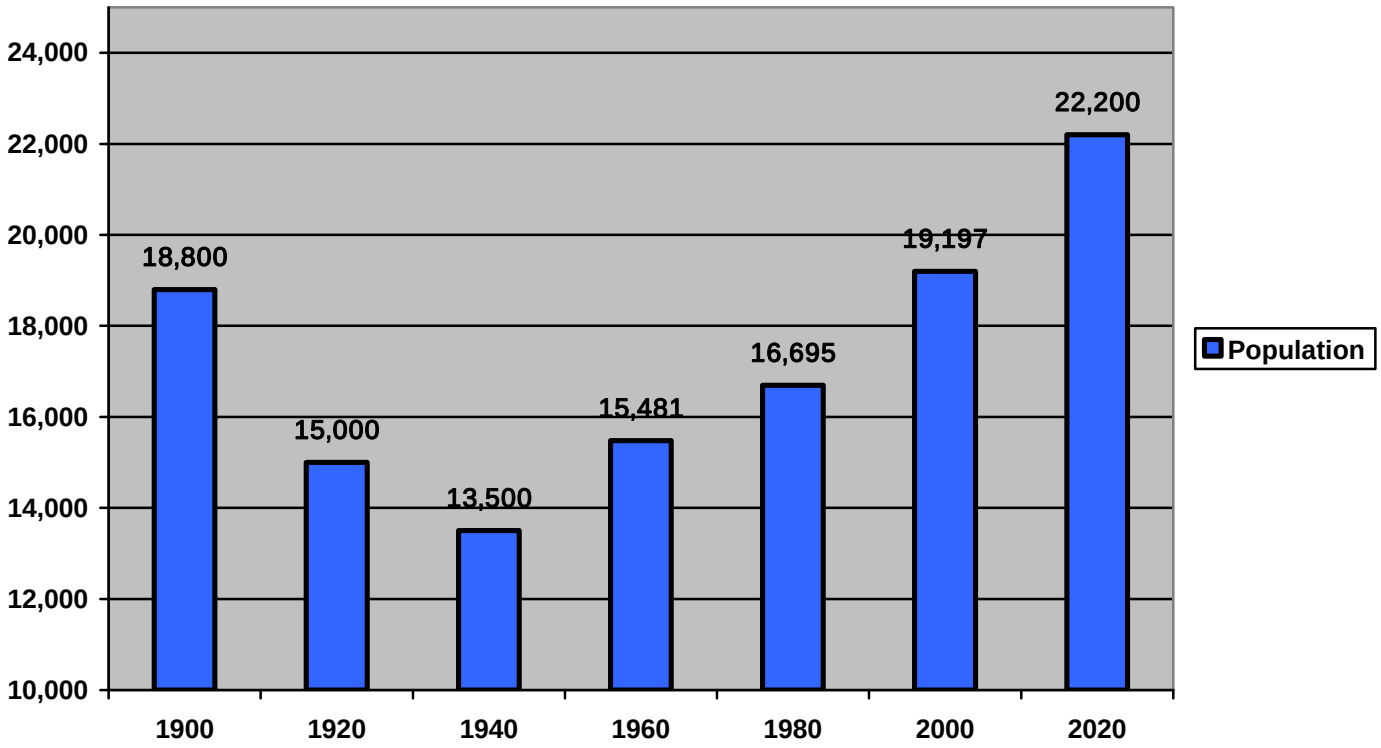


FIGURE 2
Population Trends & Projections
Kent County, Maryland

2.2 History, Location and Resources

Kent County was the first County established on the Eastern Shore dating back to approximately 1640. The first settlement in the County began approximately at the same time that New York, Philadelphia and Boston were developing. The first English descendants established the Town of New Yarmouth in 1675.

Kent County contains approximately 281 square miles of land area on Maryland's Eastern Shore. Its western boundary is formed by the Chesapeake Bay, directly across the bay from Baltimore. The northern boundary is formed by a tidal estuary, the Sassafras River, which separates Kent County from Cecil County. The Delaware State line, adjoining New Castle County, and Kent County, Delaware, forms the eastern border which separates the County from the Delaware River by a distance of fifteen to twenty miles. The southern boundary is formed by another tidal estuary, the Chester River, which separates the County from Queen Anne's County. (See Figure 3).

U.S. Routes 213 and 301 cross Kent County in a general north-south direction. These routes connect the County with the Baltimore-Washington corridor via U.S. Route 50 and Philadelphia and points north via I-95.

The Maryland and Delaware Railroad operates a single-track spur from the main Eastern Shore line in Delaware through the heart of the County terminating in Worton. A branch at Massey extends southward through Millington culminating in Centreville in Queen Anne's County. Rail service, which is exclusively for freight, is determined by need. The principle products transported are fertilizer, chemicals, feed, field crops, lumber, petroleum, farm machinery, paper, millwork and beverages.

The location of municipalities and federal facilities is included in Figure 4.

Agriculture

Kent County is one of the older and more productive agricultural Counties of the State. Various farm produce has been a main source of income since colonial times. Of the 179,840 acres that comprise Kent County, 102,251 acres are classified as prime farmland (57%). Woodland covers an additional 46,475 acres (24%).

Corn, soybeans, wheat, and hay are the principle crops. Nursery stock, dairy products, chickens, beef and vegetables are other major agricultural products.

FIGURE 3

Regional Setting
Kent County, Maryland

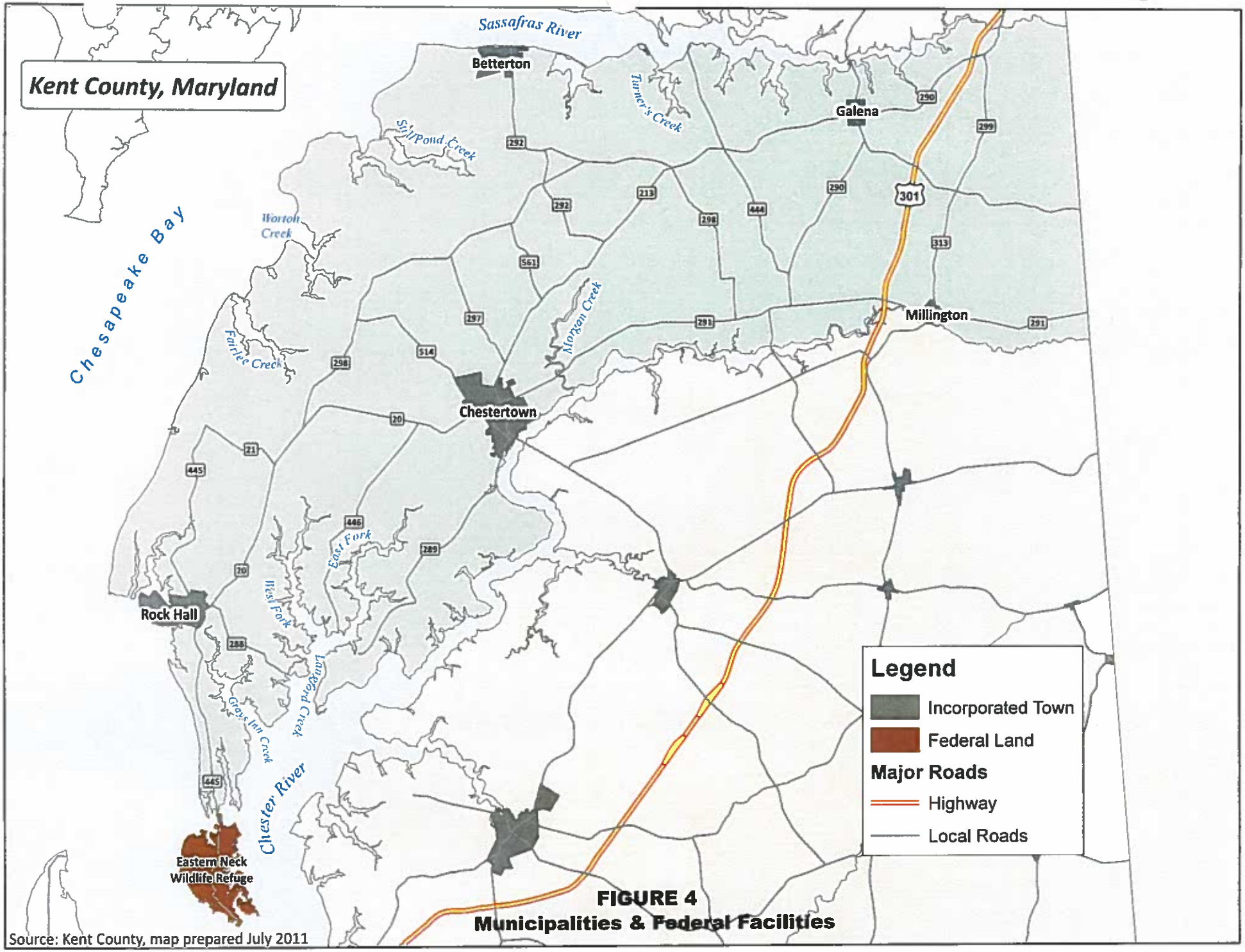


FIGURE 4
Municipalities & Federal Facilities

Source: Kent County, map prepared July 2011

The possibility of the farming industry creating a solid waste disposal problem within the County is negligible. Manure from the dairy and beef cattle operations is usually spread over adjacent fields as part of the fertilization process. Feedlots and poultry houses which exist in the County are controlled by zoning regulations which require submittal of a waste management plan. Dairy, cattle, and poultry operations have been declining in Kent County.

Climate

Due to the unique location of Kent County on the Chesapeake Bay and the number of water bodies to the north and south of the County, the climate is mild in both summer and winter seasons. The warmer months of June-August have average temperatures of about 75°, while the cooler months of December-February average 35°.

Annual precipitation is approximately 44 inches and includes an average snowfall of 19 inches. Snowfall during January-February is heaviest at 5-1/2 inches each month. Prevailing winds in Kent County in summer months are southerly while the rest of the year the general direction of the winds is from west to northwest at an average speed of 9 miles per hour except during severe thunderstorms when the wind speed can reach 50-60 miles per hour. Climatological data presented above is tabulated in Table 5 and represents data for a 27 year period from 1951-1977.The climate of Kent County appears to be very suitable to year-round landfill and solid waste management operations.

Minerals

Mining and mineral processing within Kent County is not extensive and does not involve any procedure that would tend to create a significant solid wastes problem. The mineral deposits within the County are of little economic importance at present and have not been largely worked. In many cases the mineral in question is so abundant that the location of a solid wastes disposal facility in an area containing the mineral would not noticeably decrease the availability of the mineral.

Sand and gravel are the predominant minerals found in Kent County. An unusual seam of high quality spec and concrete sand and gravel runs southeasterly from Baltimore through Kent County to Lewis, Delaware. These aggregates are vital to a healthy economy, and Kent County recognizes that sand and gravel are resources of increasing commercial value. A large sand mining operation recently opened north of Massey (North County).

Gravel is available from the Wicomico and Talbot formations. Though the gravel is suitable for road making, only a few of the beds have been worked.
At a depth of approximately 4 feet within the Pleistocene formations of the region are clay beds that produce material suitable for the manufacture of brick and tile.

The County also contains a considerable amount of glauconite, or greensand, within the Monmouth and Aquia Formations. Glauconite has been used in the past as a source of low-grade potassium fertilizer and also in sand filters for water and wastewater treatment.

Table 5
TEMPERATURE AND PRECIPITATION, KENT COUNTY

Month	Temp. Avg. of	Average In.	Snowfall In.
January	33.2	3.56	5.3
February	35.9	3.03	5.5
March	44.4	4.16	3.6
April	54.1	3.34	.0
May	63.9	4.09	.0
June	72.7	4.26	.0
July	77.4	3.94	.0
August	75.8	3.76	.0
September	68.8	4.30	.0
October	57.2	3.37	.0
November	47.1	3.34	1.1
December	37.6	3.69	3.7
Yearly			
Average	55.6	---	---
Total	---	43.95	19.2

Snowfall Data Source: Soil Survey of Kent County, Maryland (1998). Recorded in the period 1951- 1977 at Chestertown, Maryland. Temperature and rain fall average: National Weather Service Forecast Office. Recorded in period 1951 – 2000

Commerce

The main area of commercial concentration is in Chestertown, which accounts for more than half of the County sales. Other commercial centers are located in Rock Hall, Massey, Millington and Galena. According to the Maryland Department of Economic and Employment Development in 1996, 1,600 persons were employed in wholesale and retail trade in Kent County.

Commercial requirements for solid waste disposal has not placed a burden on the County for disposal and will not upset present or planned county disposal practices.

Manufacturing

There is a variety of manufacturing industries in the County. According to the Maryland Department of Economics and Employment Development in 1996, 1,500 persons or 8.2 percent of the population were employed in the manufacture of durable and non-durable goods.

There are basically two manufacturing centers within Kent County: Chestertown, and Rock Hall. The manufacturing within Chestertown consists of food processing, printing and publication, machinery design and construction, and chemical processing. Rock Hall's main manufacturing industries consist of sea food processing and boat building.

Several of the manufacturing industries located in the County are:

Firm	Product	Employment (2006)	Firm	Product	Employment (2006)
Bramble, David A., Inc.	Bituminous concrete	250	LaMotte Industries	Testing kits	150
			Creafill Fibers Corp.	Asphalt Filler	26
Dixon Valve & Coupling	Valves & couplings	245	Gillespie & Son Inc.	Concrete	80
Eastman Chemical Co.	Plasticizers & synthetic oils	42			

The manufacturing industries within the County are such that their total demand for solid waste disposal facilities is within the County's capability and no unique solid wastes problems are foreseeable.

Maritime Industry

There are 30 marinas located within Kent County (12 located in the County and the remaining marinas are located in the towns of Chestertown and Rock Hall). Boats registered by residence of owner total 2,331 and there are 1,933 boats docked in the County. These numbers do not include boats that are trailered. Trailered boats are not registered to a specific county. There could be 500 or more boats on trailers.

At marinas where maintenance is performed the owners must obtain an NPDES permit to discharge storm water from a site where boat maintenance takes place. This requirement was put into effect in November 1990. Solid waste generated at marinas is collected by commercial haulers and disposed of at the Midshore facility. The marinas generate approximately six tons of waste per year. Recycling is picked up by private haulers and some marinas transport their recyclables to a Kent County operated recycling drop-off center.

New and existing marinas shall meet the sanitary requirements of the State Department of the Environment. New marinas shall establish a means of minimizing the discharge of bottom wash into tidal waters. New developments and redevelopments shall reduce pollutant loadings coming off the site by 10%. New and expanding marinas shall provide pump-outs for boat holding tanks. New marinas and expanding marinas provide facilities for recycling or proper disposal of oil, and anti freeze, paint thinner, and other toxic or hazardous substances associated with the type of facility being developed. Kent County has a boat shrink wrap recycling program in place. Boat owners and marinas that utilize the boat shrink wrap covering deliver the clean shrink wrap to the Nicholson Drop-off Center where it is consolidated and then delivered to plastic recycling companies/markets for recycling.

Public Utilities

The Kent County Department of Water and Waste Water operates water supply and/ or wastewater treatment facilities in the communities of Fairlee, Kennedyville, Worton, and Tolchester.

The towns of Betterton, Chestertown, Galena, and Rock Hall operate their own water supply and wastewater collection systems. The town of Millington's waste water treatment plant and water treatment plant are located in Queen Anne's County and operated by the Maryland Environmental Service. The County has entered into agreements with the towns of Millington and Rock Hall in order to maintain lines and provide wastewater services to county residents located outside of the town corporate limits in these jurisdictions.

Kent County Utilities are summarized in the following Table

TABLE 6
Kent County Public Utilities

Town	Public/Central Water	Public Sewer
Fairlee/Georgetown	Y	Y
Kennedyville	Y	Y
Worton/Butlertow	Y	Y
Betterton	Y	Y
Chestertown	Y	Y
Galena	Y	Y
Rock Hall	Y	Y
Millington	Y	Y
Delta Heights	Y	Y
Great Oaks Lodge	N	N
Edesville	Y	Y
Tolchester	N	Y
Piney Neck & Skinners Neck	N	Y
All other areas	N	N

2.3 Kent County, Maryland Land Use Ordinance

The Kent County Land Use Ordinance applies to the unincorporated areas of Kent County. Zoning requirements and districts are established in accordance with the Kent County Comprehensive Plan and are designed to promote the general welfare of the citizens of Kent County, Maryland. They are made with thoughtful consideration for existing property use, trends in growth, character of the district including its unique suitability for particular uses and with a view towards conservation of property values and the most appropriate use of land.

The "Zoning District Map of Kent County, Maryland" is filed as part of the Land Use Ordinance with a copy available for public review in the Planning Department. The map, with subsequent amendments, is conclusive as to the current zoning status of land.

Following the year of its adoption, the Zoning Map shall be revised by March 31 of every year if there has been a change during the preceding year in:

- permitted uses;
- zoning district boundaries or classifications; and
- land use regulations.

At least once every six years, the Planning Commission and the County Commissioners must review the land use regulations and zoning district map for consistency with the Comprehensive Plan. The Commission and Board prepare their reports through consultation with the officials responsible for the Kent County Comprehensive Plan and the administrators of the Zoning Ordinance.

The zoning districts **(See Appendix B**) have been established to regulate and restrict the location, density, use, height and size of buildings and land for trade, industry, residence and other purposes: Critical areas within Kent County are those approved by program and zoning maps.

The Kent County Land Use Ordinance affects solid waste management activities within the County by restricting the placement of facilities related to the disposition of Solid Wastes. Sanitary and rubble landfills are restricted to Agricultural Zoning Districts as a special exception. Public utilities such as sewage treatment plants, water treatment plants, water storage tanks, and similar public facilities are permitted in Industrial District. In Agriculture Zoning District, Resource Conservation District, Rural Residential, and Village District, such uses are permitted as special exceptions.

Uses listed as special exceptions in a zoning district may be approved by the Board of Zoning Appeals after consideration in each case of the impact of such uses on the neighboring uses, surrounding area and the public need for the particular use at the particular location. The Planning Commission reviews such applications and makes recommendations to the Board of Appeals.

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

Table 9 itemizes the zoning of existing solid waste facilities and the requirements for all future facilities

Table 7
Kent County Zoning Requirements
For Solid Waste Facilities

Type of Facility	Zoning Existing Facility(s)	Zoning New Facility(s)	Other Restrictions/ Requirements
Municipal Landfill	*AZD Old Nicholson LF) (Closed May 1992)	*AZD (possible future RLF)	Conditional use approved 09/09/91
Rubble Landfill	*AZD (Dulin RLF) (Closed 4/1/99)	*AZD (Dulin RLF)	Conditional use approved 06/10/89
Recyclables Processing Facility	----------	*AZD (Nicholson) - Recyclables Processing Facility	Pending
Trash/Recycling Drop-off Center	*AZD (Galena TTS) *AZD (Sharptown TTS) *AZD (Nicholson TTS)	Zoning of incorporated areas does not fall under jurisdiction of the Kent County Zoning Ordinance	N/A
Incinerator	Incorporated Area (Hospital) **CLOSED (no longer operational)**	---------- -	
Recycling Drop-off Centers	Variable incorporated areas	None	Requires permit as "Accessory Building"

***AZD -** Agricultural Zoning District
Source: Kent County Planning Department

2.4 Kent County Comprehensive Plan

The Comprehensive Plan for Kent County was prepared in accordance with the provisions of Section 3.08 of Article 66-B of the Annotated Code of Maryland (now known as Land Use Article Chapter 3-205). The Plan which was adopted on May 2, 2006 by the County Commissioners of Kent County, Maryland is the principle document outlining County direction, policy, and action regarding land use and shall be updated every 10 years. It has been designed as a policy statement which can be valid in the face of change over many years. Additionally, the Plan is the basis for decision-making at all levels of government and will guide the private sector towards beneficial and profitable activities affecting the land and people. The Solid Waste Management Plan presented here is in compliance with and conforms to the policies outlined in the Kent County Comprehensive Plan.

The Comprehensive Plan is the statement of development policy for Kent County by the County Commissioners. The Plan presents a series of goals and strategies to guide the preparation of County regulations and the application of County programs. Since agriculture and water-related activities are basic to the character and economy of the County, these areas are encouraged to thrive and should not be exposed to uncontrolled speculation. As a top priority, the County plans to strengthen its role as an important agricultural, marine, and waterfowl hunting area in the regional economy.

Future land use policies stated in the Plan which reflect the principals of land use are:

- Preservation of the rural character of the County and support for the agricultural use of land.
- Maintain the visual character, scale and density of Kent County's existing communities.
- The clustering of new residential or commercial uses will be encouraged.

Policies for locating land uses form the basis of the zoning map and regulations. They are arranged in categories of land use and are governed by three general guidelines:

- Use the natural resource base of Kent County as the principle design and locational criterion.
- Govern the location and nature of the various land uses by application of zoning subdivision, site plan review and public, facility standards.
- Use as a criterion in the County's approval, process for the siting of structures the preservation of special natural or historic features.

In addition to serving as a guide to expenditure of public funds in the acquisition of land and the construction of public facilities, the Plan forms the necessary background for the zoning and subdivision regulations. Land use policies are carried out through a range of county programs but specifically through zoning and subdivision regulations. Development is limited to locations where harm to the natural environment will be least and prohibited altogether in environmentally critical areas.

New business will be sought for controlled and gradual economic expansion but not at the expense

of the land. New residential and commercial establishments should be sited in appropriate areas and should additionally be clustered so as not to infringe on agricultural lands or the provision of services. The County will strictly limit the use of prime and other lands for non-agricultural purposes, and focus its growth in designated areas.

Community facilities should be located in accordance with provisions of the Kent County Comprehensive Plan such as existing and future population distribution, zoning, major thoroughfares, and utilities. Centralized locations are desirable for facilities that furnish services to intermittent visitors where time and distance are not of primary importance. From a solid waste management standpoint, landfills should be located in centralized areas.

Decentralized facilities are required for facilities that serve the day-to-day needs of the population where a short time and distance becomes important. Residential trash-transfer stations and recycling drop-off centers fall into this category. They should be scattered and easily accessible from all areas of the County.

Related central-type facilities should be contained within one complex or area. If a future rubble landfill is constructed adjacent to the closed landfill and the recycling process center will, if the future facilities are constructed, be contained within the same area. Kent County has no proposals to construct a rubble landfill in the county.

CHAPTER THREE

3.1 Existing and Projected Solid Waste Generation

Calibrated weights are available on incoming and outgoing waste and recyclables at Nicholson Landfill from November 1990 onward. Prior to the installation of an electronic weighing system, data on inbound products for disposal were available only through spot weighing studies, conducted in 1981 and 1988.

During 2005, 16,999 tons of municipal solid waste was hauled to the Midshore Regional Landfill in Easton, by private waste haulers and Kent County Public Works. Approximately 6,581 tons of recyclables (post-consumer, tires, white goods and separated yard waste) were diverted from the solid waste stream

The residential portion of the municipal solid waste stream, which includes household, domestic waste and furniture, averages 42%. Commercial wastes comprise an average of 58%. The traditional definition of commercial waste is extended here to include: (non-hazardous) industrial solids, sewage sludge, institutional, schools, hospitals and government buildings waste, recreational waste, litter and street sweepings. Note that scrap tires, white goods and yard waste, ordinarily allocated to the residential stream, are not included in this analysis since these materials are recycled.

Land clearing and demolition debris (rubble) includes wood, construction debris, earthen material, etc. Figures for these waste products are not included above. The period of 2005 reflects a generation rate of 7,773 tons of rubble that was delivered to the Bakers Rubble Landfill and the Mid Shore Regional Landfill. On April 1, 1999, the Dulin Rubble Landfill was closed and all residential rubble was collected at the Nicholson Drop-off Center and hauled to the Bakers Rubble Landfill in Queen Anne's County. For a tabulation of existing solid waste generation and projections refer to, Table 10, Waste Management Disposal and Recycling Data.

In projecting the solid waste through the planning period the 2005 – 2010 generation data in Table 10 was used as a base along with data obtained from the Kent County Recycling Program Annual Report 2005 - 2010. Reliable quantities were available for all classifications. The estimated rate of increase from 2010 forward was determined by adding one half of a percent per year non-compounded to allow for an increase in generation.

Kent County does not manage or track controlled hazardous substances, dead animal disposal, or special wastes such as automobiles. Disposal of this type of materials is disposed of privately by independent haulers outside the county.

Kent County does not accept solid waste from sources out of the county, and does not accept from businesses or contractors. Solid waste is collected at three solid waste/recycling drop-off centers in 35 yard compactors and transported to the Midshore Regional Landfill.

WASTE STREAM AND RECYCLABLE MATERIAL CHARACTERIZATION AND PROJECTED ANNUAL GENERATION

TONS PER YEAR

Solid Waste Classification	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential Drop-off (Solid Waste)	837	820	821	820	785	723	727	730	734	738	741	745	749
Commercial Haulers (Solid Waste)	16,162	16,326	16,249	14,693	13,688	13,996	14,066	14,136	14,207	14,278	14,349	14,421	14,493
Scrap Tires	21	89	71	67	103	12	12	12	12	12	12	12	12
Scrap Metal	1,338	1,490	123	204	1,486	1,545	1,553	1,560	1,568	1,576	1,584	1,592	1,600
Furniture	284	308	278	292	282	223	224	225	226	227	229	230	231
Yard Waste	1,969	2,726	8,328	7,421	2,104	1,831	1,840	1,849	1,859	1,868	1,877	1,887	1,896
Concrete, Bricks, Stone	3,295	441	11,666	3,055	30,786	12,168	12,229	12,290	12,351	12,413	12,475	12,538	12,600
Rubble	7,773	6,722	6,120	5,109	3,250	3,628	3,646	3,664	3,683	3,701	3,720	3,738	3,757
Residential Recyclables	3,526	3,857	3,093	3,077	3,467	2,945	2,960	2,975	2,989	3,004	3,019	3,034	3,050
Commercial Recyclables	3,055	3,629	8,921	8,884	2,765	2,532	2,545	2,557	2,570	2,583	2,596	2,609	2,622
Sewage Sludge	49	49	49	50	50	50	50	51	51	51	51	52	52
TOTAL	38,309	36,457	55,719	43,672	58,766	39,653	39,851	40,051	40,251	40,452	40,654	40,858	41,062

Information taken from: 2005 - 2010 Kent County Recycling Program Reports, MRA Report, and 2005 Annual Sewage Sludge Generation Report.

TABLE 8

3.2 Existing County Solid Wastes Collection Practices

With the closing of the Nicholson Landfill in mid April 1992 through 2010, solid waste from all sources throughout the County was trucked to the Midshore Landfill in Easton, Maryland (Midshore I). Starting in December of 2010, solid waste was transported to Midshore II (Four county regional landfill) in Ridgely, Maryland (Caroline County). Trucks are loaded with solid waste at three residential solid waste/recycling drop-off centers: Galena, Sharptown and the Nicholson site. These drop-off sites are owned by the County and operated by the Department of Public Works. Each site is equipped with self contained 35 cubic yard compactors in which individuals discard domestic waste. The composting of mixed solid waste is not feasible due to Kent County's relationship with the Midshore Regional Municipal Landfill.

Rubble waste was disposed of at the Dulin Rubble Landfill until April 1, 1999. The material was delivered to the site by Kent County citizens and small businesses that perform construction work for a resident of Kent County. The Dulin site also accepted rubble and bulk wastes collected by the County from road cleanup operations. As of April 1, 1999, the Dulin Rubble Landfill was closed and no materials were accepted at the site. During September 2001, the Dulin Facility was capped and covered.

The incorporated areas are served both residentially and commercially through contract with private haulers (municipalities or private contracts). Rural residents and residents in unincorporated areas are also served by private collectors, or the individual is permitted to utilize one of the three Kent County operated solid waste/recycling drop-off centers.

A user fee is established for residents using any of the three drop-off centers. In August 1991, residents were required to purchase Solid Waste Disposal Coupon Booklets prior to visiting a drop-off center. In order to enter facility and dispose of household waste, a resident must have the required coupons.

Prior to 2006 the tipping fee assessed residential haulers was $54.00 per ton; the "user fee" coupon program cost an equivalent $0.40 per 15 pounds; rule-of-thumb use is "one coupon per standard bag." In July of 2006, the tipping fee increased to $60.00 per ton; with "user fee" coupon program cost an equivalent $0.45 per 15 pounds.

Starting July 1, 2011, the coupon system was adjusted and the price per coupon book was increased to $45.00, (book of 15 @ $3.00 per coupon). The drop-off centers no longer weigh each bag of trash. Customers delivering 1— 3 bags of trash (Kitchen size bags up to 13 gal.) the facility attendant will not remove a coupon but will punch a hole in one (1) coupon. When the customer returns (next trip to facility) the attendant will remove the coupon with the previously punched hole.

A Disposal Coupon (1 coupon) is good for one vehicle load of materials. Additional coupons may be required for disposal of certain materials such as tires and large vehicle loads of material, (Two (2) Coupons are required for vehicles larger than a pick- up truck. Three (3) coupons are required for vehicles larger than a pick-up w/ loaded trailer). Coupon books are available for $45.00 - Book of 15 coupons with no expiration date. Yellow & Red Coupon Books (old coupons) will still be accepted at a rate of 3 coupons per 1—3 trash bags (Kitchen size bags up to 13 gal.) and 6 coupons per vehicle load. A Coupon is not required if you only drop off Recyclables.

This program serves to provide equity between those residents who receive trash collection services (either because of town residence or private contracts) and those who transport their own refuse to a drop-off site. The program also provides an incentive or reward for Kent County residents who elect to recycle, and utilize the drop-off centers and reduce their waste output; users pay for only that which they dispose (recycling is free).

Scrap tires, white goods, and scrap metal are accepted at the Nicholson drop-off Center. Scrap tires require a payment of one coupon for each tire (limit of 4 tires), freezers, refrigerators, air conditioners and scrap metal require one coupon.

The State Highway Administration and the Kent County Roads Department are jointly responsible for the collection of litter within the County. A litter bill (no. 5-90) was adopted on June 5, 1990 making it unlawful to drop, discard or otherwise dispose of any solid waste or other material in, on, or around private lands of another or public lands except in appropriate containers at trash transfer sites. A list of professional waste haulers currently operating in Kent County and their equipment appear in Table 11 below.

Allied Waste/Republic Services 907 Willow Grove Rd. Felton, DE 19943 800-492-5999	Over-top compactor
Charlie's Trash Removal 10264 Big Stone Rd. Millington, MD 24651 410-928-5783	over top compactor, boxes
Wallace Henry, 6171 Quaker Neck Landing Rd. Chestertown, MD 21620, 410-778-0516	over top compactor
Waste Management Leonard Lane, P.O. Box 459 Cambridge, MD 1-800-543-8878	over-top compactor
We're Talking Trash P.O. Box 778 Chestertown, MD 21620 410-708-6360	over top compactor, boxes

Table 9

LICENSED PROFESSIONAL WASTE HAULERS
CALENDAR YEAR 2010

3.3 Existing Solid Waste/ Recycling Acceptance Facilities

The locations of the County's existing solid waste / recycling drop-off centers are shown in Figure 4, in conjunction with Table 12. There are currently three solid waste/recycling drop-off centers in operation in the County. Each site has a recycling center for homeowners to drop off recyclables.

Solid Waste/ Recycling Drop-off Centers

The Galena, or Duck Puddle, solid waste/recycling drop-off center is a County-owned facility that was formerly a land disposal site. The site is located three miles from the Galena Town limits, and can be accessed off Duck Puddle Road, but is limited by a stream crossing with a posted load limit of 15,000 pounds. The site has served as a solid waste drop-off center since 1963. Presently, it is used mainly by rural residents who drop off their domestic solid waste into 35 cubic yard compactors and recyclables at the recycling center.

Since the Galena solid waste/recycling drop-off center is more or less a staging area, its anticipated life (with proper maintenance) is infinite.

DUCKPUDDLE - HOURS

SUNDAY	**CLOSED**
MONDAY	**CLOSED**
TUESDAY	**8:00 AM - 4:00 PM**
WEDNESDAY	**CLOSED**
THURSDAY	**8:00 AM - 4:00 PM**
FRIDAY	**CLOSED**
SATURDAY	**8:00 AM - 2:00 PM**

CLOSED:
●New Years Day ●Memorial Day ●July 4th ●Labor Day ●Thanksgiving ●Christmas

HOUSEHOLD SOLID WASTE AND RECYCLABLES ONLY

NO COMMERCIAL HAULERS

The Sharptown solid waste/recycling drop-off center is a County-owned facility located one mile east of Rock Hall. It is accessible from Highways 20 and 288. Like the Galena site, the Sharptown solid waste/recycling drop-off center was first used as a 25.2 acre land disposal area. It began operation in 1957.

The site now serves as a staging area for rural residential solid waste and recycling drop-off center and, as such, also has an infinite life.

SHARPTOWN - HOURS

SUNDAY	**CLOSED**
MONDAY	**CLOSED**
TUESDAY	**8:00 AM - 4:00 PM**
WEDNESDAY	**CLOSED**
THURSDAY	**8:00 AM - 4:00 PM**
FRIDAY	**CLOSED**
SATURDAY	**8:00 AM - 2:00 PM**

CLOSED:
●New Years Day ●Memorial Day ●July 4th ●Labor Day ●Thanksgiving ●Christmas

HOUSEHOLD SOLID WASTE AND RECYCLABLES ONLY

NO COMMERCIAL HAULERS

The Nicholson solid waste/recycling drop-off center is a County-owned facility located approximately five miles northwest of Chestertown. It is accessible by Routes 20 and 298 off Earl Nicholson Road. Nicholson is also a staging area; its anticipated life (with proper maintenance) is infinite.

NICHOLSON - HOURS

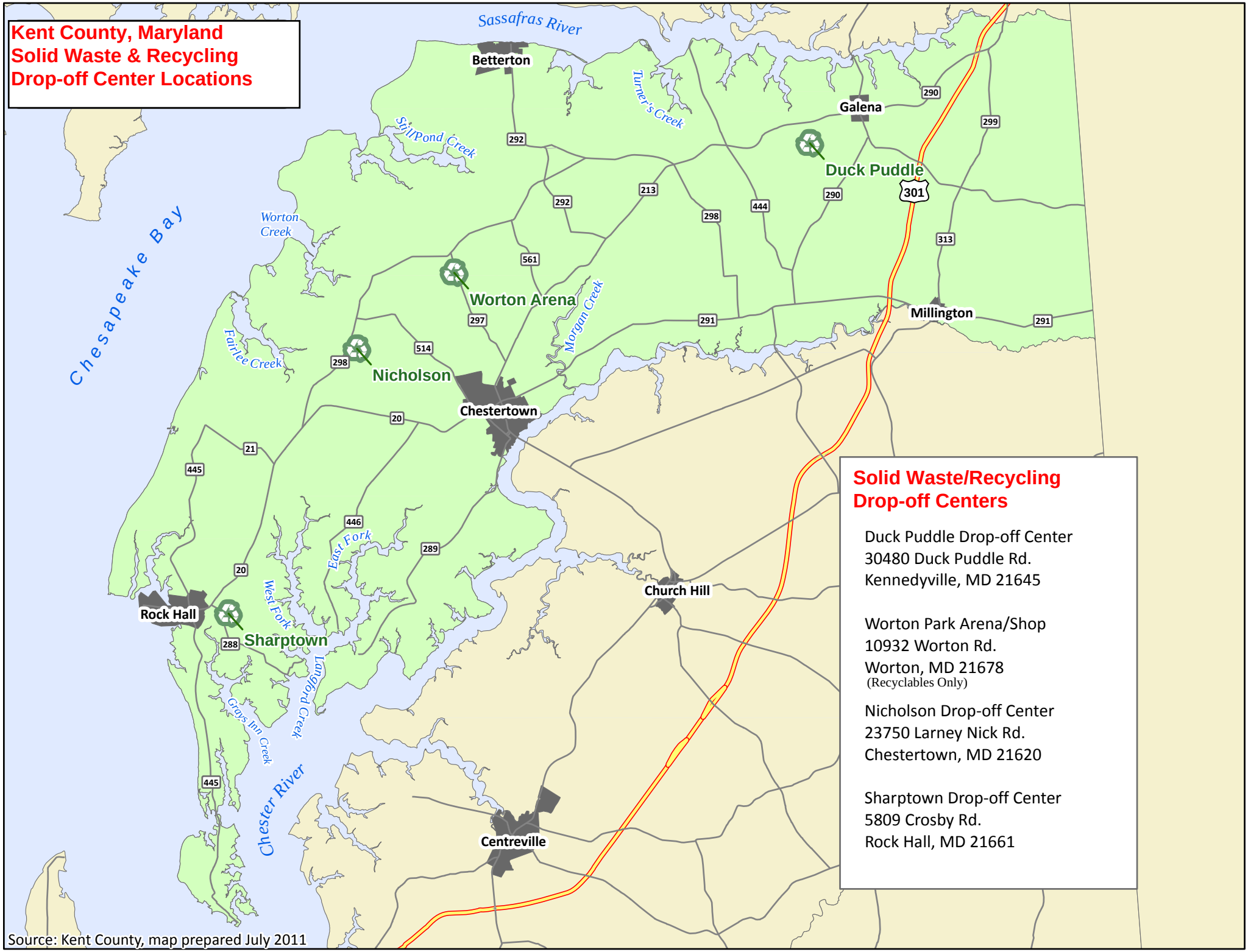
SUNDAY	**CLOSED**
MONDAY	**8:00 AM - 4:00 PM**
TUESDAY	**CLOSED**
WEDNESDAY	**8:00 AM - 4:00 PM**
THURSDAY	**CLOSED**
FRIDAY	**8:00 AM - 4:00 PM**
SATURDAY	**8:00 AM - 2:00 PM**

CLOSED:
●New Years Day ●Memorial Day ●July 4th ●Labor Day ●Thanksgiving ●Christmas

HOUSEHOLD SOLID WASTE
CONSTRUCTION RUBBLE
YARD WASTE
SCRAP TIRES
METAL, White Goods
RECYCLABLES
Concrete, Bricks, and clean Blacktop

NO COMMERCIAL HAULERS

FIGURE 5


Kent County, Maryland
Solid Waste & Recycling
Drop-off Center Locations
Sassafras River
Betterton
Turner's Creek
Galena
Stillpond Creek
Duck Puddle
Worton Creek
Chesapeake Bay
Worton Arena
Morgan Creek
Millington
Fairlee Creek
Nicholson
Chestertown
East Fork
Church Hill
Rock Hall
West Fork
Sharptown
Langford Creek
Grays Inn Creek
Chester River
Centreville
Solid Waste/Recycling
Drop-off Centers
Duck Puddle Drop-off Center
30480 Duck Puddle Rd.
Kennedyville, MD 21645
Worton Park Arena/Shop
10932 Worton Rd.
Worton, MD 21678
(Recyclables Only)
Nicholson Drop-off Center
23750 Larney Nick Rd.
Chestertown, MD 21620
Sharptown Drop-off Center
5809 Crosby Rd.
Rock Hall, MD 21661
Source: Kent County, map prepared July 2011

University of Maryland Shore Regional Health Hospital

Up until July 1992 infectious waste generated by hospital operations was incinerated at the hospital in an incinerator operated by the hospital. The incinerator was old and unable to meet the most recent State emission requirements and was taken out of operation. The hospital generates approximately 70 Tons of infectious waste per year, which is boxed and taken to Stericycle, a firm located in Baltimore that disposes of infectious wastes. Municipal solid waste generated by the hospital is collected by a commercial hauler.

Landfills

The Nicholson Landfill was closed in May 1992 and a 2-foot cap of cover material was applied over the stored solid waste by the Department of Public Works. A capping plan was completed by Century Engineering, Inc. and given to the Maryland Environmental Service (MES) for implementation. The cap was installed and all work completed during the fall of 1996 by MES. The 15 acre site is accessible via Routes 20 and 298 by Earl Nicholson Road. The site is located approximately 5 miles northwest of Chestertown.

The Dulin Rubble Landfill was the only operational rubble disposal site within the County. It is owned by the County and operated by the Department of Public Works. Kent County completed the permit process and during late fall or early winter 1993, Maryland Department of the Environment issued the Rubble Disposal Permit.

The Dulin Rubble Landfill, a 5.6 acre site is located just northeast of the intersection of Ricauds Branch/Langford Road and Hynson Rogers Road. It is accessible from State Route 20 by Bakers Lane. The site is approximately 3 miles southwest of the Nicholson Landfill Site. The Dulin Rubble Landfill was closed to all residents and haulers on April 1, 1999 and a 2-foot cap of cover material was applied over the stored rubble material by the Department of Public Works. A capping plan was completed by Century Engineering, Inc. and approved by Maryland Department of the Environment. Lindstrom Excavating Contractors installed the liner cap and all work was completed during the fall of 2001.

ADC Map Coordinates
Kent County, Maryland
Solid Waste/Recycling Acceptance Facilities

Type	Facility	Coordinates	Map Page Number
Infectious Waste	Kent and Queen Anne's County Hospital	D-5	17
Landfill	Nicholson Landfill (CLOSED)	B-12	8
Rubble Fill	Dulin Rubble Landfill (CLOSED)	K-9	15
Solid Waste/Recycling Drop-off Centers	Sharptown (shown in figure 4)	B-6	19
	Galena (shown in figure 4)	G-10	4
	Nicholson (shown in figure 4)	B-12	8
Recycling Drop-Off Center	Betterton Beach Ericsson Ave. (Operated by the Town of Betterton)	E-3	2
Recycling Drop-Off Center	Nicholson (shown in figure 4)	B-12	8
Recycling Drop-Off Center	Sharptown (shown in figure 4)	B-6	19
Recycling Drop-Off Center	Rt. 297 Worton (Across from Parks & Recreation Worton Park)	K-6	8
Recycling Drop-Off Center	Galena (shown in Figure 4)	G-10	4
Yard Waste Facility	Nicholson Yard Waste Grinding Area	B-12	21

Table 10

3.4 Sludge, Septage, Motor Oil, Autos, Scrap Tires, Asbestos

Sludge

It is estimated that Kent County generates 445.05 wet tons of sewage sludge per year.

The annual quantity of sewage sludge generated (information obtained from Municipalities and Kent County Water and Waste Water Department) is distributed as follows:

Location	Quantity (Tons)
Betterton	50
*Chestertown	0
*Galena	0
Millington	74.05
Rock Hall	156
Kennedyville	20
Tolchester	45
Rural	100
TOTAL	445.05

* Chestertown and Galena reported 0 annual quantities due to storing sludge on site

All sewage treatment facilities within the county store sewage sludge on site. The Delta Heights Facility is connected to the Tolchester Wastewater Collection System and no longer hauls sewage sludge to Worton for storage.

In 2006, the County replaced the Kennedyville two cell stabilization lagoon system with a sequencing batch reactor plant which included a sludge holding and dewatering facility. Sludge generated at the Kennedyville treatment facility is dewatered and disposed of by waste hauler.

In November of 2010, the County started up a new membrane bioreactor wastewater treatment plant at the Worton/Butlertown Wastewater Treatment Facility. This biological process plant replaced the four cell stabilization lagoon system. The plant process generated sludge is stored in aerobic digesters with the received septage sludge before it is dewatered for disposal by a waste hauler.

Disposal and land application are separate utilization methods regulated by the Maryland Department of the Environment under different requirements. Land application refers to the utilization of treated sewage sludge to be used as fertilizer on agricultural land. However, disposal refers to land filling of sewage sludge in a permitted landfill.

The approval process in Kent County for land application of sewage sludge is very restrictive. The Towns of Betterton, Millington and Rock Hall in addition to the Kent County Water and Waste Water Department all have facilities requiring sewage sludge removal and disposal.

A copy of the Septage Regulations for Kent County is included in Appendix C.

Septage

Approximately 2,400,000 gallons of septage is generated in Kent County annually. Septage is collected by private haulers that have obtained septic discharge permits from the Department of Water and Waste Water. Haulers are charged an annual permit fee and a per gallon disposal fee.

The Kent County Commissioners regulate septage disposal. All septage, including marine pump-out wastes, generated in Kent County, was previously disposed of in a lagoon at the Worton/Butlertown Wastewater Treatment Facility. The new wastewater treatment facility was brought on line in November of 2010 and all septage is now processed through the new facility. The septage is thickened by removing the supernatant liquid and pumping it through the biological treatment process of the plant. The thickened sludge is then dewatered for disposal of by a waste hauler.

Septage disposal is governed by Article IX, Sewerage Disposal Facilities, Chapter 5 Code of Public Local Laws of Kent County. Additionally, the County has regulations regarding safe and efficient treatment of septage. A copy of Article IX and the Septage Regulations are included in Appendix C.

Motor Oil and Anti-Freeze

Motor oil and anti-freeze from vehicles are presently being collected for recycling in the County. Several service stations have on-site storage facilities for collecting waste oil and anti-freeze. Additionally, through a State program, oil and anti-freeze is collected at the Sharptown, Nicholson, and the Duck Puddle solid waste/recycling drop-off centers.

Autos

There are no licensed auto wreckers in Kent County, and wrecked, inoperative and abandoned vehicles are disposed of privately by independent wreckers outside the County.

Asbestos

Asbestos is not permitted for disposal at the Nicholson solid waste/recycling drop-off center. The Bakers Rubble Landfill accepts asbestos in accordance with COMAR 26.11.15.04 and 26.04.07.13.B(s). There are approximately 2-3 calls per year to dispose of asbestos, mostly shingles which are referred to the Bakers Rubble Landfill.

Scrap Tires

Scrap tires are not placed in the regional landfill. Kent County has a permit to stockpile 1500 scrap tires at the Nicholson solid waste/recycling drop-off center. However instead of stockpiling on the ground, the scrap tires are placed into a 40 yard roll-off container, by the public and hauled to recycling markets by the Public Works Department. A scrap tire hauling permit was obtained from the Maryland Department of the Environment on November 30, 1995.

Computers

Kent County, in partnership with Queen Anne County, Caroline County and Talbot County, (MRRP) established an electronic recycling program in 2002. This program accepts computer: CPU's keyboards, monitors, mouse, printers, cables, modems, computer speakers, scanners, and external

disc. drives. Also accepted: televisions, remotes, VCR's CD players, calculators, cell phones, radios, stereos, CB radios, fax machines, answering machines and copiers. The materials are collected from residents, small businesses, and schools at special collection events twice each year throughout the four county region. These materials are transported or collected by electronic recycling companies. This program is provided free to residents, small businesses and schools. Kent County expects to continue it's partnership with the MRRP Program.

In addition to the special collection events, a daily collection site at the Nicholson solid waste/recycling drop-off center was established in 2008 allowing Kent County residents, schools and small businesses to recycle free of charge computers and computer components (CPU's keyboards, monitors, mouse, printers, cables, modems, computer speakers, scanners, and external disc. drives) at the Nicholson Facility. These materials are transported or collected by electronic recycling companies.

Scrap Metal

Kent County no longer stock piles scrap metal on the ground at the Nicholson solid waste/recycling drop-off center. Refrigerators, air conditioners, and scrap metals are placed into a 40 yard roll-off and hauled to a scrap metal recycling market. Kent County removes all CFC's from appliances and follows all Federal requirements.

Corrugated Cardboard

Corrugated Cardboard is collected at all three solid waste/recycling drop-off centers. The cardboard is hauled to Queen Anne's County to be baled and sent to a recycling market. All MRRP (Igloo) recycling centers in Kent County currently accepts corrugated cardboard.

Newspaper, Mixed Paper & Paperboard

All newspaper and mixed paper to include catalogs, phone books, all colored paper, shredded paper, junk mail, paperboard (cereal/shoe boxes, paper towel/toilet paper rolls, snack boxes, soda cartons) is delivered to the Creafill Fibers Inc., located approximately three miles from the Nicholson solid waste/recycling drop-off center.

Glass

Glass continues to be sent to Pennsylvania, Todd Heller Inc. Glass is consolidated at the Nicholson solid waste drop-off center and delivered in tractor trailers.

Aluminum & Tin Cans

Aluminum and tin cans are collected commingled. The mixed cans are delivered to Bennet & Cohey where the mixed cans are separated and Kent County receives revenue for both commodities.

Plastic Bottles & Jugs

Plastic is collected and comingled with the Midshore Regional Recycling Program's plastic. Kent County collects narrow neck plastic bottles and jugs only.

Yard waste

Yard waste is dropped off at the Nicholson solid waste/recycling drop-off center by the homeowner and is processed into mulch by use of a tubgrinder. County residents can then return and receive the mulch at no cost. This process provides the homeowner with the incentive to recycle the yard waste and receive the end product free of charge.

CHAPTER FOUR

4.1 Assessment of County Solid Waste Disposal Systems

The Nicholson Landfill located off Earl Nicholson Road that had served Kent County since 1972 is closed. The landfill closure was completed in August of 1996. All Kent County Solid waste is hauled to the Midshore Regional Landfill.

Midshore Regional Landfill

Kent County joined with the Tri-County group: Queen Anne's County, Talbot County and Caroline County in disposing of its solid waste at the MES operated Midshore Landfill located in Easton, Talbot County, Maryland. The facility in Easton closed in 2010 and a new facility opened in Caroline County. At present Kent County does not plan to construct a new solid waste landfill in the County for exclusive use of citizens residing within Kent County.

In order to meet its obligation to the Tri-County group Kent County intends to take an option on or purchase a parcel of land to be used in the future by Kent County and the Tri County group which is now the Four County Group for a regional solid waste disposal facility. The regional solid waste disposal facility will have a life expectancy of 20 years. As of this date the site has not been selected.

Hauling to the Midshore Landfill began in Mid April 1992. All residential and commercial solid waste in Kent County less recycled waste will be hauled to the Midshore Landfill.

Dulin Rubble Landfill

The Dulin Rubble Landfill is located approximately six miles west of Chestertown in the southwestern part of Kent County. Specifically, the site borders the north side of Ricauds Branch/Langford Road between Hynson Rodgers Road and Bakers Lane.

Prior to closure, the Dulin Rubble Landfill accepted all acceptable wastes as described in COMAR 26.04.07.13.B except furniture. Furniture was disposed of in the Midshore Solid Waste Landfill. The site consists of a 5.6 acre parcel of property.

The site which originally was part of a 2-1/2 acre gravel pit was used as an informal rubble dump before it was purchased by the County. The pit area was cleaned up by moving existing waste to one area of the landfill and placing cover material over the pit. The County improved the site by placing a fence at the perimeter for security and placing a small office at the entrance for a site attendant to monitor incoming rubble. From February 9,1998, until the facility closed, third party inspections took place at the Dulin Rubble Landfill. The Environmental Health Department for Kent County inspected rubble coming into Dulin, (every day) while the Dulin Rubble Landfill was operational.

When the permit process for the Dulin site started in 1990 it was estimated that 1600 tons per year would be arriving at the site. On this basis the site was expected to have a 22 year life. However during 1990 the inflow picked up considerably, and the life expectancy was revised accordingly.

In September 1992 there was a sharp increase in incoming rubble when debris from a building fire in Chestertown added an additional 100 tons a day for six days. During the year 1996, 2,284 tons of rubble waste was delivered to the Dulin site. This is an average of 6.25 tons per operating day. In an effort to extend the life expectancy of the rubble landfill, a policy was adopted in June of 1995 to limit acceptable waste to residential rubble. Commercial rubble was being hauled to the Midshore Landfill or the Bakers Rubble Landfill.

In selecting a site for a sanitary landfill to serve the four counties, Kent County will have to consider the constraints imposed upon the establishment of solid waste acceptance facilities by the inherent character of Kent County. Existing conditions and the constraints they create are discussed in the next section.

Solid Waste Distribution and Disposal

Generally, solid waste is distributed to the Midshore Landfill. Residential waste, commercial waste along with roadside litter and furniture are disposed of at the Midshore Landfill after recyclables are extracted while rubble waste is taken to the Bakers Rubble Landfill. Tires, white goods and forestry/yard waste and broken concrete are recycled.

4.2 Constraints Imposed on the Site Selection of New Solid Waste Acceptance Facilities

Topography and Physiography

Kent County has numerous tide-water bays, creeks and rivers that penetrate its shores and extend, in some cases, many miles inland. The total amount of tidal shoreline is 268 miles. While some areas to the north and northwest are characterized as rolling, the relief of the County is slight with little more than 100 feet difference between the lowest and highest points.

The greater portion of the County forms the broad divide between the Sassafras and Chester River estuaries, as well as forming a portion of the divide separating the Delaware and Chesapeake Bay drainage basins. This divide rises to an elevation of slightly more than 60 feet in the eastern section of the County and to near 80 feet in the western portion.

Within Kent County, three different physiographic features worthy of special attention may be identified: the tidal marshes; the Talbot Plain; and the Wicomico Plain. These features vary greatly in the areas which they occupy and are principally dissimilar in the elevations at which each is found.

The first of these features mentioned, the Tidal Marshes, border the estuaries and are especially abundant in the southwestern portion of the County. They are found in levels so low that often they are inundated by unusually high tides. Many of these marshes were previously either embayments of larger estuaries or of the Chesapeake Bay, and in time have become filled with material washed from adjoining land surfaces, in addition to being filled with accumulated vegetative matter.

The Talbot Plain is defined on geologic maps as the region over which the materials constituting the Talbot formation have been spread. It borders the Tidal Marshes and extends from the tide limits to an elevation of approximately 45 feet. The land, while being relatively flat, is moderately well drained to poorly drained but contains few wet areas. In certain places the waves of the Chesapeake Bay and the estuaries have cut low cliffs of various heights into the Plain. The Talbot Plain extends up the valleys of the Sassafras and Chester rivers, gradually becoming narrower as it reaches inland. It has, however, been greatly interlaced by tributary streams so that it is seldom continuous for any considerable distance. It is for this reason that this portion of the County is not considered suitable for landfill-type solid wastes disposal.

The Wicomico Plain lies at a higher elevation than the Talbot from which it is in many places separated by an abrupt rise or escarpment, varying in height from a few feet to 10 to 12 feet. This is especially evident near Melitota, Sandy Bottom, and Langford. The base of the escarpment stands at an elevation of approximately 40 feet. From that height the Wicomico Plain extends upward to an elevation of about 100 feet. The Wicomico Plain is the most developed of the three different topographic divisions within the County, and forms the broad divide between the Delaware and Chesapeake Bay drainage systems. Because the Wicomico Plain has a lesser number of tributaries, and occurs where development is logical, it is more suitable for landfill-type solid wastes disposal. The Nicholson landfill is located in this area.

Soil Conditions, General

There are many different soil types in Kent County. The soil survey of Kent County, Maryland (1982) has grouped areas of similar soils, relief and drainage into general soil map unit associations. An association typically contains one or more major soils and some minor soils. Eight different soils associations have been identified for Kent County on the general soil map. They are described in the following discussion (listed in descending order by size) and appear in Table 11

1. Matapeake - Sassafras Association: Makes up 20 percent of the County. The association consists of nearly level uplands, rolling uplands and side slopes and is dissected by widely spaced streams. Butlertown soils are the dominant minor soils in this association.

2. Mattapex-Othello Association: Also makes up 20 percent of the county. The association consists of broad, nearly level uplands and terraces and moderately sloping side slopes. Much of this association is used for cultivated crops.

3. Mattapex-Matapeake-Butlertown Association: Makes up 19 percent of the County. The association appears mainly on broad uplands and in moderately sloping areas that are dissected by draws and gullies.

4. Sassafras-Bibb-Colts Neck Association: Makes up 18 percent of the County and consists of well dissected, sloping areas and short valley side slopes along streams and creeks. The dominant minor soils are Bibb Variant and Iuka.

5. Elkton-Keyport-Mattapex Variant Association: Makes up 11 percent of the County. The association consists of broad, nearly level areas and also some slopes and depressions. Moderately well-drained Mattapex, Butlertown, and Woodstown soils are the dominant minor soils.

6. Woodstown-Fallington-Sassafras Association: Makes up 6 percent of the County. The association is contained in undulating uplands, closed depressions and broad, flat areas. Approximately half of the association is farmed and half is wooded.

7. Sassafras-Galestown-Fort Mott Association: Makes up 4 percent of the County. The association consists of small areas of level to rolling uplands, side slopes and terraces that border some large streams and creeks. Moderately well drained Woodstown soils are the dominant minor soils.

8. Westbrook-Kingsland-Ipswich Association - Makes up 2 percent of the County and consists of the tidal marshes along the Chesapeake Bay, Chester River and Sassafras River. Axis soils dominate the minor soils.

Of the eight associations, two (Matapeake-Sassafras and Mattapex-Othello) appear very suitable to landfill-type solid wastes disposal. The Nicholson Landfill is located in the Matapeake-Sassafras association.

Other acceptable soil associations (for the placement of Landfill Operations) are:

Sassafras-Galestown
Sassafras-Bibb-Colts Neck (Site of the proposed Dulin Rubble Landfill)
Woodstown-Fallingston-Sassafras
Mattapex-Othello
Elkton-Keyport-Mattapex Variant

The Westbrook-Kingsland-Ipswick association would not be considered a suitable site for landfilling.

Soil Conditions, Potential Site for a Future Rubble Landfill (Adjacent to the Closed Nicholson Landfill)

The soils found at the Nicholson Landfill are listed by the Natural Resources Conservation Service as belonging to the Matapeake-Sassafras Association. In general these soils are formed in upland plains and are well drained. Three soil map units are listed and mapped on the site, the Matapeake silt loam 2 to 5 percent slopes (MnB) the Matapeake silt loam 5 to 10 percent slopes, moderately eroded (MnC2), and the Sassafras gravelly loam, 10 to 15 percent slopes, severely eroded (SgD3).

The Matapeake soil series are generally very deep and well drained soils formed in upland deposits. The Matapeake series consists primarily of several horizons of silt loam over a base horizon of larger and coarser material usually a sand or sandy loam.

The MnB map unit encompasses about eight acres of the proposed landfill site. This soil is well drained, moderately permeable and surface runoff is rated by NRCS as medium. NRCS also rates this soil as having only "slight limitations" for use in an area landfill and rates it "good" for use as a daily cover.

The MnC2 map unit covers about six and a half acres of the proposed site. The dominant soil is also well drained but is found on steeper slopes than the MnB map unit. The soil has a moderate permeability rating and is considered "medium" for surface runoff. This soil has only "slight limitations" for an area landfill and is rated "good" for use as a daily cover.

The Sassafras soil series is very deep and well drained. These soils are similar to the Matapeake soils but have a coarser grain constituency than the Matapeake series. The Sassafras soils consist of several horizons of sandy loam with an increase in clay found in the lower horizons which lie over a

much coarser grained base horizon. The SgD3 soil map unit is the only Sassafras map unit found on the proposed site.

The SgD3 covers only about one acre of the proposed site. The dominant soil is well drained and found on relatively steep slopes. The soil is moderately permeable and has a rating of "medium" for runoff potential on cultivated slopes. This soil has "moderate limitations" for an area landfill and is "fair" for use as a daily cover with slope being the limiting factor.

Soil Conditions, Dulin Rubble Landfill

The Dulin rubble landfill property contains two soil map units series within the site boundaries. The Colts Neck gravelly loam (CgD3) is the predominant map unit at the site and a small portion of the site contains the Butlertown-Mattapex silt loam map unit (BuA).

The Colts Neck soil is generally well drained and found on upland side slopes. Typically the profile contains; a four inch thick topsoil consisting of a brown gravelly loam, a thirty three inch thick subsoil consisting of yellowish red and reddish brown gravelly loam (upper part) and a dark reddish brown sandy clay loam and sandy loam (lower part), and a substratum consisting of yellowish red sandy clay loam to a depth of sixty inches.

The soil is moderately permeable with a moderate available water capacity and is strongly to very strongly acidic. The soil is subject to rapid runoff and has a severe hazard of erosion potential.

The Butlertown-Mattapex silt loam map unit is located in the southeast corner of the property. This map unit actually consists of two separate soils mapped as one unit. This unit generally contains 45% Butlertown silt loam, 40% Mattapex silt loam and 15% other soils.

The Butlertown soil typically consists of a 10 inch thick topsoil containing a dark brown silt loam, a 45 inch thick subsoil containing a friable brownish yellow and yellowish brown mottled heavy silt loam (upper part) and a very firm, mottled, yellowish brown silt loam (lower part), and a substratum to a depth of 75 inches, consisting of a stratified pale brown loam, silt loam and sandy loam.

The Mattapex soil consists of; an eleven inch thick topsoil containing a dark yellowish brown silt loam, a subsoil twenty four inches thick containing mottled yellowish brown and light yellowish brown silt loam and a substratum to a depth of sixty inches containing a strong brown sandy loam.

The Butlertown soil has a moderate to slow permeability and a seasonally high water table of two to four feet below the surface. The Mattapex soil has a moderately slow permeability and a seasonably high water table of one and a half to two and a half feet below the surface. Both soils have a high available water capacity, medium runoff potential and both are strongly to extremely acidic soils.

The area where the existing pit is located contained Colts Neck soils but these soils were removed during the excavation of the pit.

The preceding soils information was taken from the Soil Survey of Kent County, Maryland, USDA, SCS.

No.	Association	Soils	Acreage	Percentage of County
1	Matapeake-Sassafras	60% - Matapeake 30% - Sassafras 10% - Minor	35,968	20%
2	Mattapex-Othello	55% - Mattapex 25% - Othello 20% - Minor	35,968	20%
3	Mattapex-Matapeake Butlertown	45% - Mattapex 25% - Matapeake 15% - Butlertown 15% - Minor	34,170	19%
4	Sassafras-Bibb-Colts Neck	46% - Sassafras 19% - Bibb 17% - Colts Neck 18% - Minor	32,371	18%
5	Elkton-Keyport-Mattapex Variant	28% Elkton 26% - Keyport 23% - Matapex Variant 23% - Minor	19,782	11%
6	Woodstown-Fallsington Sassafras	45% - Woodstown 28% - Fallsington 10% - Sassafras 17% - Minor	10,790	6%
7	Sassafras-Galestown-Fort Mott	45% - Sassafras 28% - Galestown 15% - Fort Mott 12% - Minor	7,194	4%
8	Westbrook-Kingsland-Ipswich	48% - Westbrook 11% - Kingsland 11% - Ipswich 30% - Minor	3,598	2%
			179,840 ac	100%

Table 11
Soil Associations of Kent County, Maryland

Hydrology, General

Many of the geologic formations underlying Kent County are important water-bearing units. They tend to dip towards the southeast and therefore are shallower in the northwest.

Aquifers in the Patapsco and Raritan Formations are encountered at depths ranging from 35-700 feet below sea level. The Magothy Formation, another productive water-bearing strata is encountered from 0-500 feet below sea level.

Some of the more productive formations in the County are limited in use because they are acidic and/or have a high iron content.

At present, groundwater is the only source of water for the County. The sanitary Commission has no plans to tap any surface waters as a source during the planning period.
Regardless, it appears Kent County has sufficient reserve potential to accommodate growth well into the future. The present water use within the County is a very small percentage of the estimated groundwater recharge.

Even though the County has a nearly limitless groundwater reserve, it is still a precious commodity. As such, every precaution should be taken to preserve this resource including the careful consideration of solid wastes disposal facilities siting.

By law, landfills are to be located in areas where the local groundwater levels will be 3 feet or more below their base. This precaution reduces the possibility of contamination of the groundwater supply. Some of Kent County's most predominant features are the numerous streams, creeks and rivers that empty into the Chesapeake Bay. Even though they are not used as sources of water, their commercial and recreational potential are important and must be preserved.

Solid wastes disposal facilities should be sited in areas away from these surface waters to reduce the possibility of their contamination.

The tidal wetlands, or marshes, formed by the Bay and its tributaries are especially valuable resources that need to be protected. The County has 9,316 acres (4.7%) of three different marsh types:

- Estuarine River marshes - along the Sassafras and Upper Chester Rivers; and the mouth of the Chester River.

- Estuarine Bay marshes - in the Upper Bay around Betterton and Kinnairds Point.

- Brackish estuarine Bay marshes - around Eastern Neck Island and the mouth of the Chester River.

All of these marshes are rich in plant and aquatic life with their vegetation feeding microscopic crustaceans as well as larger aquatic animals. The marshes also retain water, reduce flooding and replenish groundwater sources.

Upstream from the tidal wetlands are the freshwater non-tidal wetlands. Freshwater marshes support a different variety of species but perform similar functions as the tidal wetlands. Wetlands are not suitable sites for placing solid waste disposal facilities and zoning prohibits using the sites for disposal.

Hydrology, Potential Site for a Future Rubble Landfill Adjacent to the Closed Nicholson Landfill

This site is located over parts of the Wicomico and Talbot Formations which, in turn, overlie the Monmouth and Matawan Formations. The Talbot Formation has been used for water production in some areas but since it can contain only a shallow aquifer, the formation is no longer used for domestic water production. Water found in the Wicomico Formation flows in unconfined aquifers which also precludes its use for domestic production. The Monmouth Formation is considered a good aquifer having the potential as a major source of water for the Eastern Shore in the future. Water encountered in the Matawan Formation is hydraulically linked to aquifers above and below it.

At present time there are no plans to construct a future rubble landfill following the closure of the Dulin Rubble Landfill during year 2001. A future rubble landfill however has potential to be constructed adjacent to and just east of the now closed Nicholson landfill and comprises nearly 15 acres. The eastern boundary is formed by Nicholson Road and the southern boundary is adjacent to Larney Nick Road. To the north is an existing sediment pond which when renovated and upgraded will be capable of providing sediment control for the existing closed site and the future rubble site.

In the vicinity of the future rubble landfill are eight monitoring wells and four piezometers. The wells are located at the boundary of the site and the four piezometers are located along the center of the site. Topography generally slopes from east to west from a high elevation of 92 at the east to a low of 63 at the west.

Groundwater beneath the site flows from south to north with the groundwater contours being almost perpendicular to the ground contours. At the southern boundary the groundwater, at elevation 70, is approximately 16 feet below the ground surface but at the higher interior elevations just 400 feet north of the southern boundary the groundwater elevation drops to 45 and the ground surface is at elevation 86 for a distance of 41 feet to groundwater. At the northern boundary of the 15 acre site the groundwater drops to elevation 35 and the ground surface is elevation 70. The site is situated well above the groundwater and is capable of providing a rubble landfill with a long life expectancy and a good source of cover material for operating the landfill.

Hydrology, Dulin Rubble Landfill

The Dulin Rubble Landfill is situated over the Columbia and Aquia Formations. Few wells are found within the Columbia Formation since the aquifer, if present, is shallow and provides little yield. The Aquia Formation consists of glauconite and in some places indurated sands and is an important water-bearing unit which contains many production wells.

Four monitoring wells and two piezometers were installed on the Dulin site between January 14, 1992 and January 23, 1992. The monitoring wells are at the northern and eastern boundary and the piezometers are at the southern and eastern boundary. Groundwater levels are read monthly.

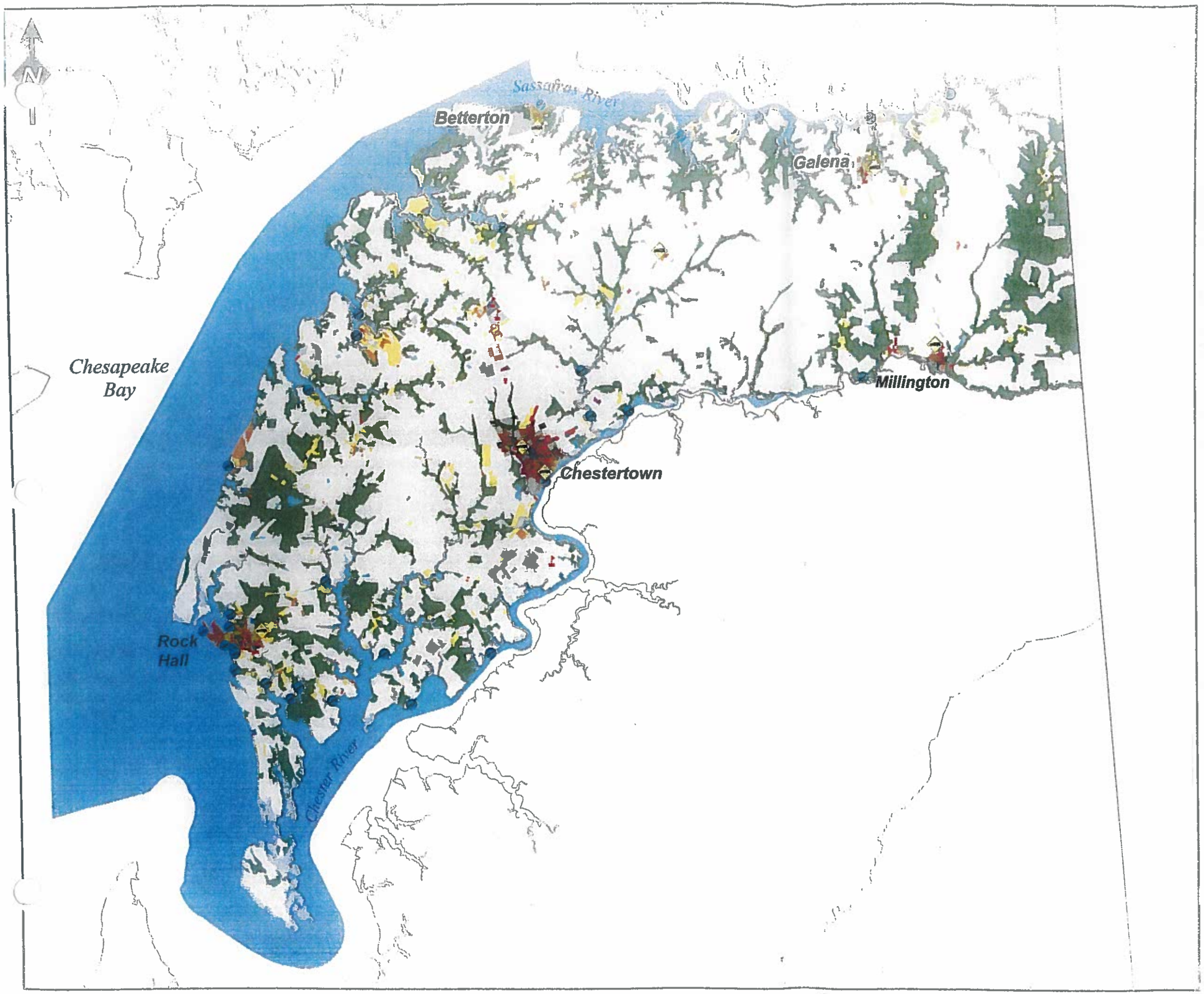
Ground elevations on the Dulin site range from 37 at the western boundary to 75 at the eastern boundary. The highest groundwater measured occurred at the eastern boundary in well W-1: 8.7 feet below the ground surface at an elevation of 28.4. At the higher elevations near the eastern boundary in well W-4 the highest recorded groundwater is 46.0 feet below the ground surface at elevation 29.0.

Other Constraints

Other constraints are discussed in detail in chapter two in the sections on zoning and the Comprehensive Land-Use Plan.

Existing Land Use Map
Kent County, Maryland

FIGURE 6



Legend

- Fire/Rescue Station
- Public Landing
- School
- Low Density Reidential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Institutional
- Other Developed Land
- Agriculture
- Forest
- Water
- Wetlands
- Barren Land

Miles
0 1.25 2.5 5

Source: Kent County Dept. of Planning, Housing & Zoning; 2002 Land Use/Land Cover data is from MdProperty View 2006; Map prepared November 2006.

4.3 Recycling Plan for Kent County, Maryland

The Recycling Plan for Kent County, Maryland, as mandated by Section 9-505 of the Maryland Recycling Act of 1988, Environment Article, Annotated Code of Maryland, was completed and submitted to Maryland Department of the Environment in July 1990. The plan was amended in 1991 and finally approved by the State Office of Waste Minimization and Recycling (MDE) in 1992.

Kent County is required by the Maryland Recycling Act to divert 15% of its "recyclable" solid waste (defined as "municipal solid waste" with certain restrictions) from waste disposal facilities to reduce capacity needs and extend the life of these facilities.

July 1990, the Counties of Caroline, Kent, Queen Anne's and Talbot submitted to the Maryland Department of the Environment (MDE) their individual final recycling plans. Through these plans, each county outlined goals and objectives of their comprehensive recycling plans and identified the programs which the counties will adopt to achieve these goals. Realizing the advantages of joint cooperative efforts, the four Eastern Shore counties began to develop the Midshore Regional Recycling Program (MRRP) using the counties' final recycling plans as the foundation. The MRRP is an essential part of the fully integrated regional solid waste management program.

MDE completed its review of the four counties' final recycling plans on March 1991. Approval of the plans took place authorizing the four counties (MRRP) to submit recycling reports and activities to Maryland Department of the Environment as one.

All counties in the state of Maryland with populations greater than 150,00 will be required to recycle 35 percent or more of their waste and jurisdictions with populations less than 150,000 will be required to recycle 20% or more of their waste beginning December 2015. The Midshore Regional Recycling Program (Counties of Kent, Queen Anne's, Caroline and Talbot) has a population estimated in 2012 at 139,602. The MRRP had the following recycling rates for 2010 and 2011:

- 2010 = 50.28%
- 2011 = 50.83%

Excluded wastes include hospital waste, rubble and land clearing debris, sewage, food waste and some scrap metals.

Key components to the Recycling Plan, which formed the Kent County Recycling Program (KCRP) and its subsequent implementation, are summarized below.

Collection

From 1990 to July 1, 2010, Kent County provided curbside recycling collection for all residents in Kent County (municipalities and rural areas). During this time Recycling staff operated: two trucks with multi-bin, self-dumping bodies for separation into up to 6 categories; and one stake body flat-bed truck (1.5 ton payload capacity) with a hydraulic liftgate. Collection in either of the program's two scenarios, curbside or drop off, involves hand-sorting and categorization to both separate recyclables and to cull contamination.

Effective June 26, 2010, the Kent County Recycling Program no longer collects curbside recyclables from residents and businesses in Kent County. As a member of the Midshore Regional Recycling Program (MRRP), Kent County joined Queen Anne's, Caroline and Talbot counties in the Igloo Program and allowed MRRP to place igloos at the following locations:

- Duck Puddle Drop-off Center (Galena)
- Sharptown Drop-off Center (Rock Hall)
- Old Parks & Recreation building parking lot (Rt. 297 in Worton)
- 6015 North Main St. Rock Hall

Igloos were already in place and available for use at the Nicholson Drop-off Center

Large quanities of cardboard is accepted at the Duck Puddle, Sharptown and Nicholson Drop-off Centers. All igloo sites accept cardboard, newspaper, catalogs, phone books, junk mail, envelopes w/ windows, mixed paper, paper board such as cereal boxes, shoe boxes, toilet paper & paper towel tubes, narrow neck plastic bottles and jugs, mixed tin & aluminum cans, clear, brown and green glass.

Residents that participated in the curbside collection program are permitted to retain the recycling bin and use it to deliver recyclables to the drop-off center.

During year 2009, 2,765.51 tons of recyclable items were collected from businesses in Kent County and recycled through private sector programs. Also 2,101.04 tons of separated yard waste was delivered to Nicholson for composting; 102.71 tons of scrap tires and 89.62 tons of white goods were also delivered for recycling. In the miscellaneous category which includes clothing and textiles as well as auto batteries, 83 tons of material was diverted from disposal.

The following materials are designated by KCRP:
Corrugated Cardboard
Newspaper
Magazines, Catalogues, Junk Mail and Envelopes w/ windows
Office Paper – white and colored paper
Shredded Paper
Paper Board (cereal/snack boxes, shoe boxes, paper towel/toilet paper tubes)
Plastic Bottles and Jugs (w/ narrow neck)
Aluminum Cans - food and beverage
Steel or "Tin" food and beverage cans
Glass Bottles and Jars (green, clear and brown)
White Goods, appliances and scrap metal
Computers
Scrap Tires
Auto Batteries
Clothing and Textiles
Yard Waste
Used Motor Oil
Used Antifreeze
Boat Shrink Wrap

During year 2008, a permanent computer recycling drop-off site was established for residents to bring their computers and components to the Nicholson Drop-off Center to be recycled. The site accepts

computers and any component that plugs into the computer. The site accepts the computers Monday – Saturday.

Processing

Processing of recyclables once delivered or retrieved through collection is minimal.

Quality control of materials coming through the program for marketing is maintained at the point of (a) collection or (b) supervised delivery. Once materials have been loaded onto collection vehicles, processing involves nothing more than off-loading into any of several open-top roll-off containers for shipment to end-users.
Infrastructure includes nineteen roll-off containers for shipping, two roll-off trucks, two 72-foot ramps for automated dumping from collection vehicles to containers, and a small 3-sided shed for paper storage. The composting area is approximately 740 square yards in dimension with a surface of compacted earth. No impermeable or semi-permeable surfaces are available at the Nicholson Facility.

Marketing

KCRP markets all its recyclables, cooperating with other counties and programs whenever possible. No contracts or agreements are in place between the program and an end-user.

Over 12 million pounds of post-consumer materials, tires and white goods were marketed successfully in 2009. Gross revenue for FY2009 totals $19,202 not including tipping fees. Marketing trends are shown below.

2010 Marketing Trends
Table 12

Material	Per Ton Revenue/ (Tipping Fee)	Roundtrip Miles to Market
Mixed Paper, Newspaper, Magazines	$80 - $120.00 Based on OBM Yellow Sheet	8
Corrugated	$0	44
Metal Cans	$240	22
Plastic	$100 - $ 0	44
Clear Glass	$10	140-200
Green Glass	$0	140-200
Brown Glass	$0	140-200

Incentives

One month after the onset of the County's first solid waste tipping fee, a user fee was established for residents using any of three drop-off centers. Effective August, 1992, residents were required to purchase **Solid Waste Disposal Coupon Booklets** prior to visiting a transfer station. In order to dispose of household waste, a resident is required to surrender one coupon per 15 pounds of trash.

This program serves to provide equity between those residents who receive trash collection services (either because of town residence or private contracts) and those who transport their own refuse to a drop-off center. Affective July 1, 2006, the tipping fee assessed residential haulers is $60.00 per ton; the "user fee" coupon program costs an equivalent $0.45 per 15 pounds; rule-of-thumb use is "one coupon per standard bag." The program also provides an incentive or reward for transfer site users who elect to recycle and reduce their waste output; users pay for only that which they dispose. Public response has been favorable.

The drop-off center data below will provide tonnages on transfer site intake for the years 2005, 2007 and 2009. These tonnages are MSW waste only that was received at all three transfer sites throughout Kent County. The solid waste was transported to the Midshore Regional Landfill, located in Easton, MD.

Drop-off center intake Year 2005, 2007 and 2009

	2005	2007	2009
MSW Transfer Sites (Tons)	**837.9**	**820.6**	**784.7**

Education

Education and outreach strategies include the following:

- Civic outreach
- School-based recycling and workshops
- Public relations brochures
- Mobile displays
- Commercial sector waste audits and surveys

Waste audits and consulting services are continually offered by KCRP at no cost to the community.

Verification

By means of tonnage reports and procedures developed by the State, Kent County tracks and records materials destined for recycling. As of 2005, the County was recycling at a rate of more than 27.9%, however this percentage may vary because it is practically impossible to accurately separate the waste from each county at the regional landfill.

Regionalization

In June 1991, Kent County joined with three other contiguous counties on the Eastern Shore to form the Midshore Regional Recycling Program. Together with Caroline, Queen Anne's and Talbot Counties, Kent cooperatively collects, process and market recyclables from the region while sharing financial and other resources. The purpose of regionalization is to improve marketability of materials once collected, to use state and local funds to the greatest advantage of the region as a whole and to report recycling to the State collectively, rather than individually. In 2004, the Midshore Regional Recycling Program reported a recycling rate of 47.58%, and In 2011, the Midshore Regional Recycling Program reported a recycling rate of 50.83%.

The Midshore Regional Landfill and the Midshore Regional Recycling Program are both operated and managed by Maryland Environmental Service (MES). MES began operating the recycling program in July of 2012 and purchased two front load trucks and new containers that were placed at multiple recycling centers throughout the region.

4.4 Public School Recycling Plan for Kent County, Maryland

Article 9-1703 (b), 10 states that the county plan shall address:

THE STRATEGY FOR THE COLLECTION, PROCESSING, MARKETING, AND DISPOSITION OF RECYCLABLE MATERIALS FROM COUNTY PUBLIC SCHOOLS

Description of public school recycling program implemented:

Overview: For the current 2010-2011 school year, the recycling plan will identify existing recycling activities and enhance these recycling activities where feasible. Develop a more uniform system-wide recycling strategy with a goal of implementation for the 2011-2012 school year. Recycling stakeholders will also:

- Regularly evaluate the recycling program
- Modify the recycling program, as needed
- Compile data to identify the status, successes and challenges of the recycling program.

As background, please note that each public school in Kent County has a recycling program in place with collection being handled by the Kent County Public Works Department/Waste Management Division. The recycling efforts undertaken at each school to date were often initiated by motivated individuals such as teachers, students and volunteers and therefore the recycling process varies from school to school. The types of materials collected from each school have been paper, cardboard, metal cans and plastic bottles.

Looking forward, it is envisioned that by implementing a more comprehensive recycling strategy the recycling program will provide continuity for students as they graduate up through the grades. Uniformity via a school system-wide will also be beneficial to staff using the system as well as those responsible for overseeing facility operations.

Materials collected for recycling will be limited to those for which available outlets exist, any costs are affordable, the logistics to collect and store the materials are compatible to the school's facilities and labor capabilities, and there are affordable means available to transport, process and market the materials either in–house or by third parties.

Materials that must be collected for recycling, as long as feasible outlets and collection services continue to exist, include the following:

- Paper, including office paper, newspaper, catalogs, magazines, paperboard
    - Paper that is collected by the Kent County Waste Management Division can be mixed together and included with existing mixed paper collection programs. Currently Kent County Waste Management Division provides 18 gallon recycling bins for each classroom, cafeteria and office at every school. In addition, there is a network of recycling drop-off sites throughout the county.

- Books –
    - Hard cover books are an unique recycling stream that are likely best sent to reuse and recycling firms that specifically handle books, in particular text books. Kent County Waste Management Division accepts hard covered books with mixed paper and sends the materials to Creafill Fibers (Worton, MD) to be recycled.
- Cardboard
    - Cardboard is collected from each school by the Kent County Waste Management Division.
    - Recycling service providers including Infinity Recycling, Delmarva Recycling, Allied Waste and Waste Management offer recycling collection for a fee.
- Plastic Bottles
    - Plastic bottles collected by the Kent County Waste Management Division include Number 1 & 2 bottles, without caps.
- Metal cans –
    - Tin and aluminum cans collected by the Kent County Waste Management Division can be mixed together.
    - Aluminum cans may be collected by student groups as a fundraiser. Infinity Recycling, Bennett & Cohey and several other buy-back centers in nearby counties.
- Electronics –
    - Computers and other electronics currently can be recycled by many electronics recycling firms. The fate of the material and data should be considered as to how, where and by whom the equipment is recycled. Consideration could be made to determine if recycling services can be incorporated into purchase agreements of new equipment. Previously Midshore Regional Recycling Program has accepted computers from Kent county schools at "eCycle events'.
- Toner cartridges –
    - Various firms offer recycling services.
- Oil, Antifreeze, lead acid batteries
    - These items that are generated by Kent BOE will be recycled using the currently available recycling Centers or by recycling firms that service Kent County.
- Other items such as pallets, fluorescent bulbs, shrinkwrap and other items may be targeted at certain locations that generate these items and recycled by firms that provide affordable recycling services.

Other materials that may be targeted in the future or at specific locations include:

- Glass – Since a small volume of glass is believed to be generated at most schools, this material is a lower priority than other commodities or can be implemented at certain facilities in the school system, as appropriate. Kent County Waste Management Division currently accepts and collects glass bottles and jars and can be comingled with plastic bottles and mixed cans.
- Landscaping debris such as leaves, brush, branches, grass clippings. Kent County BOE currently utilizes the Nicholson Drop-off Center for the recycling of this material.

- Food waste – currently there is no food waste composting facility in the region. Since food waste is a significant portion of the current waste stream, the committee shall explore options that may become feasible in the future.
- Construction and Demolition debris – Recycling options will be explored for construction projects in order to divert materials from the waste stream, reduce disposal costs, gain LEED credits and other benefits. Dependable Sand, Stone and Recycling, Inc. is a firm that processes clean concrete, asphalt, brick and rock.

How materials will be collected:

The users of the recycling system are critical to the success of the recycling program. Therefore, suitable, clearly identified recycling receptacles shall be used throughout the school buildings to provide convenient recycling and to deter contamination of the recycling stream. Teachers, administrators, students, volunteers and others may also assist in collecting recyclables within the school buildings. Once collected within the building, materials will typically be placed into suitable containers outside of the building, likely adjacent to waste disposal dumpsters, or on a loading dock, depending on the material and logistics.

Kent County Waste Management Division collects recyclables from each school every week and provides additional collections when needed. There are other firms that currently provide recycling services in Kent County, including, but are not limited to, Infinity Recycling, Allied Waste/Republic Services, and Waste Management. These firms offer collection services using various receptacles and equipment to collect and transport recyclables, such as dumpsters, roll-offs, trailers and compactor trucks.

- County programs such as the Midshore Regional Recycling Program currently uses igloo-shaped receptacles to collect seven types of recyclables:

    - Mixed paper
    - Corrugated Cardboard
    - Mixed metal cans
    - Plastic bottles, number 1 & 2
    - Clear Glass Bottles and Jars
    - Brown Glass Bottles and Jars
    - Green Glass Bottles and Jars

- The Midshore Regional Recycling Program currently has igloos located at the following locations in Kent County:
    - Duck Puddle Drop-off Center, between Kennedyville and Galena, MD
    - Rt. 297 Worton, MD (old Parks & Rec. parking lot)
    - Nicholson Drop-off Center Chestertown, MD
    - Sharptown Drop-off Center Rock Hall, MD
    - 6015 North Main St. Rock Hall

Roles and Responsibilities for refinement, developing and implementing school recycling program:

- The Commissioners of Kent County are responsible to ensure the implementation and enhancement of the county's school recycling programs.
- The Kent County Board of Education (KCBOE) has designated the Environmental Services Supervisor responsible for the development and implementation of a recycling plan/strategic collection program for each school. At a minimum they will:
    - Develop a more uniform system-wide recycling strategy with a goal of implementation for the 2011-2012 school year.
    - Enhance the diversion rate of targeted recyclable materials from the waste stream.
    - Direct and designate custodial staff responsible for the collection of recyclables from each classroom to be placed on the school loading dock or designated area prepared for collection.
- The Waste Management Division is responsible for the collection of recyclables from all Kent County Public Schools.
- Additional stakeholders - roles & responsibilities - Within the school buildings, collection may be performed by the following:
    - Custodial staff who currently handle trash
    - Students
    - Staff
    - Volunteers
    - Private contractors

Each school may choose to pursue their own separate recycling contract for materials as a method of increasing their schools income to fund school programs, such as the following:

- Mail-back programs
    - Examples include:
        - mail-back programs for printer toner cartridges, cell phones and other items for fundraisers
        - mail-back programs of computers by manufacturers as part of "take-back" program that is part of a "producer responsibility" program.
        - Pre-paid recycling services for fluorescent bulbs and other items.

The KCBOE may elect to have their recycling program be operated or recyclables collected by a different agency including but not limited to the following:

- Infinity Recycling
- Waste Management
- Allied Waste/Republic Services

The strategy for recycling in Kent County schools shall be the primary responsibility of the Kent County Board of Education. Support shall be sought from stakeholders including but not limited to the Kent County Waste Management Division, the Midshore Regional Recycling Program, and other partners including students, volunteers, non-profit organizations and private firms.

A proposed school recycling team will be formed to enhance the specific details of the school recycling strategy. Initial committee members shall, at minimum, include the following:

- Environmental Services Supervisor for Kent County Schools
- Waste Management Division Chief, Kent County Public Works
- Coordinator, Midshore Regional Recycling Program
- Other stakeholders enlisted by the recycling team members listed above (ex. staff, student, recycling service providers, teachers, citizens volunteers, others)
    - During key phases in the development and implementation process, participation by representatives from each of the schools will be appropriate.

The team shall meet at a frequency necessary to develop a recycling strategy that will accomplish these initial goals:

- Modify existing recycling activities during the 2010 / 2011 school year that can be promptly implemented by the recycling committee.
- Review existing waste disposal services contracts and determine when they expire, develop recycling components for future bids, determine if existing contract(s) can be modified to include recycling services.
- Develop system-wide recycling strategy with a target implementation goal of the 2011/2012 school year.

Kent County Public Schools included in the recycling plan:

All Kent County Public Schools must participate in the Public School Recycling Plan. These include:

- Millington Elementary School, Millington, MD
- Galena Elementary School, Galena, MD
- Kent County High School, Worton, MD
- Worton Elementary School, Worton, MD
- Kent County Middle School, Chestertown, MD
- H.H. Garnett Elementary School, Chestertown, MD
- Rock Hall Elementary School, Rock Hall, MD
- Intensive Behavior & Academic Learning Center, located at the Kent County High School property, Worton, MD
- Kent County Board of Education Office, Rock Hall, MD

All newly constructed schools will be included under this school recycling plan and will begin participation in the recycling program within 2 months of a new school year.

Note that Chesapeake College, Wye Mills, MD is included in the school recycling plan for Queen Anne's County.

Schedule for Plan Activities Development and Implementation

The following schedule was established to develop a better recycling strategy for Kent County schools. The schedule shall be followed to the extent that staff time, resources, logistics and budgets allow. Variables such as changes in recycling market values and the type of recycling services available are variables that could impact the schedule and are to some extent beyond the control of Kent County BOE and other stakeholders. Since each school has existing recycling activities it is envisioned that stakeholders will assess these efforts, enhance them to the extent feasible and transition to a uniform system-wide recycling program for traditional items such as paper, cardboard, plastic and cans. Unique programs that individual schools have undertaken shall remain in place wherever feasible, duplicated when possible and appropriate and encouraged to promote creativity and to recognize the unique qualities of each school's community.

The goals/schedules are as follows:

- October 1, 2010:
  - All Kent County Public Schools continue to participate in public school recycling

- September 1, 2011:
  - Evaluation of the Public School Recycling Program will be completed

- December 1, 2011:
  - Begin implementing program improvements resulting from the evaluation that ended on September 30, 2011

Evaluate, Modify and Celebrate the Recycling Program

System Monitoring:

- The Environmental Service Supervisor shall advise the KCBOE and the Waste Management Division of any recycling issues or non-compliance of any school within 30 days of the issue/complaint arising. Part of the briefing will include the steps needed to correct the problem.
- Corrective actions must begin within 60 days of the reported issue.

Evaluate: The recycling team will establish an approach to evaluate the recycling program. Stakeholders shall meet at least twice a year, likely between school years and mid-school year. The school system administration should regularly review agreements for waste disposal and recycling services and seek ways to decrease disposal costs and find incentives for recycling (ex. adjusting frequency of pickups and container sizes, and to adjust services during holidays and vacations). The evaluation of the school recycling plan should also occur at each update of the county Solid Waste Management Plan.

Celebrate: Communicating the successes in terms of the amount of recyclables and corresponding facts (energy and resources conserved, greenhouse gas reductions, costs avoided, jobs created, etc.), sending letters of recognition to each school, applying for awards and recognizing stakeholders all are examples of steps the recycling team could undertake regularly that celebrates the recycling program.

4.5 Emergency Response for Hazardous Waste Accidents and Non-Hazardous Spills

In the unlikely event of spillage or leakage of a hazardous material or petroleum within the County, the following procedures are normally followed:

1) A person witnessing the accident calls 911 and is put in touch with a representative from the Kent County Emergency Management Department.

2) The Emergency Communication Specialist dispatches the appropriate agency to the scene.

3) A central command post is set up by the Fire Department in charge.

4) The Fire Department Chief assesses the situation and determines if outside help is needed.

5) If additional assistance is required, the Maryland Department of the Environment will be contacted.

6) The spill is remediated in the safest way possible.

7) Hazardous Waste Regulation Procedures for the state of Maryland are followed and hazardous waste is disposed of accordingly.

All County Firefighters have basic HAZMAT training.

Additional information on County emergency procedures is included in Appendix A.

CHAPTER FIVE

5.1 Kent County Plan of Action, Introduction

The Kent County Plan of Action will outline the most practical and flexible procedures for meeting the objectives of the Kent County Solid Waste Management Plan.

Included will be a discussion of:

- All solid waste disposal systems and solid waste acceptance facilities, both public and private, which will be in use during the planning period which extends through the year 2017;
- The mechanisms for managing each of the waste streams identified in Chapter Three;
- The sizing, staging and capacity of all systems and facilities and a demonstration of their ability to handle the anticipated Kent County waste stream during the planning period;
- Schedules for placing new solid waste disposal systems and solid waste acceptance facilities into operation, including financing;
- Further participation and cooperation with the Midshore Regional Recycling Program to achieve future recycling goals.

5.2 Solid Waste Disposal Systems and Acceptance Facilities

The following is a discussion of the major solid waste disposal and acceptance facilities that will be in operation during the planning period, (2007-2017).

Sanitary Landfills

In May 1992 the Nicholson Landfill was closed, and in August of 1996 the capping of the landfill was complete. A site adjacent to the landfill was previously designated as a new replacement landfill site now that Kent County has joined the Midshore Regional Project, that site will not be considered for a sanitary landfill but may, in the future, be considered as a rubble landfill site.

Rubble Landfill

The closed Dulin Rubble Landfill was the only operational rubble disposal site with the County. It is owned by the County and operated by the Department of Public Works. Kent County completed the permit process and during late fall or early winter 1993, Maryland Department of the Environment issued the Rubble Disposal Permit.

The Dulin Rubble Landfill, a 5.6 acre site is located just northeast of the intersection of Ricauds Branch/Langford Road and Hynson Rogers Road. It is accessible from State Route 20 by Bakers Lane. The site is approximately 3 miles southwest of the Nicholson Landfill Site. The Dulin Rubble Landfill was closed to all residents and haulers on April 1, 1999 and a 2-foot cap of cover material was applied over the stored rubble material by the Department of Public Works. A capping plan was completed by Century Engineering, Inc. and approved by Maryland Department of the Environment. Lindstrom Excavating Contractors installed the liner cap and all work was completed during the fall of 2001.

40 yard roll-off boxes are placed at the Nicholson Drop-off Site for the collection of homeowners construction rubble. Commercial contractors will be required to haul rubble to the Midshore Facility or some other privately owned licensed facility.

Residential Solid Waste/Recycling Drop-off Centers

The residential solid waste/recycling drop-off centers located in Galena, Sharptown and at the Nicholson site will be in operation throughout the planning period. Their locations in the east, central and southwestern regions of the County make them easily accessible to most rural residents who do not receive private collection services.

The drop-off centers are essentially staging areas that are served by 35 cubic yard self contained compactors, and electronic scales. With proper maintenance these sites will have long operating lives.

Midshore Landfill

Solid waste from Kent County will be trucked to and disposed of at the Midshore Regional Landfill in Easton until December 31, 2010 and then trucked to Midshore II Regional Landfill located at 12236 River Rd. Ridgely, MD throughout the remainder of the planning period.

Midshore Regional Recycling Program

Kent County will continue a partnership with Queen Anne's County, Talbot County and Caroline County, to meet and exceed the state mandated recycling goal. Recycling Drop-off Centers and special collection events will be nourished during the planning period.

Recycling Drop-Off Centers

State regulation and public interest drives the need for recycling drop-off centers for voluntary recyclers. Presently, networks of 5 such sites are located throughout the County. These sites are located on Kent County owned property, Town of Rock Hall property and will remain open during the planning period.

5.3 Management of Individual Waste Streams

Solid waste from residential, commercial, manufacturing and all other sources is trucked to the Midshore Landfill.

The list of material accepted at the Nicholson drop-off center regarding construction rubble includes:

Brush and limbs
Vegetation
*Rock
*Concrete
*Bricks
Lumber
Plaster and plasterboard
Insulation material
Cement
Shingles and roofing material
Floor, wall and ceiling tiles
Asphalt
Pipes and wires
Glass
Wallpaper
Felt
Spacing or building material

* Concrete, Bricks, and Rock are all received at Nicholson recycling Drop-off Center to be recycled.

Furniture is accepted at the Nicholson drop-off center and disposed of at the Midshore Landfill. Yard waste continues to be composted at the Nicholson facility. Concrete, white goods and scrap tires are collected at the Nicholson drop-off site for recycling.

Sludge Reduction and Removal

In 1993, Kent County Sanitary Commission entered into a contract with a private firm to remove and dispose of sludge from the Worton facility. The sludge was disposed by land application. Due to the lengthy permit process, land application was difficult and other options were investigated.

A feasibility study was conducted to investigate possible alternate methods of sludge disposal for the entire county including municipal facilities. Currently, Kent County Solid Waste Division hauls sludge from the Tolchester plant, Kennedyville Plant and Worton/Butlertown Plant to the Mid-Shore Regional Landfill.

Motor Oil and Anti-Freeze

Used motor oils and anti-freeze are presently being accepted at all recycling drop-off centers and some of the County's service stations for processing and reuse.

Autos and Dead Animals

Most dead animals and inoperative vehicles are disposed of outside of Kent County.

Hospital Waste

Hospital pathological wastes from the University of Maryland Shore Regional Health in Chestertown are removed to a permitted disposal facility in Baltimore by an outside contractor.

Hazardous Waste

Hazardous wastes generated within the County are disposed of at permitted sites outside of the County.

Household Hazardous Waste

In May 1998, the Midshore Regional Recycling Program received a highly competitive $38,000 grant to establish a pilot Household Hazardous Waste Collection Program. Funding was initiated from the EPA's Chesapeake Bay Program Small Watershed Grants Program. Currently the Household Hazardous Waste Program is funded by the four Midshore Counties with events planned on a spring and fall schedule, at alternating sites throughout the four-county region. Typical materials collected include fuels, lawn & garden pesticides, paint thinner, non-latex paints and other materials.

Litter

A strict litter bill (No. 5-90) adopted in 1990 continues to help deter unlawful disposition of solid waste. Citations for littering continue to be issued. The County Roads Department, State Highway Administration, Public Landings Division and volunteer groups make up the majority of groups that collect litter along County roads, parks and County owned facilities. The litter is delivered to the Nicholson drop-off center.

Fluorescent Bulb Recycling

Under § 9-1703(b)(11) of the Environment Article, Annotated Code of Maryland, which resulted from House Bill 685 that passed in 2010, Kent County is required to address the strategy for the collection and recycling of fluorescent and compact fluorescent lights (CFL) that contain mercury.

Kent County shall continue to refer residents interested in recycling mercury containing fluorescent bulbs to existing collection points in the county, if any, as well as nearby businesses or entities that accept certain bulbs, and mail-back arrangements that are available. The website www.lamprecycle.org provides an extensive list of firms that provide mail-back recycling of fluorescent bulbs. Currently in the Midshore Region, Lowes in Easton, MD accepts CFL bulbs for recycling at no charge. Kent County borders the state of Delaware and is twenty-seven miles from Middletown Delaware. The Lowes Store and the Home Depot Store in Middletown, DE both accept CFL bulbs at no charge. This portion of the strategy shall meet the requirements of the law per 2010, House Bill 685 that states in "*SECTION 2. AND BE IT FURTHER ENACTED, That a county may utilize recycling, exchange, and take–back programs voluntarily established by fluorescent and compact fluorescent light manufacturers or vendors in the county's strategy for the collection and recycling of fluorescent and compact fluorescent lighting required under § 9–1703(b)(11) of the Environment Article, as enacted by Section 1 of this Act.*"

In order to provide additional options and convenience to Kent County residents, mercury containing fluorescent bulbs will be accepted at the Household Hazardous Waste (HHW) collection events that are currently held in the Midshore Region each spring and fall. HHW materials are managed by a licensed hazardous waste collection contractor. The contractor's responsibilities regarding the fluorescent bulb collection includes proper packaging, transportation and recycling or proper disposal of all collected material. Bulbs shall be accepted at no charge, as funding and budget priorities allow. A fee may be considered in the future if the costs are determined to be unsustainable.

In addition, Kent County and the Midshore Regional Recycling Program (MRRP) will periodically investigate the feasibility, logistics, costs, funding needs, funding sources and possible fees to residents for providing recycling of mercury-containing bulbs at one or more locations in the county. The County and MRRP will also gather information including price quotes from reputable firms and seek grants and assistance from funding sources, including fluorescent bulb manufacturers.

Kent County and MRRP will continue to communicate to residents by various means and update information about recycling and disposal options, including the type of products and quantity threshold requirements that allow and preclude disposal of mercury-containing bulbs with municipal solid waste.

In addition to the various recycling options available, current Maryland laws and regulations allow citizens and many entities with less than 200 kg of mercury-containing bulbs (equivalent of approximately 720 4-foot T12 type bulbs) to dispose of mercury-containing fluorescent bulbs with solid waste. Maryland law does require hazardous waste generators and entities with more than 200 kg of mercury containing bulbs per year that do not pass the TCLP test to send the bulbs to a recycling or hazardous waste facility. Bulbs that pass the TCLP are exempt from requirements to recycle bulbs. Some manufacturers sell bulbs with green colored end caps that claim to pass the TCLP test.

5.4 Sizing, Staging and Capacity of Solid Wastes Facilities

This information has been discussed previously in Chapters 3 and 4 and earlier sections of Chapter 5.

5.5 Scheduling of Facility Operations

Consideration of future landfills by the County continues however remains. A tentative schedule has been adopted by the County and remains intact. Funds for the placing of an option on or the purchase of a site to serve Kent County, Queen Anne's County, Talbot County and Caroline County has not been allocated due to the ongoing site selection process.

FUTURE REGIONAL SOLID WASTE LANDFILL

Take option on or Purchase 120 Acres

Total Budget: To Be Determined

Table 13
Timing and Funds Allocated For Future Solid Waste Landfill

In order to meet its obligation to the Tri-County group, Kent County intends to take an option on or purchase a parcel of land to be used in the future by Kent County and the Four County Group for a regional solid waste disposal facility. The regional solid waste disposal facility will have a life expectancy of 20 years. As of this date the site has not been selected.

5.6 Apartment Building and Condominium Recycling Program

In April, 2012, the Maryland General Assembly passed House Bill 1, Environmental-Recycling – Apartment Buildings and Condominiums Recycling (ABCR) Program, requiring recycling in all apartment buildings and condominiums that contain 10 or more dwelling units. The law became effective on October 1, 2012 (amending Section 9-1703 of the Environment Article, Annotated Code of Maryland). Section 9-1703 (b) (12) of the Environment Article, Annotated Code of Maryland requires that Kent County revise its recycling plan within the Solid Waste Management Plan by October 1, 2013. Apartment buildings and condominiums must implement a recycling plan by October 1, 2014.

Apartment Building and Condominium Recycling Program

Through the cooperation of the Kent County Waste Management/Recycling Division 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 thirty (30) apartment buildings and condominiums that fall under the scope of the law. The Recycling Division has met with the apartment and condominium officials and discussed the requirements of the law including the materials that must be recycled; at minimum, recyclables must include acceptable Plastic, Metal & Glass beverage containers and acceptable Paper Products.

Apartment and condominium officials shall complete and send to the Recycling Division a Maryland Recycling Act (MRA) Survey Form, reporting to the County on an annual basis details on the required recycling activities.

Collection of Materials

Apartment and condominium officials directly, or through contracting with a private sector company, are responsible for providing all containers, labor, and equipment necessary to fulfill recycling requirements throughout their buildings. Distinctive colors and/or markings of recycling containers should be provided to avoid cross contamination. The apartment and condominium officials must ensure collection and transportation of recyclable materials from apartment and condominium locations to markets, or other legal recycling destinations. Residents will be responsible for placing recyclables in recycling containers prior to their removal on the scheduled pick up day.

Marketing of Materials

Apartment and condominium officials are responsible for the marketing or other legal recycling disposition of their recyclables. The apartment and condominium officials shall submit an annual report (survey form) detailing the recycling tonnage removed from the apartment and condominium and the markets or legal recycling destinations for the materials.

Materials Required to be Recycled

Apartment and condominium officials of Condominium shall recycle the following materials:

- Acceptable Plastic
- Metal Beverage Containers
- Glass Beverage Containers
- Paper

Responsible Parties

Entities that will be involved in implementing the law are:

A. Kent County Commissioners – Responsible for adopting the MDE approved language of ABCR Program for the Solid Waste/Recycling Management Plan amendment.

B. Kent County Waste Management/Recycling Division:

- Shall provide the ABCR Program information received from the State regarding the requirements of the Annotated Code of Maryland with the apartment and condominium officials to develop a recycling program for residents and facilities.
- Develop the requirements of an ABCR Program.
- Update/amend the Solid Waste Management Plan to include the ABCR Program with revisions to the sections relating to the Kent County Recycling Plan.
- Provide a copy of the annual MRA recycling survey form to be used by apartment and condominium officials in reporting recycling activities at the end of each year.
- Monitor the progress and performance of the ABCR Program.

C. Owner or Manager of the Apartment Building or Councils of the Unit Owners of Condominium:

- Responsible for providing recycling services to the residents of each apartment building or condominium by October 1, 2014.
- Secure and manage recycling contracts with the contractor for providing material collection and recycling services from the building locations.
- Provide material collection bins and containers of suitable quantity and size for occupants to collect and transfer recyclables to designated areas on site for transporting of the materials from the buildings to recycling markets.
- Perform record keeping and submit a recycling survey form to the County on an annual basis.

Development/Implementation Schedule for the ABCR Program:

- Prior to October 31, 2013, Kent County will distribute approved language of the ABCR Program to the apartment and condominium officials for program implementation.
- Prior to March 1, 2014, apartment and condominium officials will educate the residents about the ABCR Program and discuss the requirements of the law.
- Prior to 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 recycling the materials.
- Prior to July 1, 2014, apartment and condominium officials finalize arrangements for the transportation of collected recyclables to acceptable recycling markets.
- On or before October 1, 2014, residents start recycling the materials at the apartment buildings or condominiums.

ABCR Program Monitoring

Kent County Waste Management/Recycling Division shall monitor the progress and performance of the ABCR Program and shall have the right to inspect for compliance, containers utilized and review records.

The apartment and condominium officials shall be responsible to keep the residents current on new regulations, laws, and mandates affecting recycling and provide new materials, practices, and procedures when needed.

The apartment and condominium officials shall initiate actions to correct all deficiencies and perform any other tasks necessary to achieve compliance with State and Kent County law.

Newly Established Apartment Buildings and Condominiums

New apartment buildings and condominiums that meet the Annotated Code of Maryland ABCR Program requirements shall begin participating in the program within three months of being notified by Kent County Waste Management/Recycling Division.

Program Enforcement

The Kent County Waste Management/Recycling Division will ensure that the recycling at apartment and condominiums will be implemented in accordance with the Annotated Code of Maryland.

Upon receiving a complaint or report of violation, the Kent County Waste Management/Recycling Division shall institute an investigation, and if a violation exits, a notice shall be issued, in writing, to the responsible party requiring them to correct all deficiencies and perform any other tasks necessary to achieve compliance with the Environment Article.

- Any person, firm or corporation who or which fails to correct, within thirty (30) days from notice from Kent County, all cited in said violation notice shall be subject to citation for a civil infraction, in accordance with § 9-1711 of the Environment Article of the Annotated Code of Maryland, punishable by a fine of not exceeding $50 for each day on which the violation occurs and each day said violation shall be permitted to exist shall constitute a separate offense.

- If the citation is not timely paid, Kent County may enforce the fine by an action in a Maryland court of competent jurisdiction.

Participating Apartments and Condominiums in the ABCR Program

Name of Facility	Address	Name of Owner/Operator	Owner/Operator Address	Units
Bayside Apts. (Brittany Bay)	21390 Bayside Apts. Dr. Rock Hall, MD 21661	'Brittany Bay Associates L P	15825 Shady Grove Rd Ste 55 RockVille, MD 20850	40
Baywood Court	23160 Baywood Ct. Chestertown, MD 21620	Kent Housing Associates Lp	722 Yorklyn Rd Ste 350 Hockessin, DE 19707	36
Baywood Court	23165 Baywood Ct. Chestertown, MD 21620	Kent Housing Associates Lp	722 Yorklyn Rd Ste 350 Hockessin, DE 19707	36
Brisco Manor	107 Cross St. Galena, MD 21635	Briscoe Manor Limited Partnership	7170 Riverwood Dr Columbia, MD 21046	31
Brookmeadow I	150 Flatland Rd. Chestertown, MD 21620	Brookmeadow I LP	3423 Olney Laytonsville Rd	33
Brookmeadow II	160 Flatland Rd. Chestertown, MD 21620	Brookmeadow Limited Partnership	3423 Olney Laytonsville Rd	34
Calvert Gardens	343 Calvert St. Chestertown, MD 21620	Gruber Henry G & Marie M	484 Cormorant Ct. Chestertown, MD 21620	12
Calvert St. Apts.	716 High St. Chestertown, MD 21620	High Street Housing L P	65 E State St 16th Floor Columbus, OH 43215	40
Chesapeake Villa	5795 Chesapeake Villa Rd. Rock Hall, MD 21661	Rock Hall Elderly Housing Inc.	100 Schauber Rd. Chestertown, MD 21620	30
Chestertown Cove Apts.	408 Morgnec Rd. Chestertown, MD 21620	Chestertown Cove Associates L P	15825 Shady Grove Rd, Ste 55 Rockville, MD 20850	34
Chestertown Landing Apts. I	503 Morgnec Rd. Chestertown, MD 21620	First Chestertown Associates LP	14 Rockford Xing Dover, DE 19901	72
Chestertown Landing Apts. II	Schauber Rd. Chestertown, MD 21620	Second Chestertown Associates	14 Rockford Xing Dover, DE 19901	60
Colonial Manor Apts.	150 Hadaway Dr. Chestertown, MD 21620	Colonial Manor Apts. Llc.	P.O. Box 125 Glen Arm, MD 21057	54
Heron Point	501 E. Campus Ave. Chestertown, MD 21620	Pumh Of Maryland Inc	501 E. Campus Ave. Chestertown, MD 21620	262
Kent Crossing Apts.	101 Morgnec Rd. Chestertown, MD 21620	Kent Crossing Limited	P.O. Box 125 Glen Arm, MD 21057	164
Morgnec Village	402 Morgnec Rd. Chestertown, MD 21620	Upper Shore Aging Housing Corp	100 Schauber Rd. Chestertown, MD 21620	30
Ridgeview Court	400 Hadaway Dr. Chestertown, MD 21620	R & R Properties Llp	33340 Galena Sassafras Rd Galena, MD 21635	11
Rock Hall Manor	5761 Judefind Ave. Rock Hall, MD 21661	Kent Housing Associates Lp	722 Yorklyn Rd Ste 350 Hockessin, DE 19707	12
Satterfield Court	600 Cannon St. Chestertown, MD 21620	The Town of Chestertown	118 N. Cross St. Chestertown, MD 21620	16
Tolchester Village (Delta Heights)	8221 & 8223 Tolchester Rd. Chestertown, MD 21620	Fifth Management & Cosulting, Inc.	77 West St. Suite 210 Annapolis, MD 21401	26
Woods Edge	23147 Woods Edge Dr. Chestertown, MD 21620	Kent Housing Associates Lp	722 Yorklyn Rd Ste 350 Hockessin, DE 19707	20
Maplewood & The Manor Annex	205 & 207 Main St. Betterton, MD 21610	Barclay Bloomgarden 410-778-0743	205 Byford Dr. Chestertown, MD 21620	12

CONDOMINIUMS				
Chester River Landing	8081 Quaker Neck Rd. Chestertown, MD 21620	Chester River Landing #II LLC	16811 Chestnut St., Suite B Gaithersburg, MD 20877	
Crews Landing	1 Idlewhile Ave. Betterton, MD 21610	Harry Marcy	1 Idlewhile Ave. Betterton, MD 21610	12
Rigby Bluff I	1 Bayview Rd. Betterton, MD 21610	Rigby Bluff I Council Unit Owners	200 South Cross St. Chestertown, MD 21620	19
Rigby Bluff II	10 Ericson Ave. Betterton, MD 21610	Rigby Bluff II Council Unit Owners	200 South Cross St. Chestertown, MD 21620	19
Riverside Terrace Condos	116 Riverside Terrace	Todd Vaughan P.O. Box 544 Chestertown, MD 21620	P.O. Box 544 Chestertown, MD 21620	10
Rock Harbor	5620 Rock Harbor Dr. Rock Hall, MD 21661	Council of Unit Owners of Rock Harbor Condo c/o Ed Jaycox	6908 Oakridge Ave. Chevy Chase, MD 20815	14
Tilghman's Landing	20565 Rock Hall Ave. Rock Hall, MD 21661	Swan Point Developers, Inc.	35 Langstoon Lane Media, PA 19063	19

APPENDIX A

KENT COUNTY
EMERGENCY OPERATIONS PLAN
ANNEX I
HAZARDOUS MATERIALS
TABLE OF CONTENTS

PAGE NO.

INTRODUCTION I-3

DESCRIPTION OF PLANNING AREA I-4

PLAN I-5

ANNEX I I-6
I. PURPOSE I-6
II. SITUATION AND ASSUMPTIONS I-6
A. Situation I-6
B. Assumptions I-6
III. CONCEPT OF OPERATIONS I-7
A. General I-7
B. Direction and Control I-7
C. Notification I-8
D. Public Information I-8
E. Alert and Warning I-9
F. Protective Actions for the Public I-9
G. Reimbursement I-9
IV. TASK ASSIGNMENTS I-10
A. General I-10
B. Central Alarm I-10
C. Incident Commander (Senior Fire Official On-Scene) I-10
D. Fire Services I-11
E. Law Enforcement (Maryland State, Sheriff's Office., Town) I-11
F. Emergency Medical Services I-12
G. Radiological Monitors (For Radiological Incidents Only) I-12
H. County Health Officer I-12
I. Office of Emergency Services Director, Community Emergency Coordinator I-13
J. Common Program Control Station (CPCS-1, EAS) I-14
K. State Highway Administration, County Roads I-14
L. Maryland Department of the Environment I-14
M. State Fire Marshal I-15
N. Hospitals I-15
O. Industry I-15
P. EOC Support Group I-16
Q. All Emergency Response and Support Organizations I-17
V. Administration I-17
A. EOC Maintenance and Procedures I-17
B. Post-Incident Report I-17

VI. COMMUNICATIONS I-18
VII. RESOURCE MANAGEMENT I-18
A. County Firefighters I-18
B. County Facilities I-18
C. Hazardous and Solid Waste Management Administration I-19
D. Instrumentation I-19
VIII. TRAINING I-19
IX. EXERCISING AND REVIEWING THE PLAN I-19
X. PLAN MAINTENANCE/PUBLIC ACCESS I-20
XI. DEFINITION OF TERMS I-20
XII. AUTHORITIES AND REFERENCES I-20

APPENDIX 1 ..... I-1-2
TAB A I-1-2
TAB B I-1-3

INTRODUCTION

On October 17, 1986, the "Superfund Amendments and Reauthorization Act of 1986" (SARA) was enacted into law. One part of the new SARA provisions is Title III: the Emergency Planning and Community Right-to-Know Act of 1986. Title III Section 301-303 establishes requirements for Federal, State, and local governments and industry regarding emergency planning on hazardous and toxic chemicals. This legislation builds upon the Environmental Protection Agency's Chemical Emergency Preparedness Program (CEPP) and numerous State and local programs aimed at helping communities to better meet their responsibilities in regard to potential emergencies.

The emergency planning section of SARA Title III is designed to develop State and local government's emergency response and preparedness capabilities through better coordination and planning especially within the community.

To accomplish this goal SARA Title III requires the designation of local emergency planning districts and the appointment of local emergency planning committee must include elected State and local officials, police, fire, emergency management, public health professionals, environmental, hospital and transportation officials as well as representatives of facilities subject to the emergency planning requirements, community groups and the media.

The local emergency planning committee for Kent County (LEPC) was appointed by the Kent County Commissioners on August 24, 1987.

The LEPC's primary responsibility is to develop and maintain an emergency response plan.

* Identification of facilities and extremely hazardous substances transportation routes.

* Designation of community coordinator and facility coordinator to implement the plan.

* Emergency notification procedures.

* Methods of determining the occurrence of a release and the probable affected area and population.

* Description of community and industry emergency equipment and facilities and the identity of those responsible for them.

* Evacuation plans.

* Description and schedules of a training program for emergency response personnel.

* Methods and schedules for exercising emergency response plans.

This plan is focused on, but not limited to, those facilities that produce, use or store any extremely hazardous substances in the Title III List of Lists of the Clean Air Act, as amended.

DESCRIPTION OF PLANNING AREA

Kent County is in the northern part of Maryland's Eastern Shore. The county has a total land area of 179,840 acres, or 281 square miles, and has 17,280 acres of water within its boundaries making it the smallest of Maryland's twenty three counties. The county is a crescent shaped peninsula bordered by the Sassafras River to the North, the Chester River to the South, Chesapeake Bay to the West and the State of Delaware to the East. Chestertown, the county seat and largest town, is on the Chester River. The county's other incorporated towns are Galena to the North on the Sassafras River, Rock Hall to the South on the Chesapeake Bay, Betterton to the West on Chesapeake Bay, and Millington to the East on the Chester River. According to the 2000 Census, the population of Kent Count is 19,680.

Farming is the main land use in Kent County; the county ranks first in the State in percentage of land area used for farming. The sources of farm income are mainly field crops and dairy products but include livestock, poultry, vegetables, forest and horticultural products. Retail and wholesale trade, small manufacturers, service industries, commercial fishing and other water related industries, tourism, and recreation are the main non farm sources of employment.

The main highway in the county is U.S. 301. It runs north south across the east end of the county, extending from Wilmington, Delaware, to across the Chesapeake Bay Bridge. The other major roads in the county are U.S. Route 213 and MD Routes 20 and 291. A single track railroad spur runs from Delaware into the county and terminates at Chestertown. A rail branch at Massey runs to Centreville in Queen Anne's county.

Kent County has a moderate climate. In winter, the average temperature is 35oF and the average daily minimum is 27oF. In the summer, the average temperature is 75oF and the average daily maximum temperature is 85oF.

The total annual precipitation is 44 inches. Of this, 23 inches or about 50% usually falls in April through September.

Although the county has some rolling or hilly areas, the relief of the area is slight. The lowest parts of the county are the tidal marshes which are at or just above sea level.

The majority of the County is between elevations of 60 and 80 feet and consists of a nearly level or undulating plain that is dissected in places by ravine-like drainage ways.

PLAN

As stated previously, the purpose of this plan is to provide a logical course of action for hazardous substances incidents. In so doing, it identifies all agency responsibilities designed to minimize damage to human health, natural resources and property caused by the release or potential release of hazardous substances. The intent is to promote a coordinated response that permits each agency to exercise its own special abilities and expertise on a team whose sole purpose is the successful mitigation of the incident.

This plan is designed to augment other emergency plans already in existence. It is further designed to plan for the initial moments of a hazardous materials accident. The potential for accidents involving hazardous materials exists in the transportation, storage, use or manufacture of these materials.

This plan is composed around four criteria:

1. Brevity-developed to be functional as well as practical.
2. Rapid Response.
3. Effective Notifications.
4. Coordination.

The evaluation of a hazardous incident generally follows five procedure phases:

1. Notification.
2. Evaluation.
3. Initiation of Action.
4. Containment and Mitigation.
5. Cleaning and Disposal Measures.

It is a fair assumption that regardless of the magnitude of the incident, those some or all parts of these procedural phases will be required. Therefore, responding personnel should consider and prepare for all five phases to permit a smooth flow and eliminate unnecessary actions.

KENT COUNTY
EMERGENCY OPERATIONS PLAN
ANNEX I
HAZARDOUS MATERIALS

I. PURPOSE

This plan prescribes, to the extent possible, actions to be taken in the event of a hazardous materials accident. It assigns responsibilities for notification, response, and support to various departments and agencies within the jurisdiction.

II. SITUATION AND ASSUMPTIONS

A. Situation

A broad variety of hazardous materials are transported by rail and motor vehicle in and through the jurisdiction. Additionally, there are fixed facilities, which use, store or produce hazardous materials in their daily activities. In event of an accident, these materials can present an immediate threat to life, property and the natural environment. The fixed facilities in which hazardous materials are located must report under SARA Title III regulations. Site Specific plans which depict the vulnerability zone, adjacent facilities and possible evacuation routes will be developed for these facilities.

B. Assumptions

1. Hazmat incidents may occur with little or no warning.

2. Local emergency forces may not possess the special knowledge, techniques and equipment required for effective response to a hazardous materials accident.

3. Assistance is available from the State, Federal and Private sectors.

4. Local emergency forces will have to contend with the situation until outside assistance arrives.

5. Facilities subject to reporting and notification requirements outlined in Title III Emergency Planning and Community Right to Know Act 1986 will provide required information to the appropriate local and state authorities.

III. CONCEPT OF OPERATIONS

A. General

1. This plan is based on the concept that emergency functions for the various groups responsible for responding to hazardous materials accidents will generally parallel their normal day-to-day functions.

2. The Local Emergency Planning Committee (LEPC) is responsible for the developing of site plans for facilities handling the extremely hazardous substances identified under SARA Title III, Section 302.

3. All local emergency response vehicles use the U.S. DOT Emergency Response Guidebook containing Federal and industry-approved protective measures for initial response.

B. Direction and Control

1. The Office of Emergency Services Director is designated as the community emergency coordinator and, in conjunction with the facility emergency coordinators and senior response officials will make those determinations necessary to implement the plan.

2. Direction and control will normally be exercised by the Incident Commander (IC) on-scene. In special situations, however, responsibility for certain functions (evacuation, other protective actions, etc.) may shift to the jurisdiction's Health Officer or highest political officer.

3. The senior fire official on-scene will act as Incident Commander (IC). He will establish an Incident Command Post (ICP) and summon the agencies/departments he wishes represented at the incident scene. The responding units will report to the IC immediately upon arrival and remain in touch with the IC throughout the incident.

4. The Incident Commander will execute his responsibilities by closely coordinating with and utilizing the expertise of the other authorities at the Incident Command Post.

5. All decisions relating to operations at the scene will be issued from the ICP.

6. The Emergency Operations Center (EOC) will be activated if appropriate, and to the extent required. The EOC will provide support to the IC in such areas as communications, alert and warning, transportation, evacuation, shelter and additional resources.

7. The anticipated representatives at the Incident Command Post and the Emergency Operations Center are shown in Tab A to Appendix 2. However, the actual makeup will depend upon the situation.

8. Although direction and control in most hazardous materials incidents will be exercised by the Incident Commander on the scene, emergencies of wide scope or those involving extremely hazardous substances may require that direction and control be conducted at the EOC by the jurisdiction's ultimate authority, the President of the Board of County Commissioners.

C. Notification

1. It is envisioned that all incidents will normally be reported to the Communications Division of the Kent County Office of Emergency Services by using the 911 telephone system.

2. Notification to all appropriate response agencies, individuals and the public will normally be done by the Communications Center as directed by the incident commander or higher authority depending on the nature and severity of the incident. Page BP-23 of the Basic Plan outlines communications procedures and methods. The Communications Center maintains a list with 24-hour telephone contact points, of appropriate Federal, State, County and private agencies, business or individuals who require notification or who can support incident response or clean up operations.

D. Public Information

1. The pre designated Public Information Officer (PIO) shall be ready to operate from either of two locations: the incident scene or a designated place other than the EOC.

2. All announcements relating to the incident will be disseminated by the PIO after coordinating with the Incident Commander and any other appropriate officials.

3. The PIO will issue news releases and protective action recommendations to the public and disclose other essential information as necessary.

4. The PIO will cooperate with and utilize the various media (newspapers, radio, TV, etc.) in the dissemination of information.

5. As required, the PIO will establish a field media center near the incident scene but removed from the site of emergency activities and all command posts.

E. Alert and Warning

The concept is for the Incident Commander to advise the Communications Center (the EOC if activated) whenever a decision is made to announce protective actions to the people at risk. Warning of people within the risk area will be affected by activating the local Emergency Alert System (EAS), sirens, mobile loudspeakers, or door-to-door notification as dictated by the situation.

F. Protective Actions for the Public

1. The two primary strategies of protective action are (1) evacuation and (2) in-place sheltering.

2. Evacuation entails public warning, information announcements, the opening of mass shelters, provisions for assembly and transportation of citizens, and re-entry procedures.

3. In-place sheltering (close doors and windows and shut off air-intake systems) is an appropriate and effective strategy in certain situations.

4. Evacuation distances appropriate to the chemical(s) involved may be obtained from the U.S. DOT Emergency Response Guidebook and other technical references.

G. Reimbursement

Fire companies and other public agencies should keep records of expenses incurred in responding to a hazardous materials release to support claims for reimbursement from the liable party. In some instances the Maryland Hazardous and Solid Waste Management Administration will include the costs sustained by local agencies while seeking reimbursement for State services from the liable party.

IV. TASK ASSIGNMENTS

A. General

1. Certain hazardous materials may necessitate the intervention of response personnel equipped with the special protective clothing and breathing apparatus which allows them to work in close proximity to the released hazardous materials. Specially equipped assistance is available from the Maryland Department of the Environment.

B. Kent County 9-1-1 Communications Center

1. Receive initial reports of hazardous materials releases and notify response agencies and officials according to call-down procedures from a hazmat incident (See Tab B, Appendix 2, Notification List)

2. Notify Chester River Hospital Center of incident status.

3. Maintain a list of contacts for use in response to hazardous materials incidents.

4. Increase staffing as required.

5. Alert mutual aid jurisdictions of the incident in progress.

6. If the Emergency Alert System (EAS) is to be activated, sound the appropriate sirens.

C. Incident Commander (Senior Fire Official On-Scene)

1. Establish an Incident Command Post.

2. Coordinate all emergency services activities at the scene for the containment and notification to appropriate officials for the clean-up and mitigation of hazardous materials releases.

3. Determine type and quantity of hazardous material and report this to the Communications Center.

4. In coordination with the Fire Services, Police, County Health Department, State response and other knowledgeable sources, determine the area at risk and what protective actions, including evacuation, should be taken.

5. Announce and implement appropriate actions for the people at risk.

6. Report all appropriate information (damage assessment, casualties, current situation, etc.) to the EOC during emergency operations.

7. Inform all responding personnel of the nature of the hazardous materials involved, the potential dangers, the recommended protective actions and the types of protective equipment appropriate to the release.

8. Upon the basis of readings by detection/monitoring devices and direct human sensory observation, and after consultation with authorities' on-scene, declare hazard area safe for re-entry.

D. Fire Services

1. Monitor size, concentration, and migration of released hazardous materials, using technical instrumentation as available, and provide the information to the Incident Commander.

2. Contain hazardous materials released and spills within capabilities.

3. Control fires.

4. Conduct search and rescue operations.

5. Provide decontamination for response personnel and private citizens, vehicles and equipment, property and the environment. Utilize the capabilities of the involved fixed facility and of private contractors, as available.

6. Provide emergency medical services.

7. Assist in evacuation and traffic control.

E. Law Enforcement (Maryland State, Sheriff's Dept., Town)

1. The senior Police Services representative with jurisdictional authority in the area where the incident occurs will be responsible for the coordination of all police services activities and will be the single point of contact for the Incident Commander.

2. Effect coordination with the IC.

3. If evacuation is directed, evacuate the people in the risk area.

4. Perform traffic control and security measures in the danger zone.

F. Emergency Medical Services

1. Give medical attention to the sick and injured on-scene, civilians and workers.

2. Establish triage operations as needed.

3. Transport sick and injured to medical care facilities.

4. Provide information from the incident scene to hospitals about number and nature of casualties being sent there with any appropriate recommendations.

G. Radiological Monitors (For Radiological Incidents Only)

1. Report to the Incident Commander.

2. Conduct an accident assessment.

3. Report assessment results to the Incident Commander and recommendations on protective measures and access control.

4. Provide monitoring and advice on-scene.

5. Notify Center for Radiological Health and remain on scene until their arrival.

H. County Health Officer

1. Coordinate with and support the Incident Commander.

2. Use assessment data provided by Maryland Department of the Environment to ascertain the impact of the hazardous material on citizens and the environment. If determined to be a public health risk, formulate protective action recommendations to the Incident Commander that include:

a. Identification and monitor population at risk;
b. Public education and crisis communication;
c. Ensure access to care through case management, referral and if indicated provide mass prophylaxis or treatment; and
d. Ensure safety of the air, soil and/or water during the recovery phase through enforcement of public health laws and regulations to mitigate and resolve environmental health threats.

3. Assist with emergency health services required to cope with the emergency.

4. Provide nurses for shelters if evacuation is necessary.

I. Office of Emergency Services Director, Community Emergency Coordinator

1. When informed of a hazardous materials incident by the Communications Center, notify heads of local government, the State EOC, the Public Information Officer and other persons and organizations, as necessary.

2. Activate the Emergency Operations Center (EOC) with appropriate people to support Incident Commander (see Tab A).

3. Provide communications support to the Incident Commander and establish a communications link between the IC and the EOC.

4. Disseminate alert and warning information to the people at risk upon request from the IC.

5. In coordination with the Red Cross, provide shelter facilities for evacuees as required.

6. Provide transportation assistance to the IC upon request.

7. Establish and announce a rumor control telephone number.

8. Obtain any information and provide any support the IC requests.

9. Keep the appropriate elected officials informed.

10. Maintain a situation map of the incident showing location, area at risk, traffic rerouting, road closures, shelters and other pertinent information.

11. In conjunction with the IC and the Public Information Officer, prepare, coordinate, and disseminate appropriate public announcements.

12. Notify State Emergency Management Agency whenever the local EOC is activated or a significant evacuation is conducted and make periodic reports of local emergency conditions.

13. Implement the Emergency Alert System (EAS) as required.

14. Develop and maintain resource manual.

J. Common Program Control Station (CPCS-1, EAS)

Activate the local area EAS upon request as specified in the County Operational Area Emergency Alert System Plan.

K. State Highway Administration, County Roads

1. On the roads and right-of-way for which responsible, support the Incident Commander in containing and cleaning up non-toxic spills.

2. In coordination with the appropriate police services, assist in traffic control, road closures, and rerouting traffic.

L. Maryland Department of the Environment

1. Upon receipt of notification of a hazardous materials accident, notify appropriate State and Federal agencies.

2. Respond to the scene, as necessary, to incidents involving hazardous materials (chemical, radiological, petroleum).

3. Coordinate with and support the Incident Commander.

4. Provide technical assistance and the legal authority for the containment, clean-up, and transport of spill material.

5. Monitor size, concentration, and migration of released hazardous materials with specialized instrumentation and provide results and protective-action recommendations to the Incident Commander.

6. As warranted, hire private contractors to perform clean-up and recovery operations, using HSWMA special funds. Make recommendations about the disposition of hazardous materials (hazardous waste) after clean-up.

7. Advise Incident Commander when hazard area is safe for re-entry.

M. State Fire Marshal

1. Respond to incidents involving explosive materials for the containment, control, abatement, detonation, and removal of materials and devices. Respond to incidents involving other types of hazardous materials upon special request.

2. Respond on request with personnel equipped with special protective clothing, breathing apparatus and detection and monitoring instruments.

3. Provide technical information to the Incident Commander on the characteristics of the hazardous materials), if requested.

4. Inform public directly or through the Incident Commander, that hazard zone is safe for re-entry.

N. Hospitals

1. Provide decontamination and medical treatment for hazmat-release victims.

2. Keep on file a list of hazardous chemicals handled by the jurisdiction's fixed facilities and those chemicals most likely to be involved in local transportation accidents.

3. Maintain for ready reference technical information about the above-mentioned chemicals and the recommended medical treatment for victims.

4. Utilize, as needed, RACES or other amateur radio group, to establish a direct communications link with the incident scene and/or with other hospitals.

5. Provide liaison representative to EOC as requested.

O. Industry

1. Provide, and keep current information required under Title III - Emergency Planning and Community Right-to-Know to the Local Emergency Planning Committee for use in developing emergency response planning.

2. Identify a facility emergency coordinator and designate at least two backups.

3. Notify the 9-1-1 Communications Center, and Maryland Department of the Environment should a hazardous material incident occur that could affect off-site areas.

4. Provide information required under Section 304 (Emergency Notification) Emergency Planning and Community Right-to-Know, in the event of the release of an extremely hazardous substance. This information should include, but not limited to, the type and characteristics of the hazardous substance(s) involved, possible health effects and recommendations for protective actions.

5. Make available the facility's technical assistance and resources for containment and clean up.

6. Provide a representative to the incident scene or to the Emergency Operations Center as appropriate to serve as a liaison to response personnel.

7. Inform hospital(s) of release and of recommended methods for decontamination and medical treatment.

P. EOC Support Group

When the EOC is activated, the following agencies, organizations, and individuals (among others) will be expected, on request, to send an empowered representative to the EOC to provide support and assistance as required.

1. American Red Cross

    a. Open and operate designated shelters.

    b. Provide feeding and mass care for evacuees.

2. Department of Social Services

    Assume responsibility for the coordination of food, clothing and other necessary resources for evacuees and other affected by the incident.

3. RACES

    c. Provide communications between the EOC and shelters, and between the EOC and the Incident Command Post if needed.

    d. Provide other communications support as requested.

4. Board of Education

    e. Support evacuation operations by providing school buses.

    f. Provide schools as evacuation centers.

5. Sanitary District

    Determine if there is any possible impact on sewer or water systems.

Q. All Emergency Response and Support Organizations

Each entity with an assigned task in this plan will prepare internal notification/recall rosters, standard operating procedures (SOPs) and/or checklists which detail how their assigned tasks will be performed. Each entity will be expected to review this plan and indicate its concurrence.

V. Administration AND LOGISTICS

A. EOC Maintenance and Procedures

The maintenance of the Emergency Operations Center (EOC) is the responsibility of the Director of Kent County Office of Emergency Services. The Director will develop and coordinate all necessary procedures for staffing, organization, equipment, supplies and communications for the EOC.

B. Post-Incident Report

All significant hazmat release incidents should be documented in a post incident report. Key response agencies should maintain an accurate log of their activities during an incident and forward a copy to the report's compiler. The County Fire Departments in conjunction with the Office of Emergency Services officer shall

be responsible for compiling information and preparing the report. This report should be made available to the LEPC by the Incident Commander.

The post incident report should be made available to investigate the cause and circumstances of a release, to support claims for reimbursement, and to assess the effectiveness of the response procedures and this Plan.

VI. COMMUNICATIONS

The EOC's lines of radio communications are shown this jurisdiction's Emergency Operations Plan, Annex C, Communications.

See Communications Annex of this jurisdiction's Emergency Operations Plan for a description of the jurisdiction's communications capabilities.

VII. RESOURCE MANAGEMENT

Response to a hazardous materials release often requires resources unique to the situation.

The County EOC maintains a resources manual which identifies a wide range of equipment and materials owned by county & municipal government and private industry which can be obtained on short notice for use in responding to a hazmat release.

A. County Firefighters

The County fire companies own certain personal protective gear and other suppressive equipment and materials which can be used in hazmat-response incidents. Few of the firefighters, however, have received more than rudimentary training in hazmat response.

B. County Facilities

Certain fixed facilities in the County maintain equipment, materials and trained personnel to abate the hazard of substance released on their own premises. Refer to Site Specific Plans.

C. Hazardous and Solid Waste Management Administration

The best qualified response organization is the Hazardous and Solid Waste Management Administration (MDE).

D. Instrumentation

Instruments and equipment of detection, monitoring and decontamination are a highly important aspect of hazmat incident response and are treated elsewhere in this Plan.

VIII. TRAINING

A. Agency heads with plan responsibility will identify personnel from their agency to receive training appropriate to their responsibilities in this plan.

B. Agency heads will insure that hazardous materials response training is included as part of their ongoing emergency training.

C. Kent County will encourage training for identified officials. The target audience in subsequent years will be newly elected and appointed officials of the county and its support agencies.

D. The Director, Kent County Office of Emergency Services will review requirements for further training resulting from information gained during exercises and drills.

E. The Director, Kent County Office of Emergency Services coordinates training with Maryland Emergency Management Agency, as it relates to emergency management.

F. Agency heads (i.e. fire department, police department, etc.) coordinate training with the appropriate state training agency (MIFRI, Police Training Commission, etc.).

IX. EXERCISING AND REVIEWING THE PLAN

This plan shall be tested soon after development and periodically thereafter. Its compliance with the jurisdiction's other emergency plans shall be ensured. At a

minimum the Plan shall be used to conduct a functional or full scale exercise each calendar year. In the interim the Plan shall be reviewed, updated and revised as required. Deficiencies in the Plan identified during exercises or actual incidents shall be corrected.

X. PLAN MAINTENANCE/PUBLIC ACCESS

A. The Emergency Program Manager is responsible for reviewing this plan annually and for required modifications to the same.

B. Copies of the Kent County Emergency Operations Plan, in its entirety, will be maintained at Fire and Rescue Communications, for public review, and the Emergency Operations Center. Additionally, copies will be forwarded to those departments and organizations described in the EOC Staffing Roster and the Maryland Emergency Management Agency.

C. Those stationary facilities that report hazardous substances under SARA Title III and the Maryland Department of the Environment will receive a copy of this Hazardous Materials Plan.

XI. DEFINITION OF TERMS

A. Hazardous Material – Substances that can be harmful to people, animals, property and the environment if released in an uncontrolled manner.

B. Emergency Alert System (EAS) - Local AM, FM and TV broadcast stations operating on a voluntary, organized basis during emergencies at National, State or Local area levels for the purpose of providing a means for the heads of Federal, State and Local governments to communicate with the general public during emergency situations.

C. Protective Action - Any action recommended by competent authority to the people at risk to prevent or reduce the possibility of injury resulting from the effects of the hazardous material incident.

XII. AUTHORITIES AND REFERENCES

A. Maryland Annotated Code, Article 16A.

B. Maryland House Bill No. 1466.

C. Federal Superfund Amendments and Reauthorization Act of 1986 (SARA).

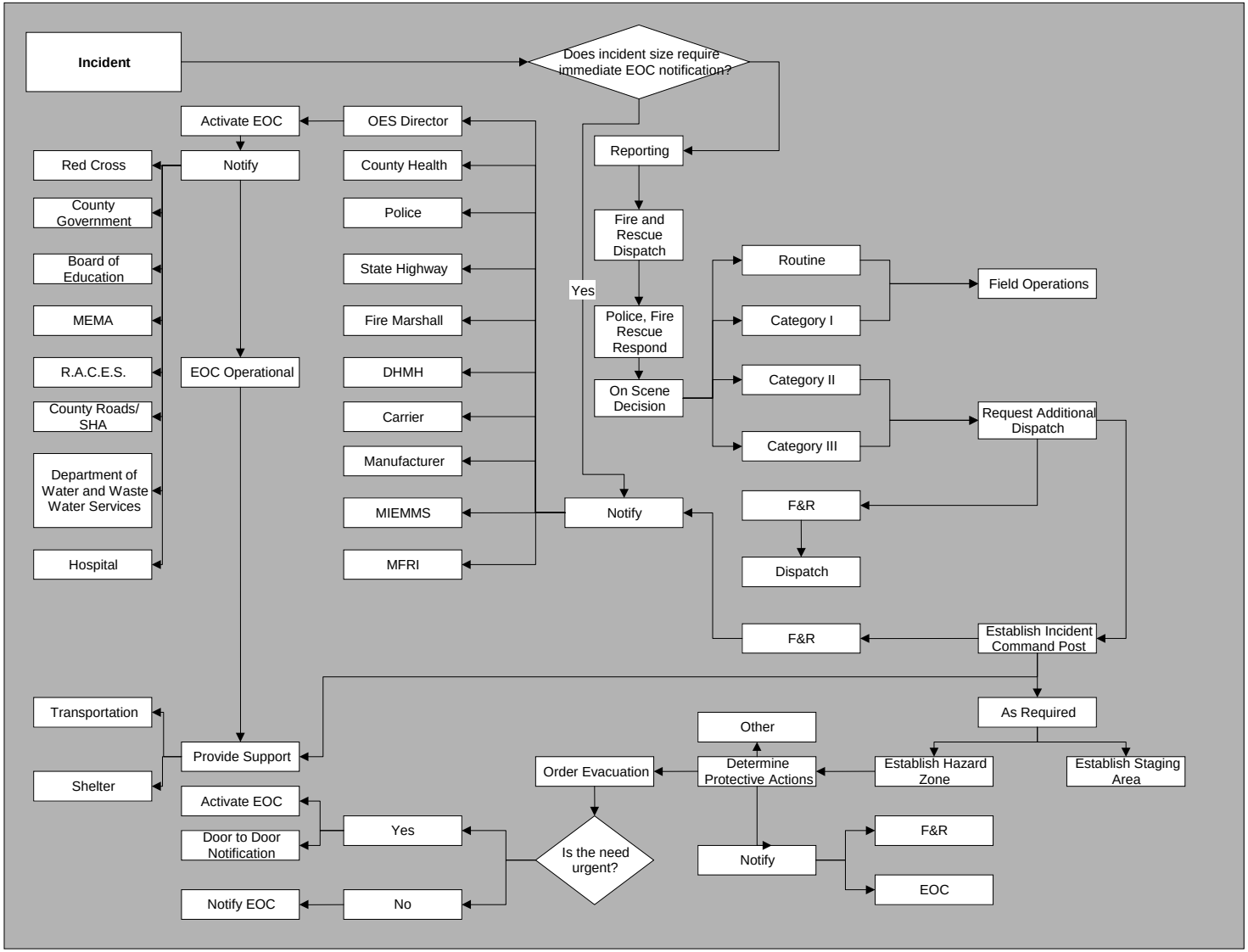
D. Natural Resources Team Orange Book l-lA.

E. DOT Handbook.

APPENDIX 1
NOTIFICATION AND REPORTING OF HAZARDOUS SUBSTANCES IN KENT COUNTY

The following pages include Tab A, the Notification Chain, and Tab B, the Notification List.

TAB A
NOTIFICATION CHAIN



TAB B
NOTIFICATION LIST

AGENCY	BUSINESS TELEPHONE
Director, Kent County Office of Emergency Services	410-778-7458
Dep. Dir., Kent County Office of Emergency Services	410-778-3758
County Health Officer	410-778-1350
Chemtrec National Response Center	1-800-424-9300
EPA Region III Regional Response Center	215-814-9016 (24 hrs)
MDE Emergency Response Team	410-333-2950 - Non-emergency 410-974-3551 - Emergency (24 hrs)
State Fire Marshal's Office (Bel Air)	410-836-4844
Maryland State Police (Centreville) (Pikesville)	 410-758-1101 410-486-3101
Center for Radiological Health (MDE)	410-631-3193 - Non-emergency 410-243-8700 - Emergency (24 hrs.)
U.S. Army, Ft. Meade (1st Army Headquarters)	410-677-6535 (24 hrs.)
Dover Air Base Fire Dept.	302-677-2117
U.S. Coast Guard (Still Pond)	410-778-2201
APG Fire Department	410-306-0572

County Government	410-778-4600
Maryland Emergency Management Agency	410-517-3600
Board of Education	410-778-1595
RACES	410-639-2913
County Roads Dept.	410-778-7433
Sheriff's Office	410-778-5946
Sanitary Commission	410-778-3287

APPENDIX B

ARTICLE V. DISTRICT REGULATIONS

SECTION 1. AGRICULTURAL ZONING DISTRICT

1.1 STATEMENT OF INTENT

The purpose of the Agricultural Zoning District is to encourage the use of agricultural land for farming and other agricultural businesses and to limit the use of these lands for non-agricultural purposes. Agriculture, including animal husbandry, is the preferred and primary use in the Agricultural Zoning District. In general, the District will consist of large contiguous areas predominantly devoted to agriculture or forestry and principally composed of Class I, II, and III soils. The District will contain some sensitive areas not well suited to agriculture to provide large contiguous areas. The sum of these areas consists of enough land to help maintain a market for the necessary agricultural support services in the County. In addition, the District is to provide for farm, home occupations, and cottage industries that are compatible with agriculture as a means to further diversify the County's economy.

SECTION 2. RESOURCE CONSERVATION DISTRICT

2.1 STATEMENT OF INTENT

This district is intended to:

- Conserve, protect, and enhance the overall ecological values of the Critical Area, its biological productivity, and its diversity;
- Provide adequate breeding, feeding, and wintering habitats for those wildlife populations that require the Chesapeake Bay, its tributaries, or coastal habitats to sustain populations of those species;
- Conserve the existing developed woodlands and forests for the water quality benefits that they provide; and
- Conserve the land and water resource base necessary to maintain and support such uses as agriculture, forestry, fisheries' activities and aquaculture.

It includes areas characterized by nature-dominated environments (that is, wetlands, forests, abandoned fields) and resource-utilization activities (that is, agriculture, forestry, fisheries' activities, or aquaculture).

SECTION 3 RURAL CHARACTER DISTRICT

3.1 STATEMENT OF INTENT

The purpose of this district is to provide for the market demand for rural lots, including large estate lots, in a manner that maintains rural character and in a location that minimizes conflicts with agriculture. The District may function as a transition between towns, villages, residential developments, and the Agricultural Zoning District. To maintain the rural character, developments will follow strict design standards for protecting significant rural features, preserving scenic views and historic structures, designing with topography, and locating new buildings. Recreational uses such as golf courses, racquet courts, and stables are appropriate in this district. Public water and sewer will not be extended into this district except to correct a public health emergency.

SECTION 4 RURAL RESIDENTIAL

4.1 STATEMENT OF INTENT

The purpose of this district is to provide for low density, single family residential development in areas of existing residential development, together with facilities and accessory uses normally compatible with residential surroundings, and at the same time to permit agricultural uses and to preserve open spaces and rural character. This district is located in areas of existing rural development and those areas designated as neighborhood development areas in the Comprehensive Plan.

SECTION 5 CRITICAL AREA RESIDENTIAL

5.1 STATEMENT OF INTENT

This district is intended to allow low density residential development in areas where the impact on the natural environment is minimal. The purpose of this district is to maintain, or if possible to improve, the quality of runoff and groundwater entering the Chesapeake Bay and its tributaries and to maintain existing areas of natural habitats while allowing limited residential development that conforms to environmental standards and that reflects the scale and character of existing development. These areas must have one of the following characteristics:

- Housing density ranges from one dwelling unit per five acres, up to four dwelling units per acre.
- Areas not dominated by agriculture, wetlands, forest, barren land, surface water or space; or
- Areas having public sewer or water, or both.
- Areas meeting the conditions of an Intense Development Area but less than 20 acres in size.

SECTION 6 COMMUNITY RESIDENTIAL

6.1 STATEMENT OF INTENT

The purpose of this district is to provide for single family residential development in areas of existing residential development, together with facilities and accessory uses normally compatible with residential surroundings, and at the same time to permit agricultural uses and to preserve open spaces and rural character. This district is in areas near existing developed areas, villages and incorporated towns.

SECTION 7 VILLAGE DISTRICT

7.1 STATEMENT OF INTENT

The purpose of this district is to provide for high quality residential, neighborhood business, and office development. In those areas served by public water and sewer, this zone will be characterized by a wide variety of housing types, densities, and uses. In those areas without public utilities, this zone will be largely single family with the possibility of multi-family residential when it does not hazard public health and is consistent with the Village Master Plan for the area.

This district is created to:

- Encourage residential development in existing towns and communities on major thoroughfares.
- Permit a variety of housing types.
- Provide incentives for residential development by allowing variations in lot size, density, frontage, and yard requirements.
- Encourage compact development.
- Promote the development of non-residential uses that complement and enhance the character, vitality and attractiveness of the community as a place to live and work.
- Encourage designs that allow for the filling-in of vacant areas and create development that is compatible with the character of existing lots and buildings.

SECTION 8 INTENSE VILLAGE

8.1 STATEMENT OF INTENT

The purpose of this district is to provide for a high quality and well-designed mix of commercial, office, and residential areas with emphasis on uses and intensities that make efficient use of public facilities and limit sprawling development. It is intended that residences, shops and offices are in close proximity to each other as is found in the traditional village pattern and that the resulting mix of uses form lively, prosperous neighborhoods that serve as an attractive place to live, work, shop, and play. The district may act as a transition between town and the more rural areas of the County. Buildings in this district shall be oriented to the street and provision made for pedestrian access so that the character of the area is interpreted as pedestrian.

SECTION 9 INTENSE VILLAGE CRITICAL AREA

9.1 STATEMENT OF INTENT

The purpose of this district is to provide for a high quality and well-designed mix of commercial, office, and residential areas with emphasis on uses and intensities that makes efficient use of public facilities and limits sprawling development. It is intended that residences, shops and offices are in close proximity to each other as is found in the traditional village pattern and that the resulting mix of uses form lively, prosperous neighborhoods that serve as an attractive places to live, work, shop, and play. The district may act as a transition between town and the more rural areas of the County. Buildings in this district shall be oriented to the street and provision made for pedestrian access so that the character of the area is interpreted as pedestrian. The Intense Village Critical Area District is intended to:

- Improve the quality of runoff from developed areas that enters the Chesapeake Bay or its tributary streams.
- Accommodate additional mixed use development provided that water quality is not impaired.
- Minimize the expansion of intensely developed areas into portions of the Critical Area designated as habitat protection areas and resource conservation areas.
- Conserve and enhance fish, wildlife, and plant habitats to the extent possible within intensely developed areas.
- Encourage the use of retrofitting measures to address existing stormwater management problems.

SECTION 10 CROSSROADS COMMERCIAL DISTRICT

10.1 STATEMENT OF INTENT

The purpose of this district is to provide appropriate locations for a broad range of commercial activities such as retail, wholesale, and contracting activities serving the local community. These activities are primarily oriented to highway uses rather than central business locations. Crossroads Commercial districts are generally located at the intersection of major highways. Because these uses are located subject to public view, which is a concern of the whole community, they should provide an appropriate appearance, controlled traffic movement, ample landscaping, and protect adjacent properties from the traffic and visual impacts associated with the commercial use. It is the intent that a Crossroads Commercial District shall have a minimum frontage of 150 feet on a single primary road. Whenever possible, frontage of the district shall not exceed depth.

SECTION 11 COMMERCIAL DISTRICT

11.1 STATEMENT OF INTENT

The purpose of this district is to accommodate commercial and service activities that are not normally located in central business concentrations. These uses are primarily oriented to highway locations and include services and destination retail. Consequently, the district is located along major arterial highways. It is further intended that this District shall be for the purpose of limiting sprawling development by providing sites with adequate frontage and depth to permit controlled access to public streets. Because these uses are subject to public view, which is of concern to the whole community, they should provide an appropriate appearance, controlled traffic movement, ample landscaping, and protect adjacent properties from the traffic and visual impacts associated with the commercial activity. It is the intent that a Commercial District shall have a minimum frontage of 150 feet on a single primary road. Whenever possible, frontage of the district shall not exceed depth.

SECTION 12 COMMERCIAL CRITICAL AREA

12.1 STATEMENT OF INTENT

The purpose of this district is to accommodate commercial and service activities that are not normally located in central business concentrations. These uses are primarily oriented to highway locations and include services and destination retail. Consequently, the district is located along major arterial highways. It is further intended that this District shall be for the purpose of limiting sprawling development by providing sites with adequate frontage and depth to permit controlled access to public streets. Because these uses are subject to public view, which is of concern to the whole community, they should provide an appropriate appearance, controlled traffic movement, ample landscaping, and protect adjacent properties from the traffic and visual impacts associated with the commercial activity. It is the intent that a Commercial Critical Area District shall have a minimum frontage of 150 feet on a single primary road. Whenever possible, frontage of the district shall not exceed depth.

SECTION 13. MARINE DISTRICT

13.1 STATEMENT OF INTENT

The purpose of this district is to provide for full service marinas, including out-of-water boat storage, repair, and other services normally associated with marinas. Marine industrial uses, including boat building, are permitted in appropriate locations subject to applicable sanitation and pollution laws and ordinances. Retrofitting of stormwater management is encouraged and standards are provided to improve the quality of runoff that enters the Chesapeake Bay and its tributaries. The Marine District is intended to:

- Improve the quality of runoff from developed areas that enters the Chesapeake Bay or its tributary streams.
- Accommodate additional mixed-use development provided that water quality is not impaired.
- Minimize the expansion of intensely developed areas into portions of the Critical Area designated as habitat protection areas and resource conservation areas.
- Conserve and enhance fish, wildlife, and plant habitats to the extent possible within intensely developed areas.
- Encourage the use of retrofitting measures to address existing stormwater management problems.

SECTION 14 EMPLOYMENT CENTER DISTRICT

14.1 STATEMENT OF INTENT

Employment Center Districts are defined as planned developments primarily for light industrial uses which are environmentally sound, sustainable and compatible with adjacent uses. They are further defined as areas devoted to industrial uses which present an attractive appearance and complement surrounding land use character by means of appropriate setting of buildings and service areas and landscape treatment.

It is intended that Employment Center Districts be located in areas having one or more major highways, and clearly demonstrated suitable for the intended uses in so far as physical characteristics and relationship to surrounding development.

SECTION 15 INDUSTRIAL DISTRICT

15.1 STATEMENT OF INTENT

This district is intended to provide for a range of industrial uses which are environmentally sound, sustainable, and compatible with adjacent uses. Furthermore, the district is limited to light manufacturing and support businesses. Light industries include those which manufacture, process, store, package or distribute goods and materials, and are, in general, dependent on raw materials refined elsewhere.

SECTION 16 INDUSTRIAL DISTRICT - CRITICAL AREA - LDA

16.1 STATEMENT OF INTENT

This district is intended to provide for a range of industrial uses which are environmentally sound, sustainable, and compatible with adjacent uses. Furthermore, the district is limited to light manufacturing and support businesses. Light industries include those which manufacture, process, store, package or distribute goods and materials and are, in general, dependent on raw materials refined elsewhere.

SECTION 17 INDUSTRIAL DISTRICT - CRITICAL AREA

17.1 STATEMENT OF INTENT

This district is intended to provide for a range of industrial uses which are environmentally sound, sustainable, and compatible with adjacent uses. Furthermore, the district is limited to light manufacturing and support businesses. Light industries include those which manufacture, process, store, package or distribute goods and materials and are, in general, dependent on raw materials refined elsewhere. The Industrial District – Critical Area is intended to:

- Improve the quality of runoff from developed areas that enters the Chesapeake Bay or its tributary streams.
- Accommodate additional mixed-use development provided that water quality is not impaired.
- Minimize the expansion of intensely developed areas into portions of the Critical Area designated as habitat protection areas and resource conservation areas.
- Conserve and enhance fish, wildlife, and plant habitats to the extent possible within intensely developed areas.
- Encourage the use of retrofitting measures to address existing stormwater management problems.

APPENDIX C

KENT COUNTY SEPTAGE REGULATIONS

1. Any septage hauler wishing to utilize the Septage Receiving Facilities at Worton must have a valid Septage Discharge Permit issued by the Kent County Department of Water and Wastewater Services (the Department).

2. Septage Discharge Permits are available by permit application furnished by the Department. Application forms shall contain all information pertinent to the safe and efficient treatment of the septage, as determined by the Department.

3. Septage Discharge Permit Applications shall be reviewed by the Department to determine if the applicants' potential sources of septage and equipment are acceptable for discharge at the Worton treatment facility.

4. Should any waste be determined to be toxic or having abnormal characteristics which could disrupt the biological operation of the lagoon, the hauler and waste generator shall be notified that pre-treatment will be required.

5. After a Septage Discharge Permit Application has been approved, the applicant must submit an annual permit fee of **$300.00** prior to issuance of the permit. The permit is not transferable and must be renewed and updated each year with all fees being paid in full by the first day of January. The annual fee shall be established by the County Commissioners of Kent County. The permit fee shall be reviewed annually and amended accordingly.

6. The Department shall have the authority to suspend or revoke any permit in order to stop the discharge of any material which presents a hazard to the public health, safety or welfare, or the safe operation of the waste treatment facility. Any septage hauler found to violate any provision of this act may have their permit suspended or revoked immediately. Suspended permits may be reinstated at the sole discretion of the Department, upon proof of satisfactory compliance with all provisions of this act.

7. All haulers must discharge their waste at the Worton treatment facility. A manifest ticket must be filled out for each load discharged and deposited in the ticket box located at the site. A discharge into sanitary sewer manholes is specifically prohibited.

8. The Department shall have the authority to refuse any waste deemed harmful to the treatment facility or receiving body of water.

9. Each hauler is responsible for the clean up and wash down of the facility after each load.

10. The Department shall periodically sample and analyze septage from selected users to determine DOB and Suspended Solids loadings and Phosphorus concentrations of the septage. These results shall be used as a representative of waste strengths from all septage haulers and shall be used to determine the cost of treatment. A particular haulers waste may be analyzed and classified individually for special treatment costs when determined by the Department as creating special handling problems or as being of unusual strength and/or character.

11. **Inspection Rights.** Any duly authorized employee or agent of Kent County shall be permitted, at any time, to enter up the property of any customer of a permitted septage hauler, for the purpose of inspecting, observing, sampling and testing as may be required in pursuance of the implementation and enforcement of the terms and provisions of this act.

12. **Equipment Rights.** Any tank trucks or other equipment used or intended to be used within the county for removal and/or transportation of septage shall be required to submit to an annual inspection by the Department. All equipment and vehicles shall conform to the following requirements:

    a. The container shall be watertight.
    b. Tank containers or other equipment shall be constructed such that every portion of the interior and exterior can be easily cleaned.
    c. All equipment shall be kept in a clean and sanitary condition.
    d. All piping, valves and connections shall be accessible and easily disconnected for cleaning purposes.
    e. The inlet opening or openings to every container shall be constructed such that the material will not spill during filling, transfer or transport.
    f. The outlet connections shall be constructed such that no material will leak; and shall be of a design and type suitable for the material handled and capable of controlling the flow or discharge without spillage, undue spray or flooding while in use.
    g. Vehicle capacities (gallons) shall be verified at the time of inspection.

Annual Permit Fee and Septage Charge

Annual Permit Fee	**$300.00**
Each Additional Vehicle	**$ 25.00**
Septage Charge per Gallon	**$ 0.07**
Approved Holding Tank Charge per Gallon	**$ 0.02**

Definition of an approved holding tank: An installed or converted water tight vessel, inspected and approved by the local Health Department for the collection of wastewater. Must meet the following criteria:

1) **Residential Use Only**
2) **Must have an Approved Application on file**
3) **Must be pumped out four (4) or more times per year**

Haulers shall be billed monthly with a 1.5% interest charge added to all accounts not paid within 30 days.