

CHAPTER 3

EXISTING SOLID WASTE MANAGEMENT

3.1 CHAPTER SUMMARY

Chapter 3 compiles a database on existing solid waste management facilities and programs. Historic volumes of solid waste and recovered recyclables are used to project solid waste generation for the 10-year planning period. The descriptions of the existing collection system, disposal facilities, and recycling program provide the basis for the evaluation and needs assessment of subsequent chapters.

3.2 GENERAL

A realistic and accurate analysis of the Charles County waste stream is essential for developing and implementing an integrated solid waste management program in Charles County. This analysis addresses the quantity, composition, and characteristics of the solid waste stream including recovered recyclables.

The quantity and types of solid waste and recyclables produced in the County affects planning in the following three ways:

- The sizing and design for proposed solid waste management facilities.
- The relative location and size of waste generation centroids which affect the location of facilities, and may result in the need for regional sub-systems.
- The financial planning and management of proposed facilities.

It is difficult to obtain an accurate determination of the quantities and types of waste produced within the County for the following reasons:

- Since some residents collect and dispose of their own waste, it is difficult to determine how much waste is burned, disposed of on-site, recycled, or otherwise improperly disposed of in the County.
- Since the majority of waste is collected by private haulers, it is difficult to define service areas represented by the data and to identify the waste types.

- Comparison with other, similar counties is difficult as many counties have limited accurate and reliable historical weight and analytical data for their solid waste stream composition.

Based on these limitations, the most direct and accurate method of obtaining information on the quantities and types of solid waste and recyclables is through the interpretation of County records. Estimates of solid waste stream composition are determined using all available information and incorporating data collected since the opening of the Charles County Sanitary Landfill #2.

3.3 Waste Quantities

Waste quantities have dropped significantly in recent years as a direct result of the 1994 Supreme Court ruling commonly known as the "Carbone Decision". This landmark decision stated that refuse was in fact a commodity, and therefore, subject to laws of the Interstate Commerce Commission. The result was that local jurisdictions could not pass any laws directing the flow of waste to a particular waste acceptance facility. Until this decision, it was common practice for local governments to do so to insure a revenue source for landfills or waste to energy incinerators, particularly in the more densely populated East Coast states.

Almost immediately the impact was felt in Charles County when a number of large landfills were opened up in Southern Pennsylvania and Central Virginia with disposal rates much less (\$45) than Charles County (\$70). At the same time a number of private transfer stations opened in neighboring Prince George's County and the District of Columbia which allowed the local haulers to take advantage of dumping at a discounted rate (\$35-\$45) without driving to Pennsylvania or Virginia. The situation was even more critical in Charles County when one national hauler, Waste Management Inc., controlled 50 percent of the market and owned a transfer station in D.C. and a mega-fill in Pennsylvania. Their decision to utilize these facilities resulted in an overnight decrease of trash by 50 percent. In 1997, a large landfill opened in King George County which is the neighboring county across the Potomac River Bridge, approximately 30 miles south. The new King George County Landfill attracted several small haulers. The results of these changes can be seen in Table 3-1.

*TABLE 3-1
WASTE LANDFILLED
2000-2010*

Year	Fiscal Year		Calendar Year	
	Waste (Tons)	Average Monthly (Tons)	Waste (Tons)	Average Monthly (Tons)
2000	44,201	3,683	40,768	3,397
2001	45,347	3,778	47,947	3,995
2002	69,433	5,786	69,858	5,821
2003	72,073	6,006	64,472	5,372
2004	74,291	6,226	74,486	6,207
2005	79,026	6,476	77,718	6,585
2006	88,457	7,371	74,603	6,216
2007	61,399	5,116	59,805	4,983
2008	58,517	4,876	55,372	4,617
2009	55,782	4648.5	61,536	5,128
2010	59,201	4933	81,999	6833

Source: Charles County Department of Public Works, Environmental Resources Division, 2011

In 2008, the County's largest hauler, Waste Management, Inc., disposed of approximately 45,000 tons of waste in out-of-county facilities, resulting in a revenue shortfall for the County landfill.

Currently, the annual flow of waste has stabilized to approximately 50,000 to 60,000 tons, which is significantly lower than historic volumes. At the current rate of flow and the current disposal fee of \$70, the landfill remains slightly under the break-even point. As the County approaches the completion of the final pay-back of the debt service of the Pisgah landfill closure costs in 2011, the County's Landfill No. 2 will be operating at a solvent break-even point.

Since the outstanding debt for landfill construction was minimal as the majority of the landfill was financed with "pay-go money," the decrease of revenue has a profound positive effect. Finding the right balance for saving the proper capital was accomplished by reviewing the current rate of fill, available air space, compaction rate and corresponding revenue. This formula can be adjusted by changing any of the variables and computing through a software program developed by the Charles County Fiscal Services Department.

3.3.1 Waste Characteristics

Prior to 1989, the Charles County Department of Fiscal Services retained Landfill records for the purposes of financial accounting. These records do not contain adequate information on the breakdown of waste types and quantities. The 1990 Charles County Recycling Plan provided an analysis of the 1989 fiscal year landfill records including the source (i.e., residential or

commercial), type (i.e., rubble or municipal), and composition (e.g., plastic, paper, etc.) of the municipal solid waste generated in Charles County. Since 1989, Charles County has kept accurate records of the source, composition, and type of solid waste accepted at the County Landfill.

3.3.1.1 Hauler Designations

The financial records classify the waste delivered to the landfill based on the hauler designation. However, the hauler designations are not synonymous with the source (e.g., residential or commercial/industrial) or type (e.g., rubble or non-rubble) of waste delivered to the landfill. Prior to the ban for landfilling sludge, all of the hauler designations were approved to transport sludge.

Hauler designations include the following categories which are described below:

- Commercial Garbage/Solid Waste (G/SW) Haulers
- Municipal Haulers
- Non-commercial Haulers
- Private Haulers
- Building Rubble Haulers

A. Commercial Garbage/Solid Waste (G/SW) Haulers

Commercial G/SW is waste that is delivered by commercial (private) haulers, permitted by the Charles County Health Department to haul waste generated by households, businesses, and restaurants. Commercial G/SW may include solid waste, tires, and rubble; however, the landfill records do not provide a reliable means to classify or quantify the waste types.

B. Municipal Haulers

Waste generated within the municipalities of La Plata and Indian Head is brought to the landfill by haulers designated as "municipal waste haulers". Waste generated by households, commercial establishments, and institutional services within the municipalities are collected by municipal waste haulers. Waste types delivered to the landfill by municipal waste haulers may include solid waste, tires, and rubble; however, the landfill records do not provide a reliable means to classify or quantify the waste types. Prior to the ban for landfilling sludge, sludge was also delivered by this hauler designation.

C. Non-commercial Haulers

The non-commercial waste designation includes waste delivered to the landfill by county, state and federal departments (e.g., state highway, county maintenance, etc.); institutions; individuals who deliver their waste to the landfill; community clean-ups which are generally bulky waste; and tires. Non-commercial waste haulers collect residential and institutional waste. Although a significant portion of the waste delivered by non-commercial haulers is rubble, landfill records

identify only a small percentage of the rubble. Prior to the ban for landfilling sludge, sludge was also delivered by this hauler designation.

D. Private Haulers Without Permits

Haulers who deliver commercially generated rubble to the landfill without a building rubble permit are included in this designation. The haulers are allowed to dispose of only one load without a permit; subsequent loads from the same hauler must be permitted. Private haulers without permits generally haul rubble and tires.

E. Building Rubble Haulers

The building rubble designation includes commercial and institutionally-generated rubble and tires. Prior to the ban for landfilling sludge, sludge was also delivered by this hauler designation.

3.3.1.2 Waste Source and Type

Charles County is very similar to Frederick County, Maryland, except that we produce less residential waste, and Charles County recycles a larger percentage per capita of its waste. Since the County has a self imposed ban on homogenous loads of rubble from commercial generators and haulers, and the tipping fee for such is relatively cost prohibitive, the actual amount of rubble is estimated to be approximately 4,000 tons per year.

3.3.1.3 Municipal Waste Composition

Previous analyses of the Charles County municipal (residential and commercial/industrial) waste stream composition were taken from the Charles County Recycling Plan. The analysis, performed by Gershman, Brickner, & Bratton, Inc. (GBB), used waste composition studies for similar counties to approximate the composition of waste generated in Charles County. Currently, the County estimates waste stream composition through monthly reports of waste received at the landfill and recycling centers throughout the County. The estimated municipal waste composition at the Charles County Sanitary Landfill is shown in Table 3-2.

3.3.1.4 Rubble Composition

Composition of the rubble waste stream has not been well documented and may vary significantly with location, season, and economy. A study conducted in Clearwater, Florida determined the following composition (by weight) for rubble accepted at the recently established recycling facility.

- | | |
|-----------------------|-------------------------------|
| · Wood - 32 Percent | · Other - 23 Percent |
| · Paper - 18 Percent | · Roofing - 13 Percent |
| · Metal - 7 Percent | · Concrete - 3 Percent |
| · Plastic - 2 Percent | · Earth Materials - 2 Percent |

This data may not reflect the exact composition of the Charles County rubble waste, but could serve as an approximation for preliminary consideration and discussion of the possible rubble processing requirements.

*TABLE 3-2
ESTIMATED MUNICIPAL
WASTE STREAM COMPOSITION*

Component	Percent of Municipal Waste Stream		
	Residential	Commercial, Industrial, & Institutional	Total Municipal
Newspaper	0.00%	0.13%	0.13%
Corrugated Cardboard	0.00%	14.69%	14.69%
Other paper	5.24%	11.75%	16.99%
Glass	1.29%	2.32%	3.61%
Aluminum	0.00%	0.09%	0.09%
Ferrous	2.70%	0.85%	3.55%
Plastics	0.98%	1.78%	2.76%
Food Waste	0.00%	0.96%	0.96%
Yard Waste	23.04%	16.12%	39.16%
White Goods	1.01%	1.01%	2.02%
Textiles/Leather	0.00%	0.55%	0.55%
Tire/Rubber	0.29%	1.23%	1.52%
Household Hazardous Waste	0.03%	0.00%	0.03%
Other	0.31%	13.77%	14.08%
Total	35%	65%	100%

*Source: Charles County Department of Public Works, Environmental Resources Division
2009 Maryland Recycling Tonnage Report.*

3.4 HISTORIC RECYCLING QUANTITIES

In 2009, approximately 51,537 tons of recyclable material was recovered from the waste stream. The following items were recycled in Charles County in 2009:

- Commingled Containers
- Mixed Yard Waste
- Wood Shavings, Bark, & Sawdust
- Mixed Glass & Fluorescent Bulbs
- Aluminum Cans, &, Mixed Cans,
- Lead Acid Batteries
- White Goods, & Front-end Scrap Metal
- Metal & Litho Plates
- Magazines, Mixed Paper, Newspaper, Office/Computer Paper, Cardboard, & Other Paper
- Mixed Plastic, Film Plastic, & Shrink Wrap
- Electronics
- Animal Protein
- Motor Oil, Oil Filters Solvents, & Antifreeze
- Scrap Tires
- Pallets
- Asphalt
- C&D Debris
- Coal Ash
- Concrete
- Land Clearing Debris
- Sewage Sludge
- Soils
- Cardboard
- Textiles

3.5 BASELINE STATISTICS FOR WASTE GENERATION

The Charles County recycling effort was initiated 1989 and this effort is reflected in the quantity of waste landfilled. The total waste generated in 2009 was 101,462. Total waste generated is equal to waste disposed, 49,925, plus waste recycled, 51,537. Recycling efforts have continued to reduce the amount of waste landfilled as shown in Table 3-3. In 2009, approximately 35 percent (17,977 tons) of the recovered materials were from residential efforts; the remaining 65 percent (33,560 tons) was recovered from the commercial sector of the County, including commercial, industrial, and institutional establishments.

Table 3-1 has an accurate representation of the amount of waste landfilled for the calendar year records of 2000 through 2010. The average-annual statistics during this period (calendar years) were used to calculate waste generation rates through 2021 (Table 3-4). Population and Employment data from the Charles County Department of Planning and Growth Management were used with the waste generation rates to calculate the projected waste quantities.

3.5.1 Residential Waste Generation

Based on the 2009 population of 141,981 people, the average daily residential waste generation in Charles County is 3.92 pounds per person or .71 tons per person, per year.

3.5.2 Commercial/Industrial Waste Generation

Based on an average employment of 73,480 as of January 1, 2009, the average daily generation rate for commercial/industrial waste is 14.18 pounds per employee, or 2.59 tons per year, per employee.

3.5.3 Institutional Waste Generation

Prior to 1994, the average institutional waste generation was 5,572 tons per year. The average-daily institutional waste generation is 0.56 pounds per employee based on an average employment of 34,700. The Charles County Landfill is no longer able to track institutional waste quantities or types due to commercial haulers combining institutional waste with commercial waste prior to disposal at the landfill.

3.5.4 Rubble Waste Generation

The average annual rubble waste landfilled in Charles County in 2009 was approximately 20,638 tons. Therefore, residential rubble waste or single-trip commercial loads are the primary contribution of rubble waste to the landfill, not commercial contractors. Although this “rubble waste” arrived at the County landfill, it was not considered demolition waste debris, since it did not contain putrescible waste. Examples of this type of waste would be small contractors remodeling a kitchen, residents cleaning out a garage, or residents disposing of an old shed, as opposed to large scale demolition projects of commercial buildings, bridges, roadways, or other large scale projects. Landfill personnel have indicated that there is a high probability that rubble waste generated in Charles County (particularly in the northern part of the County) is being exported out-of-county for disposal. Therefore, the rubble landfilled in Charles County is not reflective of the rubble generated in the County. This is due in part to the County’s self imposed ban on homogenous loads of rubble from commercial contractors and haulers, and the relatively cost prohibitive tipping fee.

Table 3-3: Recovered Materials

	2009			2010			2011			2012			2013		
	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)
Comingled Containers	0	142	142	0	85	85	0	88	88	0	90	90	0	93	93
Metal															
Aluminum Cans	0	46	46	0	98	98	0	101	101	0	104	104	0	107	107
Front End Scrap	1,144	0	1,144	996	0	996	1,026	0	1,026	1,057	0	1,057	1,088	0	1,088
White Goods	519	519	1,039	0	14,731	14,731	0	15,173	15,173	0	15,628	15,628	0	16,097	16,097
Lead Acid Batteries	16	196	212	18	1,836	1,854	19	1,891	1,910	19	1,948	1,967	20	2,006	2,026
Mixed Cans	246	440	686	244	459	704	251	473	724	259	487	746	267	502	768
Other (Oil Filters)	0	67	67	0	47	47	0	48	48	0	50	50	0	51	51
Other (Litho Plates)	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Paper															
Newspaper	0	66	66	0	74	74	0	76	76	0	79	79	0	81	81
Corrugated Cardboard	0	7,570	7,570	0	5,837	5,837	0	6,012	6,012	0	6,192	6,192	0	6,378	6,378
Office / Computer	0	87	87	0	421	421	0	434	434	0	447	447	0	460	460
Magazines	0	207	207	0	88	88	0	91	91	0	93	93	0	96	96
Mixed Paper	2,701	5,682	8,383	2,695	5,696	8,391	2,776	5,867	8,643	2,859	6,043	8,902	2,945	6,224	9,169
Other Paper	0	13	13	0	0	0	0	0	0	0	0	0	0	0	0
Compost / Mulch															
Mixed Yard Waste	11,874	0	11,874	11,094	0	11,094	11,427	0	11,427	11,770	0	11,770	12,123	0	12,123
Wood Shavings	0	8,306	8,306	0	8,200	8,200	0	8,446	8,446	0	8,699	8,699	0	8,960	8,960
Other (Bark)	0	4,358	4,358	0	8,468	8,468	0	8,722	8,722	0	8,984	8,984	0	9,253	9,253
Other (Sawdust)	0	1,456	1,456	0	1,200	1,200	0	1,236	1,236	0	1,273	1,273	0	1,311	1,311
Plastic															
Mixed Plastic	504	918	1,422	502	1,040	1,542	517	1,071	1,588	533	1,103	1,636	549	1,136	1,685
LDPE	0	2	2	0	3	3	0	3	3	0	3	3	0	3	3
Film Plastic	0	22	22	0	20	20	0	21	21	0	21	21	0	22	22
Shrink Wrap	0	0	0	0	33	33	0	34	34	0	35	35	0	36	36
Other Plastic	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1
Glass															
Mixed Glass	667	1,195	1,861	663	1,246	1,909	683	1,283	1,966	703	1,322	2,025	724	1,362	2,086
Fluorescent Bulbs	0	2	2	0	2	2	0	2	2	0	2	2	0	2	2
Other															
Animal Protein / Fat (Solid)	0	496	496	0	200	200	0	206	206	0	212	212	0	219	219
Electronics	158	190	347	231	80	311	238	82	320	245	85	330	252	87	340
Toner Cartidges	0	55	55	0	60	60	0	62	62	0	64	64	0	66	66
Pallets	0	605	605	0	500	500	0	515	515	0	530	530	0	546	546
Textiles / Cloth	0	284	284	51	340	391	53	350	403	54	361	415	56	372	427
Tires (Recycled)	149	555	704	93	477	570	96	491	587	99	506	605	102	521	623
Tires (Retread)	0	35	35	0	0	0	0	0	0	0	0	0	0	0	0
Tire-to-Cement Kilns	0	43	43	0	8	8	0	8	8	0	8	8	0	9	9
Total:	17,978	33,561	51,538	16,587	51,250	67,838	17,085	52,788	69,872	17,597	54,371	71,968	18,125	56,002	74,127

Table 3-3: Recovered Materials

	2014			2015			2016			2017			2018		
	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)
Comingled Containers	0	96	96	0	99	99	0	101	101	0	105	105	0	108	108
Metal															
Aluminum Cans	0	110	110	0	114	114	0	117	117	0	121	121	0	124	124
Front End Scrap	1,121	0	1,121	1,155	0	1,155	1,189	0	1,189	1,225	0	1,225	1,262	0	1,262
White Goods	0	16,580	16,580	0	17,077	17,077	0	17,590	17,590	0	18,117	18,117	0	18,661	18,661
Lead Acid Batteries	20	2,066	2,087	21	2,128	2,149	21	2,192	2,214	22	2,258	2,280	23	2,326	2,349
Mixed Cans	275	517	791	283	532	815	291	548	839	300	565	865	309	581	891
Other (Oil Filters)	0	53	53	0	54	54	0	56	56	0	58	58	0	60	60
Other (Litho Plates)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper															
Newspaper	0	83	83	0	86	86	0	88	88	0	91	91	0	94	94
Corrugated Cardboard	0	6,570	6,570	0	6,767	6,767	0	6,970	6,970	0	7,179	7,179	0	7,394	7,394
Office / Computer	0	474	474	0	488	488	0	503	503	0	518	518	0	533	533
Magazines	0	99	99	0	102	102	0	105	105	0	108	108	0	111	111
Mixed Paper	3,033	6,411	9,444	3,124	6,603	9,727	3,218	6,801	10,019	3,315	7,005	10,320	3,414	7,216	10,629
Other Paper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Compost / Mulch															
Mixed Yard Waste	12,486	0	12,486	12,861	0	12,861	13,247	0	13,247	13,644	0	13,644	14,054	0	14,054
Wood Shavings	0	9,229	9,229	0	9,506	9,506	0	9,791	9,791	0	10,085	10,085	0	10,388	10,388
Other (Bark)	0	9,531	9,531	0	9,817	9,817	0	10,111	10,111	0	10,415	10,415	0	10,727	10,727
Other (Sawdust)	0	1,351	1,351	0	1,391	1,391	0	1,433	1,433	0	1,476	1,476	0	1,520	1,520
Plastic															
Mixed Plastic	565	1,171	1,736	582	1,206	1,788	599	1,242	1,841	617	1,279	1,896	636	1,317	1,953
LDPE	0	3	3	0	3	3	0	4	4	0	4	4	0	4	4
Film Plastic	0	23	23	0	23	23	0	24	24	0	25	25	0	25	25
Shrink Wrap	0	37	37	0	38	38	0	39	39	0	41	41	0	42	42
Other Plastic	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1
Glass															
Mixed Glass	746	1,402	2,149	769	1,444	2,213	792	1,488	2,279	815	1,532	2,348	840	1,578	2,418
Fluorescent Bulbs	0	2	2	0	2	2	0	2	2	0	2	2	0	3	3
Other															
Animal Protein / Fat (Solid)	0	225	225	0	232	232	0	239	239	0	246	246	0	253	253
Electronics	260	90	350	268	93	361	276	96	371	284	98	382	293	101	394
Toner Cartridges	0	68	68	0	70	70	0	72	72	0	74	74	0	76	76
Pallets	0	563	563	0	580	580	0	597	597	0	615	615	0	633	633
Textiles / Cloth	57	383	440	59	394	453	61	406	467	63	418	481	65	431	495
Tires (Recycled)	105	537	642	108	553	661	111	570	681	114	587	701	118	604	722
Tires (Retread)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tire-to-Cement Kilns	0	9	9	0	9	9	0	10	10	0	10	10	0	10	10
Total:	18,669	57,682	76,351	19,229	59,413	78,642	19,806	61,195	81,001	20,400	63,031	83,431	21,012	64,922	85,934

Table 3-3: Recovered Materials

	2019			2020			2021		
	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)	Residential (Tons)	Commercial (Tons)	Total (Tons)
Comingled Containers	0	111	111	0	114	114	0	118	118
Metal									
Aluminum Cans	0	128	128	0	132	132	0	136	136
Front End Scrap	1,300	0	1,300	1,339	0	1,339	1,379	0	1,379
White Goods	0	19,221	19,221	0	19,797	19,797	0	20,391	20,391
Lead Acid Batteries	23	2,396	2,419	24	2,467	2,492	25	2,541	2,566
Mixed Cans	318	599	917	328	617	945	338	635	973
Other (Oil Filters)	0	61	61	0	63	63	0	65	65
Other (Litho Plates)	0	0	0	0	0	0	0	0	0
Paper									
Newspaper	0	97	97	0	99	99	0	102	102
Corrugated Cardboard	0	7,616	7,616	0	7,844	7,844	0	8,080	8,080
Office / Computer	0	549	549	0	566	566	0	583	583
Magazines	0	115	115	0	118	118	0	122	122
Mixed Paper	3,516	7,432	10,948	3,622	7,655	11,277	3,731	7,885	11,615
Other Paper	0	0	0	0	0	0	0	0	0
Compost / Mulch									
Mixed Yard Waste	14,475	0	14,475	14,909	0	14,909	15,357	0	15,357
Wood Shavings	0	1,0699	10,699	0	11,020	11,020	0	11,351	11,351
Other (Bark)	0	11,049	11,049	0	11,380	11,380	0	11,722	11,722
Other (Sawdust)	0	1,566	1,566	0	1,613	1,613	0	1,661	1,661
Plastic									
Mixed Plastic	655	1,357	2,012	675	1,398	2,072	695	1,440	2,134
LDPE	0	4	4	0	4	4	0	4	4
Film Plastic	0	26	26	0	27	27	0	28	28
Shrink Wrap	0	43	43	0	44	44	0	46	46
Other Plastic	0	1	1	0	1	1	0	1	1
Glass									
Mixed Glass	865	1,626	2,491	891	1,675	2,566	918	1,725	2,643
Fluorescent Bulbs	0	3	3	0	3	3	0	3	3
Other									
Animal Protein / Fat (Solid)	0	261	261	0	269	269	0	277	277
Electronics	301	104	406	310	108	418	320	111	430
Toner Cartridges	0	78	78	0	81	81	0	83	83
Pallets	0	652	652	0	672	672	0	692	692
Textiles / Cloth	67	444	510	69	457	525	71	471	541
Tires (Recycled)	121	622	744	125	641	766	129	660	789
Tires (Retread)	0	0	0	0	0	0	0	0	0
Tire-to-Cement Kilns	0	10	10	0	11	11	0	11	11
Total:	21,642	66,870	88,512	22,292	68,876	91,167	22,960	70,942	93,902

TABLE 3-4
ESTIMATED WASTE GENERATION IN CHARLES COUNTY
2009 - 2021

Waste Category	Annual Generation (Tons)												
	2009 (Actual)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Residential	33,621	34,630	35,669	36,739	37,841	38,976	40,145	41,350	42,590	43,868	45,184	46,539	47,936
Commercial	16,272	16,760	17,263	17,781	18,314	18,864	19,430	20,013	20,613	21,231	21,868	22,524	23,200
Industrial (solids, liquid, etc.)	90	93	95	98	101	104	107	111	114	117	121	125	128
Institutional (schools, hospitals etc.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition Debris (rubble)	28,199	29,045	29,916	30,814	31,738	32,690	33,671	34,681	35,722	36,793	37,897	39,034	40,205
Land Clearing	0	0	0	0	0	0	0	0	0	0	0	0	0
Controlled Hazardous Substance (CHS)	0	0	0	0	0	0	0	0	0	0	0	0	0
Dead Animals	0	0	0	0	0	0	0	0	0	0	0	0	0
Bulky or Special Waste	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Tires	0	0	0	0	0	0	0	0	0	0	0	0	0
Wastewater Treatment Plant Sludges	0	0	0	0	0	0	0	0	0	0	0	0	0
Septage	0	0	0	0	0	0	0	0	0	0	0	0	0
Soil	1,057	1,089	1,121	1,155	1,190	1,225	1,262	1,300	1,339	1,379	1,421	1,463	1,507
Special Medical Waste	137	141	145	150	154	159	164	168	174	179	184	190	195
Additional Waste Reported by Charles County	6,090	6,273	6,461	6,655	6,854	7,060	7,272	7,490	7,715	7,946	8,184	8,430	8,683
Total Waste Disposed	85,467	88,031	90,672	93,392	96,194	99,080	102,052	105,114	108,267	111,515	114,861	118,306	121,856
Total Recyclables Recovered	206,086	212,269	218,637	225,196	231,952	238,910	246,077	253,460	261,064	268,895	276,962	285,271	293,829
Total Waste Generation	291,553	300,300	309,309	318,588	328,145	337,990	348,130	358,573	369,331	380,411	391,823	403,578	415,685

3.6 WASTE PROJECTIONS

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

- Residential
- Non-Hazardous Industrial
- Rubble
- Dead Animals
- Tires
- Septage
- Commercial
- Institutional
- Controlled Hazardous Substances
- Bulky wastes
- Wastewater Treatment Plant Sludge
- Other waste (which may be generated in significant quantities.)

Waste generation within Charles County during the period 2009 through 2021 is presented in Table 3-4 and discussed in the following paragraphs. Descriptions of each waste category and the methodology used to estimate quantities are presented in subsequent sections.

3.6.1 Residential Waste

Residential waste includes wastes generated by households in Charles County, except for dead animals, bulky wastes, and tires which are described in subsequent sections. Residential waste is either collected by commercial (private) haulers, municipal haulers, or brought to the landfill by individual residents. The projected generation of residential solid waste within the County is based on the residential waste delivered to the landfill plus the amount of residential recyclables recovered. Historic records were used to develop a baseline residential waste generation for the county as described in Section 3.5. The average daily residential waste generation for Charles County is 2.52 pounds per person.

3.6.2 Commercial/Industrial Waste

Commercial and non-hazardous industrial waste delivered to the landfill are not recorded separately, but are reported under a single category, as commercial waste. For the purpose of this Plan, commercial waste is defined as waste generated by private businesses and non-hazardous waste generated by industry. Commercial waste quantities discussed in this section do not include rubble, dead animals, bulky waste, tires, or sludge. Commercial waste is generally collected by commercial (private) or municipal haulers and then taken to the landfill. The projected generation of commercial waste within the County is based on the commercial/industrial waste delivered to the landfill plus the amount of commercial recyclables recovered.

Baseline data for the commercial/industrial waste generation in Charles County was presented in Section 3.5. The average daily commercial/industrial waste generation in Charles County is estimated to be 2.99 pounds per employee.

3.6.3 Institutional Waste

Institutional waste includes wastes generated by federal, state, and county government facilities including the military, schools, hospitals, county maintenance, and state highway department, except for dead animals, bulky wastes, tires, or sludge which are described in subsequent sections. Institutional waste is either collected by commercial (private) haulers or by municipal haulers and then taken to the landfill. Institutional waste is collected by commercial, municipal, and non-commercial waste haulers.

As discussed in Section 3.5, the quantity and type of institutional waste is not available through the Charles County Sanitary Landfill records due to commingling of materials with commercial/industrial waste. Haulers collect waste from institutional establishments within the same trip or route to collect commercial/industrial wastes. Therefore, the quantity and type of wastes generated at these establishments is immeasurable at the landfill. Institutional waste is combined with commercial/industrial wastes for statistics of quantity and type of waste generated.

Higher institutional recycling participation can be attributed to new recycling programs instituted in public schools, County and State government buildings, as well as mandated recycling rates for state agencies. Recovered institutional waste for recycling is also collected by commercial or municipal haulers making actual recycling tonnage not possible.

3.6.4 Rubble Waste

For the purpose of this plan, rubble includes land-clearing debris, construction debris, and demolition debris. Specific examples of waste permitted to be disposed of in a rubble landfill according to *COMAR* 26.04.07.13.B include trees, brush, rock, earthen materials, concrete, bricks, asphalt, wood, structural steel, plaster, insulation, roofing shingles and felt, household appliances, paper, and asbestos.

Reported rubble generation rates are highly variable, and are likely influenced by a variety of factors including home construction, business development, employment, reuse and recycling, disposal costs, available disposal space, proximity of generation point to the disposal facility, practices of illegal dumping, the importation of rubble waste generated outside the county for disposal, and exportation of rubble wastes generated within the county for disposal elsewhere. Verifiable historical data on the rubble waste generated within Charles County is not available. As of December 1999, the amount of rubble generated in the County remains unknown since Charles County still prohibits large commercial loads from the landfill.

3.6.5 Controlled Hazardous Substances Including Medical Waste

The term controlled hazardous substance (CHS) is used interchangeably with the term hazardous waste in Maryland regulations. Section 26.13.02.03 of *COMAR* provides a specific definition of hazardous waste, as any substance:

- That produces toxic, lethal or other injurious effects;
- That causes sub-lethal alterations to plant, animal or aquatic life;
- That may be injurious to human beings; and
- That is identified as a hazardous substance by EPA.

A Special Medical Waste (SMW) is classified as a CHS by the Maryland Department of the Environment (MDE), and is defined in Section 26.13.11.02.B(10) of *COMAR* as a solid waste that is composed of anatomical material, blood, blood-soiled articles, contaminated material, microbiological laboratory wastes, or sharps (e.g., syringes, needles, surgical instruments, etc.) and otherwise not excluded under Section 26.13.11.03 of *COMAR*. SMW is typically generated by hospitals and clinics, nursing facilities, doctor and dentist offices, and veterinary clinics. SMWs do not include household wastes, ash from authorized medical waste incinerators, and wastes from animals not suspected of carrying diseases infectious to humans.

CHS is not permitted to be disposed of in a municipal landfill, but must be handled, stored, collected, transported, processed, and/or disposed of in a specific manner that meets stringent state and federal regulations and guidelines. The MDE tracks the generation of CHS in Charles County and maintains a database using travel manifests for CHS. The database includes a listing of CHS generators and corresponding types and volumes of CHS reported. The MDE database for Charles County is provided in Appendix D.

CHS waste generation in the County is calculated as the total of the waste reported in the MDE travel manifests. The total CHS waste generated in Charles County is estimated to be 3,527 tons per year or an average of 0.16 pounds per person per day (based on the estimated January 1, 2008 population of 148,500).

It should be noted that from a regulatory perspective, household hazardous wastes (HHW) are not the same as CHS. HHW are wastes classified as hazardous wastes that are generated in small quantities by residential users, whereas CHS are produced in larger quantities by businesses, industry and institutions. Examples of HHW are paints; prescriptive drugs, fluorescent light bulbs, organic solvents such as paint thinner, gasoline, and lighter fluid; household cleaners; lead acid batteries; and pesticides. It is permissible, under current state and federal regulations, to dispose of many HHWs in a municipal landfill. While these wastes can be disposed of legally in a municipal landfill, it is encouraged to bring these materials to the monthly HHW acceptance day at the landfill. HHW can be properly stored until the next county HHW collection day. HHW collected during these events is handled and disposed of in a similar fashion as CHS.

3.6.6 Dead Animals

Dead animals generated within Charles County include unwanted and dying animals euthanatized at the Tri-County Animal Shelter and by local veterinarians, animals killed by vehicles along county roadways, and farm animals that die or are euthanized. The Tri-County Animal Shelter reported that approximately 40 tons of dead cats, dogs and other small animals were handled in 2010 at the shelter. This facility accepts animals from residents, animal clinics, veterinarians, and the highway department. Animals are cremated on-site at the shelter.

3.6.7 Bulky Wastes

Bulky wastes are primarily metal wastes contained in large items such as major appliances (i.e., white goods) and other scrap metals. In Charles County, bulky wastes are processed and recycled by commercial scrap metal dealers. White goods and other appliances are collected and processed for recycling by county personnel, commercial scrap metal dealers, and appliance dealers. Prior to disposal of white goods, refrigerant gases are vented and collected. White goods delivered to the landfill by residents and private haulers are segregated, compacted, and stored for pick-up by a local scrap-metal dealer.

Traditionally, the scrap metal industry has provided adequate recycling opportunities and economic incentives to recycle the majority of scrap metal and old automobiles. Accurate records on the amount of scrap metal and old automobiles generated and recycled in Charles County is not currently available. Applying historical records of accepted materials at the County Landfill to the population of 141,981 people in 2009, the per capita generation rate is estimated 0.04 pounds of white goods per day per person.

3.6.8 Scrap Tires

The majority of scrap tires generated in the County are taken to a recycling or storage facility directly from the retailers who change tires. Currently, the Charles County Sanitary Landfill prohibits the disposal of scrap tires at the facility; however, a scrap tire collection location is provided at the landfill. Scrap tires collected at the landfill are recycled. A statewide “tire recycling fee” of \$0.80 per new tire sold in Maryland was established in 2005. This fee is assessed to fund the clean up and recycling of used tires. Any tire disposal fee that is assessed by commercial tire facilities or at the county landfill is a local charge and not a state fee.

EPA documentation recommends a generation rate of two free scrap tires per visit for Charles County residents. This generation rate is used to project the generation of scrap tires in Charles County. Charles County handled 356 tons in 2009 through its recycling centers.

3.6.9 Sludge

3.6.9.1 Wastewater Treatment Plant Sludge

As previously stated in Section 1.5.3.3, Charles County Resolution No. 92-75 bans the disposal of sludge in the landfill, except in emergency situations. In the event of an emergency situation, sludge may be disposed in the Charles County landfill for the established tipping fee. Generally, sludge is used as a soil conditioner and land-applied to permitted agricultural or reclaimed gravel mine sites throughout Charles County.

As of July 2011, there are 30 agricultural sites permitted for land application on approximately 3,000 acres of land. In addition, there are 5 reclaimed gravel mine sites permitted to utilize sludge.

Charles County currently receives sewage sludge for land application from the following Maryland Department of the Environment approved treatment plants:

- Parkway
- Little Patuxent
- Back River
- Broadwater
- York
- Alexandria
- Patuxent
- Patapsco
- Hanover
- Herrington Harbor
- Maryland City
- Annapolis
- Broadneck
- Penn Township
- Mattawoman
- Cox Creek
- Seneca
- Fredrick
- Naval Academy
- Damascus
- Piscataway
- Blue Plains

The County reviews all transportation sludge permit applications. These applications are reviewed for compliance with County policies, as well as other rules and regulations. Applications are approved with conditions, or denied by the County Commissioners.

3.6.9.2 Water Treatment Sediments

Water treatment systems that use surface water as their source (e.g., streams, rivers, reservoirs) produce sediments or sludge as a waste by-product of the treatment process. There are no water treatment systems currently operating in Charles County and no water treatment sediment is imported into the County for land disposal.

3.6.10 Septage

Septage is the material removed from chemical toilets, septic tanks, seepage pits, privies, or cesspools. Since 1992, MDE regulations require that septage be treated as raw sewage at a permitted wastewater treatment plant. The disposal of raw septage directly on land surfaces is illegal in Maryland. In Charles County, septage is accepted for treatment at the Mattawoman WWTP.

Records from the Mattawoman WWTP indicated that a total of 11,949 tons of septage was delivered to the waste water treatment facility by scavengers (septage haulers) during Fiscal Year 2011. Based on the 2010 US Census Bureau, the population for Charles County, Maryland is 146,551. The average daily generation of septage is 0.08 pounds per person.

3.6.11 Asbestos

Prior to 1970, asbestos was frequently used as insulation for boilers, heating systems, and piping in buildings and as structural material in floor and ceiling tile and exterior siding. The discovery that asbestos is carcinogenic when inhaled prompted the EPA and MDE to require its removal from certain structures (e.g., schools) and to regulate its handling and disposal. Thus, asbestos waste is generated from the demolition and rehabilitation of structures containing asbestos materials. Municipal and rubble landfills can accept asbestos waste provided that it is allowed by the MDE refuse disposal permit and specific handling procedures are followed to prevent fibers from becoming airborne. At present, it is the County's policy not to accept asbestos at the Charles County Sanitary Landfill; therefore, no county records exist on asbestos disposal. Asbestos is not classified as a controlled hazardous substance; therefore, no tracking records are available for asbestos waste generated within the County.

There is no substantial demand or requests for asbestos disposal from Charles County residents and agencies. The absence of significant quantities of asbestos is largely due to the development history of the County. In 1950, the population was approximately 23,415 which grew to approximately 47,683 in 1970 and to 101,154 in 1990. Therefore, the vast majority of development and construction occurred after 1970 when asbestos was no longer used as a building material. In addition, asbestos has already been removed from the facilities operated by the Charles County Board of Education and the Charles County Government. There has been no asbestos accepted at the Charles County Landfill during the past ten years, and there is projected to be very little in the pending 10 years covered in the Solid Waste plan.

3.6.12 County Maintenance Debris

County operations generate small quantities of debris from cleaning streets, litter, and catch basins. The quantities of debris generated from Charles County maintenance operations are accounted for in the institutional (commercial/industrial) portion of the waste stream projections.

3.6.13 Agricultural Waste

Agricultural wastes include organic residues from crop production, livestock manure, and used containers from pesticides and herbicides. Generally, agricultural wastes are reused on the farm. For example, manure is used as fertilizer and organic debris is plowed into the land. Although not identified as such, small quantities of agricultural waste entering the Charles County Sanitary Landfill are accounted for as commercial waste. Because most of these wastes are recycled on-site, agricultural wastes are not a significant solid waste management issue within the County.

3.6.14 Recreational Waste

Waste from parks and other recreational facilities including solid waste and septage are accounted for as institutional or septage waste.

3.6.15 Mining Waste

Several sand, gravel, and clay surface mines are operated in Charles County. The primary solid waste associated with quarrying operations is overburden (soil) which is usually stockpiled on-site or sold as clean fill to the construction industry. Although quantities of this material are significant, it does not currently pose a solid waste management problem in the County.

3.6.16 Used Oil and Antifreeze

Many industries and businesses collect their used oil and antifreeze for recycling or reuse. However, the “do-it-yourselfers” are estimated to handle approximately 60 percent of waste oil in Maryland. Waste oil and antifreeze are collected for recycling by the Maryland Environmental Service (MES) and commercial establishments such as garages and service stations. Maryland Environmental Service provides a waste oil and antifreeze collection service in Charles County. There are numerous garages, service stations, and retailers which collect waste oil and antifreeze for recycling. Charles County also offers several oil and antifreeze recycling locations as listed in Table 3-5.

A total of 1,730 tons of waste oil was collected in Charles County during 2009. The antifreeze collection program has collected 62 tons during the same time period. MES reports that approximately 4 to 6 million gallons of waste oil are generated annually in Maryland.

As mentioned above, Charles County citizens recycled 1,730 tons of used motor oil and 62 tons of antifreeze in 2009.

3.7 IMPORTED WASTES

Currently, WWTP sludge is the only waste imported to Charles County for disposal or processing. The quantity of WWTP sludge imported into the County as well as the procedures

for ensuring that imported waste is not disposed in the Charles County Sanitary Landfill are discussed in the following sections.

3.7.1 Wastewater Sludge

Approximately 1,500 dry tons of municipal wastewater sludge from the Blue Plains WWTP and Anne Arundel County was transported into the County in 2006 for land application at permitted farms and marginal mine sites throughout the County as discussed in Section 3.6.9.1. For 2007 and 2008 the quantity of sludge hauled into the County was trending downward as the contractors moved sludge to other counties and out of state.

Charles County has received sewage sludge from ten MDE approved WWTPs (Section 3.6.9.1). Permits for the transportation of sewage sludge within Charles County are issued by the Charles County Commissioners.

3.7.2 Municipal Waste

As outlined in Section 3.3.1, the ultimate disposal of solid waste is market driven as opposed to local regulatory laws. The County still has in effect its regulation that prohibits the importation of solid waste into its landfill. Although not disposed of in the Charles County landfill, it is interesting to note that several times more waste travels through Charles County each day on U.S. Route 301 than is generated within the County. This waste is destined for one of several large landfills in Virginia and is hauled in large tractor trailers. The waste is hauled in a large transfer trailers which look very similar to cargo trailers so that the average individual has no idea of its contents.

St. Mary's County has been exporting their waste into the Charles County Landfill. Since August of 2009, St. Mary's County has exported about 36,421 tons per year.

3.8 EXPORTED WASTES

Neighboring counties in Maryland have municipal waste importation policies similar to Charles County, and may have higher tipping fees; therefore, it is believed that no significant amounts of municipal waste generated in the County are sent to other Maryland jurisdictions. As previously discussed, recyclables, rubble, controlled hazardous substances, dead animals, and asbestos are exported out-of-county for processing and disposal. However, as discussed Section 3.3.1, almost 50% of waste generated in Charles County is landfilled in Virginia by means of transfer stations in Calvert County and the District of Columbia.

3.8.1 Recyclables

As discussed in Section 3.4, 51,537 tons of recyclables were reported during the period of January 1, 2009 through December 31, 2009. These recyclables were transported out-of-county for processing.

TABLE 3-5
CHARLES COUNTY CONVENIENCE (RECYCLING) CENTERS

Location	Hours	Household Hazardous Waste	Compact Fluorescent Light bulbs	Batteries	Newspaper & Magazines	Tag-a-Bag	Aluminum Cans	Tin Can	Plastics	Glass	Oil & Antifreeze	Scrap Metal	Yard Waste	Electronics	Textiles	Cardboard
County Landfill (Billingsley Road)	Mon - Sat 7am-7pm			X	X	X	X	X	X	X	X	X	X	X	X	X
Pisgah Park (Masons Springs Road)	Mon - Sat 7am-7pm			X	X	X	X	X	X	X	X	X	X	X	X	X
Gilbert Run Park	Wed 11am - 7pm & Sat 8am - 4pm			X	X	X	X	X	X	X	X	X	X	X	X	X
Cobb Island / Breeze Farm	Wed 11am - 7pm & Sat 8am - 4pm			X	X	X	X	X	X	X	X	X	X	X	X	X
Department of Public Works 10430 Audie Lane	First Saturday of Every Month April - December	X	X													
Benedict Recycling Center	24 - Hours										X					
Pinefield	24 - Hours										X					
Ruth B. Swann Park	24 - Hours										X					
Charles County Department of Public Works	24 - Hours										X					

* Electronic Recycling - Vendor: Creative Recycling Systems, Inc. (CRS), 230 tons diverted from landfill

3.8.2 Rubble

A significant amount of the rubble generated in the northern part of the County is disposed at out-of-county rubble landfills. Landfill personnel estimated that approximately 20,000 tons of waste that arrive at the landfill would be acceptable at a C & D landfill, even though it is not truly rubble. Based on the generation rate of similar counties, approximately 63,637 tons of rubble is estimated to be generated within Charles County annually (Section 3.6.4). This suggests that approximately 67 percent (42,637 tons) of rubble generated within Charles County is transported out-of-county for disposal. This estimate should be interpreted cautiously since there are no reliable records on rubble generation in the County.

Within recent years, Chaney Enterprises in Waldorf, a company that mines and sells aggregates currently processes old concrete into a recycled aggregate. Their processing figures are unknown.

3.8.3 Controlled Hazardous Substances

Controlled hazardous substances generated within the County are exported out-of-county for processing or disposal, as previously discussed in Section 3.6.5. As shown in Table 3-5, an estimated 3,847 tons of controlled hazardous substances were generated in 1999 and subsequently exported out-of-county for processing. Based on the 1999 population of 120,800, the CHS generation rate was 0.17 pounds per person each day.

3.8.4 Dead Animals

Approximately 40 tons of dead animals were removed from the Tri-County Animal Shelter and transported to a renderer outside the County (Section 3.6.6) during 2009.

3.8.5 Scrap Tires

Charles County handled approximately 149 tons of scrap tires through its tire recycling program in 2009. These tires were collected and transported out-of-county for recycling.

3.8.6 Asbestos

Charles County did not accept any measurable amount of asbestos containing material during the 2009 calendar year at the Landfill. The Charles County Sanitary Landfill only accepts asbestos materials from government facilities within the County. Asbestos materials within government buildings are believed to be removed and no materials are expected in the future.

3.8.7 Household Hazardous Waste

The County conducts a household hazardous waste collection program the first Saturday of every month at a County satellite office, located on 10430 Audie Lane, except for January, February and March. This service is provided by a private contractor (as of 2009, the contractor is HazTrain) with an annual budget of \$65,000 for the year 2009. It is estimated that this waste accounts for 60,000 pounds of material annually.

The county accepts these materials as part of Household Hazardous Waste:

- Dried Latex Paint
- Pesticide/Herbicide/Fertilizer
- Oil Based Paints
- Prescription Drugs
- Other Household Chemicals
- Household Cleaners
- Gasoline
- Pool Chemicals
- Fluorescent/Compact Fluorescent Lights

3.8.7.1 Fluorescent and Compact Fluorescent Light bulbs (CFL)

The County accepts CFL bulbs for recycling in conjunction with our household hazardous waste collection program as described in section 3.8.7. The service is free to County residents. Under § 9-1703(b)(11) of the Environment Article, Annotated Code of Maryland, the counties and Baltimore City are required to address by October 1, 2011 the strategy for the collection and recycling of fluorescent and compact fluorescent lights that contain mercury.

Collection of Fluorescent/Compact Fluorescent Light bulbs (CFL) has been emphasized to reduce the amount of mercury poisoning into the environment. Along with the above collection dates, some hardware retailers accept CFL bulbs for recycling free of charge to the consumer.

3.9 COLLECTION SYSTEMS

The existing collection system for solid waste and recyclables in Charles County includes privately owned collection companies, municipal collection, self-hauling, and facilities handled by the county roll-offs. These systems are described in the following sections.

3.9.1 Solid Waste Collection

Residential, commercial, industrial, and institutional waste generated in Charles County is collected and hauled to the Charles County Sanitary Landfill for disposal. The majority of waste generated within the unincorporated areas of the County and Port Tobacco is collected by privately owned companies contracted for collection services by individuals. The incorporated Towns of Indian Head and La Plata provide municipal collection services for waste generated within these areas. Charles County provides a roll-off system for several county facilities and projects. The option for individuals to self-haul waste to the landfill is also available for any

resident of Charles County. Four recycling centers for recyclables exist through the County, as well as several locations where residents can purchase tickets for the "Tag-A-Bag" program.

3.9.1.1 Free Enterprise

Most residential, commercial, and industrial waste generated in Charles County is collected and delivered to the Charles County Sanitary Landfill by privately owned companies. This free enterprise system allows individuals, residents, landlords, businesses, industries, and institutions to contract with the private company of their choice to provide waste collection services.

The frequency of collection, frequency of billing, and cost for the collection service varies depending on the company. Payment for collection service is provided directly from the individual contracting for the service to the collection company.

The 2011 Charles County Sanitary Landfill records indicate that the following private collection companies (22) collect waste from the unincorporated areas of the County and Port Tobacco.

- 1-800 Got Junk
- Affordable Refuse
- Amber's Disposal
- Atlantic Waste
- Bay Area Disposal
- Calvert Trash Systems
- Goode Companies
- Knott Just Trash Industries
- Nutwell Rolloff
- S&F Refuse
- Waste Management
- AA Reliable Trash Service
- Allied Waste / BFI
- AR Ridner
- Bartlett Company
- Burch Trash Service
- Evergreen Disposal
- Junk Be Gone
- LSI / Lawrence Street
- Newburg Trash Service
- Refuse Rescues
- T&S Trash

3.9.1.2 Municipal Programs

Solid waste generated within the incorporated Towns of Indian Head and La Plata is collected by services provided by the respective municipalities.

The Town of Indian Head provides semi-weekly curbside collection for residents (1,400 households) and either curbside or dumpster service to commercial establishments. The Town of Indian Head also provides a special bulky waste collection service in the spring and fall. Residents and businesses are billed monthly for solid waste collection services.

The Town of La Plata provides weekly curbside collection services to about 3,000 households and commercial establishments. In the fall and summer, the Town of La Plata also provides special collection for yard waste which is taken to the County's composting facility. Residents are billed monthly for solid waste collection services. Commercial and institutional customers may use the Town or private company.

3.9.1.3 Self Hauling

Individuals in Charles County have the option to haul their own waste to the Charles County Landfill or the three recycling centers that have trash compactors (Breeze Farm, Gilbert Run or Pisgah Recycling Center). Self-hauling is the primary method to dispose of large bulky items such as furniture or appliances since municipal and private collection services do not provide for bulk pick-up on a regular basis. Residents take their waste to the residential convenience center located near the entrance of the landfill. This waste is collected in roll-off boxes and taken to the working face of the landfill by County personnel for disposal.

Currently self-haulers are assessed a fee of \$1.75 per bag or container of refuse, no larger than 32 gallons. Refuse not in bags or containers are subject to the tipping fee rate (currently \$70 per ton).

3.9.1.4 County Roll-Off System

Charles County provides roll-off containers for several county facilities and projects. Waste deposited in these containers is collected by Charles County personnel. Currently, the County is providing roll-off containers for the White Plains Golf Course, Department of Public Works Maintenance Facility, Mattawoman WWTP, Charles County Detention Center, public facility maintenance projects, county construction projects, and community clean-ups.

3.9.1.5 Tag-A-Bag Program

The recycling centers at Gilbert Run Park, Pisgah, Breeze Farm, and the Landfill provide means for residents to dispose of their solid waste. Residents are assessed a fee of \$1.75 per bag or container of refuse, no larger than 32 gallons.

3.9.2 Recyclables Collection

Recyclables source-separated from the Charles County waste stream are collected by privately owned companies, municipal services, and by residents taking their recyclables to recycling centers. Curbside collection of residential recyclables from the unincorporated areas of the County is provided through a county contract with private collection companies. Recycling centers located throughout the County are used by county residents living in areas not served by curbside collection.

Curbside collection of residential recyclables is provided in the Towns of Indian Head and La Plata by the use of a private company. Commercial, industrial, and institutional recyclables are mostly collected through private subscription. The recyclables collection program employed by the County is described in the following sections.

3.9.2.1 Residential Curbside Collection – Unincorporated Areas

The County contracts with privately owned collection companies to provide curbside collection of recyclables and yard waste in unincorporated areas of the County. Curbside collection is available to approximately 38,370 households within an area generally north of the La Plata area in the Development District. Due to the number of ever-growing homes within the County, annual Route Audits are conducted to identify new growth and determine the expansion of the program.

Each household within the collection area is given a 95 gallon recycling cart to collect their recyclables and to place at the curb for biweekly collection. Recyclables collected include metal containers, plastic bottles and containers, glass bottles and jars, paper, and cardboard. The collection company collects the recyclables single stream and delivers it to a MRF located in Capital Heights, Maryland. Records of all materials processed at the facility is provided to the County and is incorporated in the annual MRA report. Yard Waste consisting of grass, leaves, and small branches is also collected on a weekly basis nine months a year. Collection services for recyclables and yard waste in the unincorporated area of the County are paid through an environmental service fee.

The residential recycling program in unincorporated areas had an average participation rate of 30-50 percent from 2003 to present. Curbside-recycling tonnage has doubled as a result of conversion to larger 95-gallon collection containers in 2013. The County's Maryland Recycling Act (MRA) recycling rate exceeds the mandated State recycling goal of 35 percent for a county with a population of more than 150,000. The MRA calculation for Charles County can be found in Appendix D.

3.9.2.2 Residential Curbside Collection - Incorporated Areas

The Town of Indian Head provides approximately 1,400 households with curbside collection of recyclables. The recyclables collected include metal containers, plastic bottles and containers, glass bottles and jars, paper, and cardboard. The residents of Indian Head place commingled materials in their recycling bin once a week for collection. A contracted hauler collects the recyclables and delivers them to a MRF located in Capital Heights, Maryland. Recyclable collection in Indian Head is paid for by the individual as part of solid waste collection services.

The Town of La Plata provides curbside collection of recyclables to approximately 3,000 households. Collected recyclables includes metal containers, plastic bottles and containers, glass bottles and jars, paper, and cardboard. Residents place the commingled recyclables in their recycling bin for weekly curbside collection. Residential curbside collection in La Plata is also paid by the individual as part of the monthly bill for waste collection services.

The Town of La Plata and Indian Head staff collect yard-waste and delivers the material to the Charles County Landfill on a year round basis.

3.9.2.3 Recycling Centers

Charles County provides four (4) permanent recycling centers with a range of materials accepted at each, and a composting facility at the County Landfill. Table 3-5 identifies these recycling centers, their locations, hours of operation, and materials accepted. Figure 3-1 shows the locations of the various acceptance facilities throughout the County.

3.10 RECYCLING PROGRAMS

A combination of public and private programs serve the two main sectors of potential recyclers: residents and commercial businesses (commercial, industry, and institutions). Recycling programs for each of these sectors are described in the following sections.

3.10.1 Residential Programs

Residential recycling programs are provided by Charles County in the form of curbside collection or recycling centers. The curbside collection program provided for the unincorporated areas of the County is described in Section 3.9.2.1; curbside programs for the Towns of Indian Head and La Plata are presented in Section 3.9.2.2. The County operates a number of recycling centers which accept recyclable materials from county residents. These recycling centers are identified and detailed in Table 3-5.

Other residential recycling opportunities for Charles County residents include the following:

- Christmas Tree collection sites
- Scrap metal such as old appliances and bicycles may be taken to the Charles County Landfill Recycling Center, Pisgah Recycling Center, Gilbert Run Recycling Center or the Breeze Farm Recycling Center.
- Lead-acid batteries may be taken to any of the above mentioned facilities or Waldorf Metal, Inc. in Bryantown, Maryland. Batteries may also be taken to auto parts retail stores for recycling.
- Used motor oil may be taken to one of the four recycling centers or four used motor oil recycling drop-off locations.
- Plastic grocery bags may be returned to grocery stores and select retail stores.
- Electronics which include: computers, monitors, peripherals, televisions, telephones, cellular phones & PDA's, printers, copiers, stereos, VCR & DVD players, camcorders,

CD players, fax machines, projection equipment, calculators, scanners, electronic typewriters, consumer electronics, electronic toys, and microwaves. Accepted items also include “covered electronic items,” which are defined by MDE as "a computer or video display device with a screen that is greater than 4 inches measured diagonally."

Textiles consisting of clothings, linens, and leather goods are collected at four recycling centers by Mid-Atlantic Clothing Recyclers (MAC) who make annual donations to the Drug Abuse Resistance Education (D.A.R.E.) Program in the amount of \$100 per collection container utilized. In 2009, a total of six textile containers were in use at recycling centers. All collected materials are sorted and reused and/or recycled.

3.10.2 Commercial, Industrial, and Institutional Programs

Numerous commercial, industrial, and institutional establishments are collecting recyclables such as office paper, corrugated cardboard, aluminum cans, glass, plastics, newspapers, oil, and antifreeze for recycling. Most businesses contract for collection and/or marketing of their recyclables. Some larger organizations, such as grocery store chains, department stores and paper companies, generate quantities of recyclables that make it practical to provide their own collection and marketing.

Recycling programs are in operation at several local institutions including the Naval Surface Weapons Center, Civista Hospital, County Board of Education (including all Public Schools), and county and state offices. The recyclables recovered by commercial, industrial, and institutional sources are transported outside the County for processing.

3.10.2.1 Charles County Public Schools Recycling Program

In July 2009, the Maryland General Assembly passed House Bill 1290, Environmental-Recycling – Public School Plans requiring recycling in all publicly-funded schools with the exception of State Universities. The law became effective on July 1, 2009 (amending 9-1703 of Environment Article, Annotated Code of Maryland). This bill requires each county’s recycling plan to implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from county public schools.

Charles County Public Schools

1. (a) Program

Since 1990 the Charles County Board of Education (CCBOE) has administered a recycling program in all county public schools. The program initially began with collecting and recycling white paper and corrugated cardboard. The Charles County Department of Public Works, Environmental Resources Division (DPW-ERD), provided in classroom collection containers and pick-up service was contracted through a private vendor.

In November 2008, the Charles County Government initiated a new contract with a private collection vendor, which expanded the accepted recyclable materials for both curbside collection and transfer facilities. The Charles County Board of Education also contracted with this vendor, which expanded the variety of materials recycled within the School and Administrative facilities. All public school facilities recycle paper, paperboard, cardboard, plastics (no.'s 1-7), metal containers, electronics, rigid plastic containers, plastic film (plastic bags & shrink-wrap), and books. Many also recycle their used motor oil from equipment. Education, training, and technical assistance to administrators, teachers, and students regarding the recycling program is provided by the Charles County DPW-ERD.

Collection bins are located throughout each school and administrative facility for staff and students to dispense recyclable materials. Students and staff are instructed to place all recyclable materials in these designated receptacles. Within the elementary school facilities, CCBOE staff empty these collection bins into dumpsters provided by the private vendor. The middle school and high school students and staff collect and empty the collection bins into the associated dumpsters located on their school campus. These materials are collected by the vendor for hauling and processing. After collection has been made, all recyclables are taken to a Materials Recovery Facility (MRF).

1. (b) Materials that must be included in the Program

- Plastic bottles, jugs, and wide-mouth containers
- Metal Cans and Beverage Containers
- Glass bottles and jars
- Paper
- Cardboard

The following materials may also be recycled on a voluntary basis.

- Rigid Plastics which include plastic milk/soda crates, plastic buckets with metal handles, plastic laundry baskets, plastic lawn furniture, plastic totes, plastic drums, plastic coolers, plastic flower pots, plastic drinking cups/glasses, plastic 5-gallon water bottles, plastic pallets, plastic toys, and empty plastic garbage/recycling bins
- Bagged Plastic Film (for example: grocery bags contained within 1-bag, or stretch film and/or shrink/wrap contained within 1-bag)
- Printer Cartridges
- Electronics
- Food Waste

Additional items may be added to the recycling collection program as markets become available or as collection vendor contracts allow.

1. (c) Collection of Materials

Recycled materials shall be placed in the same recycling container as single-stream recycling materials. While Charles County DPW-ERD is responsible for providing all in classroom collection containers, the contractor is responsible for all labor and equipment necessary to fulfill necessary recycling container removal services for Charles County Public Schools on a scheduled basis (non-emergency), throughout the County's school system. Distinctive colors and markings recycling containers shall be provided to avoid cross contamination with general waste (non-recyclable) materials. The work shall consist of collecting, transporting and disposing recyclable materials from schools, office and learning locations considered as property of the Charles County Public School System. All material that is set out in designated recycling areas for each of these facilities shall be collected. Eight cubic yard containers are to be used for recyclable materials.

1. (d) Marketing of Materials

The contractor shall submit annual reports and a route schedule on all recycling tonnage removed from the CCPS facilities to the CCPS special assistant for Environmental Safety and Risk Management. Recycling data is to include tonnage and market outlets.

2. Stakeholders

Stakeholders include the Charles County Public School System (CCPSS) including the, the Board of Education, Charles County DPW-ERD, and all the students and staff. This Plan will be amended in conjunction with the adoption of the County's 2011-2021 Comprehensive Ten Year Solid Waste Management Plan.

The CCPSS stakeholders are responsible for ensuring all publicly-funded schools are participating in the School Recycling Program. The Special Assistant for Environmental Safety and Risk Management will ensure the contractor is providing the recycling services to each facility including collection boxes and regularly scheduled pick-up service. The Board of Education will submit every three years to DPW-ERD any changes and updates to the School Recycling Program to be included in the Ten Year Solid Waste Management Plan.

3. Participating Schools

All Charles County Public Schools that receive county public funding must participate in the Charles County Public School Recycling Plan.

Elementary Schools

C. Paul Barnhart Elementary School

4800 Lancaster Circle, Waldorf, MD 20603

Berry Elementary School	10155 Berry Road, Waldorf, MD 20603
Dr. Gustavus Brown Elementary School	421 University Drive, Waldorf, MD 20602
Dr. James Craik Elementary School	7725 Marshall Corner Road, Pomfret, MD 20675
William A. Diggs Elementary School	2615 Davis Road, Waldorf, MD 20603
Gale-Bailey Elementary School	4740 Pisgah-Marbury Road, Marbury, MD 20658
Dr. Thomas L. Higdon Elementary School	12872 Rock Point Road, Newburg, MD 20664
Indian Head Elementary School	4200 Indian Head Highway, Indian Head, MD 20640
Daniel of St. Thomas Jenifer Elementary School	2820 Jenifer School Lane, Waldorf, MD 20603
Malcolm Elementary School	14760 Poplar Hill Road, Waldorf, MD 20601
T.C. Martin Elementary School	6315 Olivers Shop Road, Bryantown, MD 20617
Mary H. Matula Elementary School	6025 Radio Station Road, La Plata, MD 20646
Mary B. Neal Elementary School	12105 St George's Drive Waldorf Md. 20602
Arthur Middleton Elementary School	1109 Copley Avenue, Waldorf, MD 20602
Walter J. Mitchell Elementary School	400 Willow Lane, La Plata, MD 20646
Mt. Hope/Nanjemoy Elementary School	9275 Ironsides Road, Nanjemoy, MD 20662
Dr. Samuel A. Mudd Elementary School	820 Stone Avenue, Waldorf, MD 20602
Mary Burgess Neal Elementary School	12105 St. Georges Drive, Waldorf, MD 20602
J.C. Parks Elementary School	3505 Livingston Road, Indian Head, MD 20640
J.P. Ryon Elementary School	12140 Vivian Adams Drive, Waldorf, MD 20601
Eva Turner Elementary School	1000 Bannister Circle, Waldorf, MD 20602
William B. Wade Elementary School	2300 Smallwood Drive West, Waldorf, MD 20603

Middle Schools

Theodore G. Davis Middle School	2495 Davis Road, Waldorf, MD 20603 Benjamin
John Hanson Middle School	12350 Vivian Adams Drive, Waldorf, MD 20601
Matthew Henson Middle School	3535 Livingston Road, Indian Head, MD 20640
Mattawoman Middle School	10145 Berry Road, Waldorf, MD 20603
Piccowaxen Middle School	12834 Rock Point Road, Newburg, MD 20664
General Smallwood Middle School	4990 Indian Head Highway, Indian Head, MD 20640
Milton M. Somers Middle School	300 Willow Lane, La Plata, MD 20646
Benjamin Stoddert Middle School	2040 St. Thomas Drive, Waldorf, MD 20602

High Schools

La Plata High School	6035 Radio Station Road, La Plata, MD 20646
Henry E. Lackey High School	3000 Chicamuxen Road, Indian Head, MD 20640
Maurice J. McDonough High School	7165 Marshall Corner Road, Pomfret, MD 20675
North Point High School	2500 Davis Road, Waldorf, MD 20603
Thomas Stone High School	3785 Leonardtown Road, Waldorf, MD 20601
Westlake High School	3300 Middletown Road, Waldorf, MD 20603

Alternative Schools

Lifelong Learning Center (Adult Ed. Programs)	12300 Vivian Adams Drive, Waldorf, MD 20601
F.B. Gwynn Educational Center	5998 Radio Station Road, La Plata, MD 20646
Nanjemoy Creek Environmental Education Center	Nanjemoy, MD 20662
Robert D. Stethem Educational Center	7775 Marshall Corner Road, Pomfret, MD 20675

Colleges

College of Southern Maryland, La Plata	8730 Mitchell Road, La Plata, MD, 20646
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All new school facilities will be included in the School Recycling Program within three months of opening.

4. Schedule for the Development and the Program

The recycling program for CCPS was started in 1990 and continues to evolve with the recycling industry as new materials are added to the recycling stream. The current funding source for this program is the CCPS Operation Funds Operating Budget.

5. Program Monitoring

The school system shall conduct inspections, review service levels, investigate reported or unreported pick-up and disposal complaints, meet with CCPS and Contractor staff to educate or review practices, and review Contractor compliance with the school recycling contract. Any issues which arise from these visits that are deemed deficiencies on the part of the Contractor will be detailed in writing and reported to the contractor. The Special Assistant for Environmental Safety and Risk Management must notify the contractor in writing within 30 days of non-compliance with the school recycling contract. The Contractor must initiate actions to correct all deficiencies found within 7 days of receipt of notice.

The contractor shall be responsible to keep CCPS current on new regulations, laws, and mandates affecting recycling in the State of Maryland.

The Contractor, throughout the life of the contract, shall also be required to work with the school system to further develop, implement and expand the system's existing recycling program.

The Charles County Public School System Special Assistant for Environmental Safety and Risk Management will monitor the Public School Recycling Program to ensure participation.

College of Southern Maryland

The College of Southern Maryland is run by the President of the College on a daily basis. The main branch that is located in La Plata has an extensive recycling program. The recycling program is led by the Executive Director of Physical Plant. This facility is currently recognized as a PGCC Maryland Green Registry Member. This designation was established in November of 2009.

1. (a) Program

The College launched its recycling program in 2008. This program recycles all paper products (cardboard, newspaper, books, and periodicals/magazines), aluminums, glass and plastics. The recycling program has been implemented using the contracting company Allied Waste, account# 3-0411-0038596. The program collects all recyclables as single stream, and is collected in two (2) 8 cubic yard containers, twice a week. The two (2) 8 cubic yard containers

are provided to the school by the contracted collection company. As collections are single stream, there is no specific breakdown for amounts of materials recycled.

The College of Southern Maryland also collects and recycles on a voluntary basis small electronics communication devices (cell-phones, PDA's and pagers), maintained through the Student Government Association (SGA), and is collected through a separate entity.

1. (b) Materials that must be included in the Program

- Plastic bottles, jugs, and wide-mouth containers
- Metal Cans and Beverage Containers
- Glass bottles and jars
- Paper
- Cardboard

The following materials may also be recycled on a voluntary basis.

- Rigid Plastics which include plastic milk/soda crates, plastic buckets with metal handles, plastic laundry baskets, plastic lawn furniture, plastic totes, plastic drums, plastic coolers, plastic flower pots, plastic drinking cups/glasses, plastic 5-gallon water bottles, plastic pallets, plastic toys, and empty plastic garbage/recycling bins
- Bagged Plastic Film (for example: grocery bags contained within 1-bag, or stretch film and/or shrink/wrap contained within 1-bag)
- Printer Cartridges
- Electronics
- Food Waste

Program Monitoring

The private contractor oversees all recycling procedures for the college. The College of Southern Maryland's implementation of this plan is student and staff driven. Any issues which arise and are deemed deficiencies on the part of the Contractor will be detailed in writing and reported to the contractor. The Executive Director of Physical Plant must notify the contractor in writing within 30 days of non-compliance with the school recycling contract. The Contractor must initiate actions to correct all deficiencies found within 7 days of receipt of notice.

3.10.3 Electronics Recycling (E-cycling)

Currently the Pisgah, Breeze Farm, and Landfill Recycling Centers accept electronic equipment and items for recycling. These facilities accept items in a closed top roll-off box for customers to freely deposit unwanted goods. These items are then palletized and our Vendor collects the pallets. Items accepted for e-cycling include:

- Computers
- Monitors

- Televisions
- Printers & Copiers
- VCR & DVD players
- Fax Machines
- Scanners
- Microwave Ovens
- Electronic Toys
- Cellular Phones & PDA's
- Stereos
- CD Players
- Calculators
- Electronic Typewriters
- Consumer Electronics

An additional item that is accepted is “covered electronics”, which the MDE classifies as “a computer or video display device with a screen that is greater than 4 inches measured diagonally”. All collected electronics are collected from the recycling centers and loaded into vendor provided covered trailers.

Electronics are recycled for any precious metals within the material and are reused to produce new electronic equipment. Recycling helps in preservation of the environment, and helps conserve landfill space.

3.11 SOLID WASTE ACCEPTANCE FACILITIES

Information on existing solid waste acceptance facilities in Charles County is presented in Table 3-6. Locations of the facilities are illustrated in Figure 3-1.

3.11.1 Charles County Landfill #2- Active

The Charles County Sanitary Landfill is located on Billingsley Road, about 3/4 of a mile west of the intersection of Maryland Route 5 and Billingsley Road. The site encompasses 114 acres; the waste fill area will cover approximately 70 acres. MDE issued a Refuse Disposal Permit for the facility in 1994.

The landfill consists of four cells with a total disposal capacity of approximately 4,339,9000 cubic yards.

- Cell I - 826,000 Cubic Yards
- Cell II – 651,100 Cubic Yards
- Cell IIIA – 679,200 Cubic Yards
- Cell IIIB – 871,600 Cubic Yards
- Cell IV – 988,700 Cubic Yards

The base liner consists of a two-foot bentonite-amended soil layer (permeability, $k = 1 \times 10^{-7} = 1 \times 10^{-7}$ centimeters per second) overlain by a high density polyethylene (HDPE) geomembrane. A drainage layer, geotextile, and protective soil layer was placed over the liner. Leachate is collected by a perforated pipe network within the drainage layer; and collected leachate is trucked to a sanitary sewer.

Ancillary facilities at the site include a public refuse disposal area, a recycling area, yard waste composting facility, scale house and platform scale, a guard house, and a maintenance building including administration facilities. New software programs that maintain billing and waste records have significantly improved record keeping methods. The landfill operates from 7:00 a.m. to 5:00 p.m., the convenience center operates from 7:00 a.m. to 7 p.m., six days a week.

The Charles County Landfill will have a useful life of approximately 25 to 30 years depending on the type of daily cover used (soil or synthetic) and the amount of rubble disposed. Section 4.7.2 provides a discussion of the operational procedures and calculation for determining the life expectancy of the landfill.

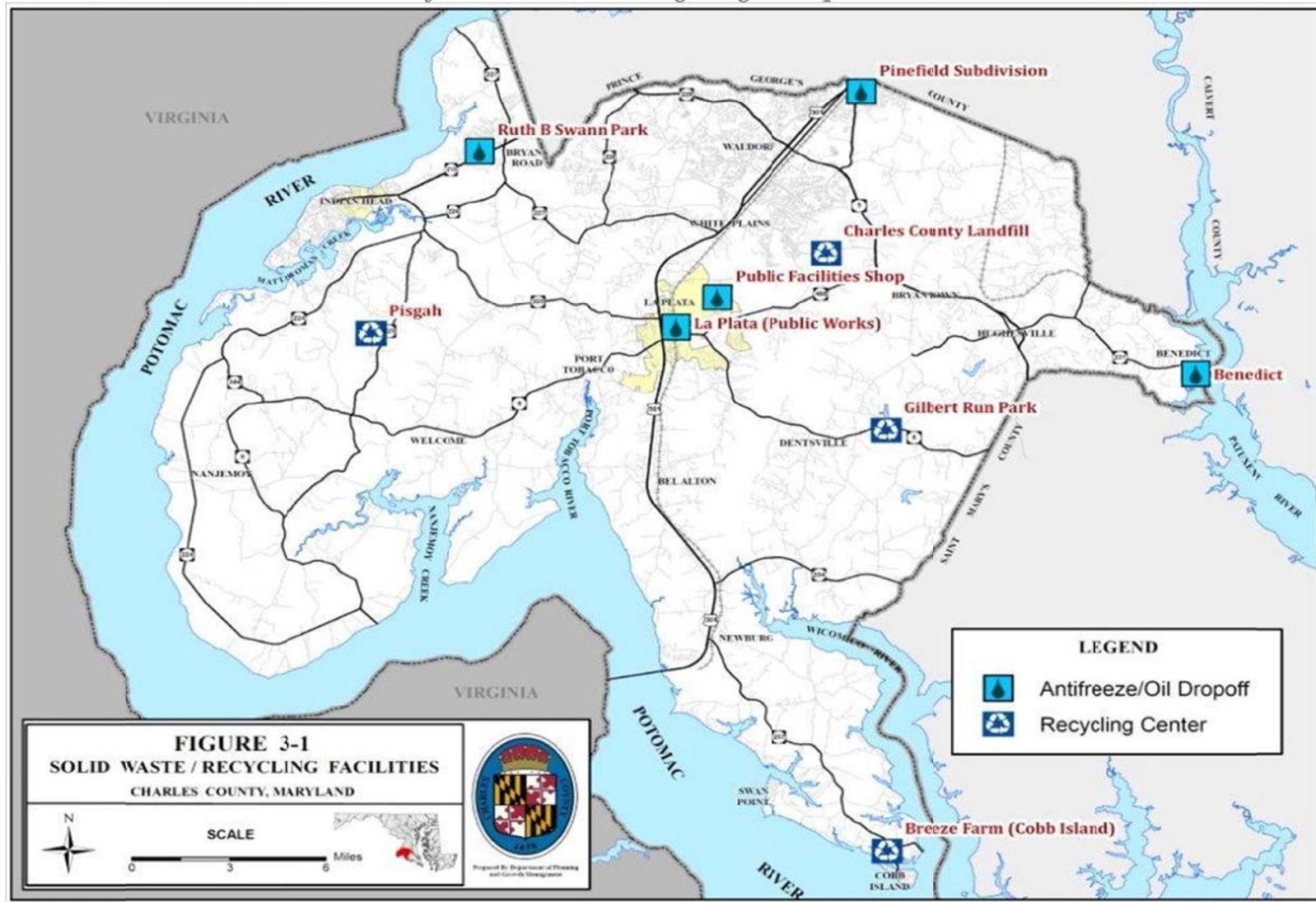
*Table 3-6
Active Solid Waste Acceptance Facilities*

<u>Facility</u>	<u>Location</u>	<u>Size</u>	<u>Maryland Grid Coordinates</u>	<u>Waste Accepted</u>	<u>Type of Quantity</u>	<u>Owner</u>	<u>Permit Status</u>	<u>Service Life Remaining</u>
Charles County Landfill	1.35 miles SE of Piney Road & St. Paul's Drive	114 Acres	269 N/823 E	-	-	Charles County	1995-WSF-00760	25 Years
Naval Surface Warfare Center Incinerator	Naval Surface Weapons Center	Classified	275 N/823 E	Classified Documents	One Ton per year	Federal Government	1997-Win-0529	Greater than 10 years
Charles County Landfill Recycling Center	1.35 miles SE of Piney Road & St. Paul's Drive	N/A	269 N/823 E	Bagged Trash and Recyclables		Charles County	Not Required	Greater than 10 years
Pisgah Recycling Center		N/A		Bagged Trash and Recyclables		Charles County	Not Required	Greater than 10 years
Gilbert Run Recycling Center		N/A		Bagged Trash and Recyclables		Charles County	Not Required	Greater than 10 years
Breeze Farm Recycling Center		N/A		Bagged Trash and Recyclables		Charles County	Not Required	Greater than 10 years
Benedict Drop Off Site		N/A		Used Motor Oil		Charles County	Not Required	Greater than 10 years

3.11.2 Yard Waste Processing Facility - Active

The Charles County Yard Waste Processing Facility is located at the Charles County Sanitary Landfill in Waldorf on what will eventually be Cell IIB. With the use of the truck scales at the Landfill, there is now an accurate accounting of inbound yard waste and outbound mulch and compost. Compost from the facility is used by the Charles County Department of Parks and Recreation.

Figure 3-1
Location of Solid Waste/Recycling Acceptance Facilities



3.11.3 Naval Surface Weapons Center Incinerator - Active

The incinerator at the Naval Surface Weapons Center processes about 1 ton of classified documents annually at the facility. Personnel at the facility indicate that the documents are increasingly being shredded into fine elements and then collected by a recycler. Metals collected from the facility which are potentially explosive (e.g., spent shells) are burned on-site prior to being sent to a recycler.

3.11.4 Recycling Centers - Active

A number of public recycling centers are located in Charles County which accept recyclable materials from county residents. These facilities have been identified and detailed in Table 3-5. Locations of these facilities are also shown in Figure 3-1.

3.11.5 Sludge Land Application Sites - Active

Approximately 3,220 acres of privately held land within Charles County is permitted for the land application of sludge. Currently, there are 5 reclaimed mine sites and 35 farms which are eligible to receive de-watered, treated sludge for land application.

3.11.6 Mattawoman WWTP - Active

The Mattawoman WWTP is owned and operated by Charles County. The facility is located near the intersection of Maryland Routes 224 and 225. All of the wastewater generated from the public water and sewerage system within the Charles County Development District flows to the Mattawoman plant for treatment. In addition to wastewater, the WWTP accepts approximately 25,000 wet tons of septage for treatment.

3.12 ILLEGAL DUMPING AND LITTER

The County has an aggressive litter control program to reduce to help prevent littering activities

- Anti-Litter Billboards
- Presentations at Area Schools
- Exhibits at Trade Fairs/County Fairs
- Distribution of Anti-Litter Promotional Items
- Anti-Litter “Theme” Contests with Schools
- Press Releases
- Space Ads in the Printed Media
- Signage on County Vehicles

- Memorandum to County Staff encouraging them to “Catch-A-Dumper”
- Adopt-A-Road Program
- Daily Inmate Litter Crews
- Volunteers in Community Service Litter Crews
- Watershed Cleanups
- Community Cleanups

3.13 REGIONAL RECYCLING ACTIVITIES

Charles County is a diversified community with unique solid waste and recycling resources as a result of its close proximity to Washington D.C. and Virginia. Waste Disposal facilities in D.C. and Virginia offering lower tipping fees result in many waste haulers exporting waste out of the County. The closest material recovery facility (MRF) is located in Prince George’s County, only 20 miles from the County’s border. The short haul distance to the MRF encourages many haulers to recycle opposed to landfilling collected recyclable materials. This MRF is currently accepting all materials collected by the County’s curbside recycling program, recycling centers, and the Town of Indian Head and La Plata’s curbside recycling programs.

The County is actively involved in supporting community cleanups and watershed cleanups in a regional effort to promote anti-littering and recycling initiatives. In partnership with the Alice Ferguson Foundation the County annually promotes the bi-state Potomac River Watershed Cleanup. This event is a regional effort to clean the waterways of the Potomac River Watershed. The County promotes the program through paid advertisements and press releases, which focus on educating the public on the environmental impacts of litter and the importance of recycling. The County’s pay-as-you-throw (PAYT) program provides financial incentive for residents to recycle as a means to reduce the cost of trash disposal.

Charles County is a member of the Washington Council of Governments (COG). COG serves as a regional council for Maryland, Virginia, and Washington, D.C. and holds meetings to educate, review, and study the feasibility of numerous regional and/or national recycling, source reduction, and waste diversion activities. Charles County Environmental Resources Division supervisors maintain memberships to Solid Waste Association of North America (SWANA), attending trainings and maintaining certifications in Recycling Systems. Finally, Charles County Environmental Resources Division is included in MDE’s regional recycling online resources for recycling information and listing of recycling vendors/businesses. The Environmental Resources Division also attends quarterly Solid Waste and Recycling manager meetings coordinated by MDE. These meetings keep County Solid Waste and Recycling managers informed of regulations and laws as well as provide an opportunity for program information sharing and networking with other regional and state solid waste and recycling managers.

3.13.1 MULTI-JURISDICTIONAL SOLUTIONS

The Regional Solid Waste Management Task Force of the Tri-County Council for Southern Maryland developed the following recommendations for long-term solid waste management within the tri-county region.

- Regional Waste-to-Energy Facility
- Regional Materials Recovery Facility (MRF)
- Regional Rubble Landfill
- Regional Collection of Household Hazardous Waste
- Regional Yard Waste Composting
- Regional Policy and Management Efforts (e.g., public education, procurement, market development, volume-based fees)
- Citizens Advisory Committees (regional and county)