

BERKS COUNTY
MUNICIPAL WASTE MANAGEMENT
PLAN REVISION

BERKS COUNTY, PENNSYLVANIA



FINAL
September 2005

Prepared for
Berks County Solid Waste Authority

Prepared by



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**BERKS COUNTY
MUNICIPAL WASTE MANAGEMENT PLAN REVISION
BERKS COUNTY, PENNSYLVANIA**

EXECUTIVE SUMMARY

County Municipal Waste Management Plans are required to be revised every 10 years in accordance with the Pennsylvania Department of Environmental Protection (DEP) Municipal Waste Management Regulations. The Plan must include descriptions of the origin, content, and weight of municipal solid waste currently generated in the planning area as well as projections for waste generation during the course of the planning period. The Plans must include an evaluation of available disposal capacity for county-generated wastes and must provide a list of facilities that will provide capacity assurance during the planning period. The Plans must include an evaluation of the county's recycling programs, including efforts put forth to achieve the statewide goal of 35% recycling by county.

Waste Generation and Disposal Practices

The Berks County Municipal Waste Management Plan Revision (Plan Revision) contains descriptions and estimates of municipal solid waste generation. A municipal survey was conducted as part of this Plan Revision process to determine current waste management and recycling practices, and to gain input on the concerns and needs of the municipalities with respect to waste collection and recycling.

According to waste disposal reports filed with the DEP from 1999 to 2003, the majority of municipal waste from Berks County was disposed at seven landfills. Four of these landfills are operational in Berks County (DCSWA – Rolling Hills Landfill, New Morgan Landfill Co. – Conestoga Landfill, Western Berks Refuse Authority and F.R.&S. – Pioneer Crossing Landfill), one is in Montgomery County (SCA Services – Pottstown Landfill), and two are operational in Schuylkill County (Pine Grove Landfill and CES Landfill). Two of the disposal facilities are scheduled to close within the next year (Pottstown Landfill/SCA Services and Western Berks Refuse Authority Landfill).

The meaning of “waste disposal” in this document is equivalent to the term “Net Discards” as it was used previously in the 1990 Plan and in other older documents. This term is defined by subtracting recycled materials from “Gross Discards”. “Gross Discards” is thus equivalent to what is referred to as “waste generation” in this document.

GROSS AND NET DISCARDS OF MUNICIPAL WASTE COMPONENT ^a

Year	Population	GROSS DISCARDS		Diversion Rate	NET DISCARDS
		Municipal Waste Component Generation (tons) ^b	Reported Recycling (tons) ^c		Municipal Waste Component Disposed (tons) ^a
2000	373,638	381,278	62,330	16 %	318,948
2001	377,900	336,520	63,083	19 %	273,437
2002	382,100	346,035	54,418	16 %	291,617
2003	385,500	360,368	62,913	17 %	297,455
2005	392,500	357,400	71,500	20 %	286,000
2010	410,500	373,800	130,800	35 %	243,000
2014	425,500	387,500	135,600	35 %	252,000

^a – DEP Waste Destination Report values for municipal waste component (excludes all other waste components such as sewage sludge, construction, etc.) for Berks County. Years 2005, 2010 and 2014 are based on projections.

^b – Gross Discards represents waste generation: equals sum of Net Discards and Reported Recycling.

^c – From Berks County Recycling Data. Represents data provided by municipal and county recycling programs; excludes industrial and other probable (i.e., C&D) recycling data.

Waste Projections and Disposal Capacity

The projected total capacity required for this planning period is approximately 3.32 million tons. This figure includes municipal, construction and demolition (C&D), sewage sludge, infectious/chemotherapeutic (I/C), ash residue and asbestos waste types but does not include materials that have been removed from the waste stream as a result of recycling and waste reduction. This value does not include residual wastes. It is estimated that residual wastes to be disposed of over the ten-year planning period will total 1.17 million tons. This value, added to the 3.32 million tons of municipal solid waste, results in a disposal capacity requirement of nearly 4.5 million tons over the ten-year planning period. DEP requires Counties to evaluate the impact of municipal waste and residual waste on disposal capacity, therefore, the County used 4.5 million tons of solid waste in the Plan Revision.

In all, five companies, representing seven municipal waste landfills and one C&D landfill have agreed to provide capacity for Berks County municipal solid waste over the ten-year planning

period. An evaluation of the capacity offered by these facilities, based on the remaining life of the facility and the County's annual waste disposal projections, was conducted. Based on this evaluation, the County has sufficient capacity available for the ten-year planning period.

FACILITIES PROVIDING CAPACITY ASSURANCE

Owner	Facility Name (Location)	Type of Facility
Chester County Solid Waste Authority	Lanchester Landfill (Lancaster County / Chester County)	MSW landfill
Delaware County Solid Waste Authority	Rolling Hills Landfill (Berks County)	MSW landfill
Louis & Dominick DeNaples	Keystone Sanitary Landfill (Lackawanna County)	MSW landfill
L & D Management, Inc.	CES Landfill (Schuylkill County)	MSW landfill
New Morgan Landfill Company, Inc	Conestoga Landfill (Berks County)	MSW landfill
Waste Management of Pennsylvania, Inc.	Grand Central Sanitary Landfill (Northampton County)	MSW landfill
	Dauphin Meadows Landfill (Dauphin County)	MSW landfill
	Pine Grove Landfill (Schuylkill County)	MSW landfill
	Alliance Sanitary Landfill (Lackawanna County)	MSW landfill
	Phoenix Resources (Tioga County)	C&D landfill

Recycling Programs and Goals

Projections calculated for this Plan Revision take recycling into consideration, as required by DEP. In the past decade, recycling in Berks County has fallen short of DEP's recycling goal of 35%, based on the existing, but incomplete, data for recycling in Berks County. Fourteen (14) municipalities in Berks County are mandated to recycle and have programs in place. Sixty-one (61) municipalities in Berks County are not yet mandated to implement recycling programs. Of these 61 non-mandated municipalities, thirty-three have voluntary programs in place. In Berks County, 61% of all municipalities, mandated or not, have some form of recycling program in place.

Currently and based on incomplete recycling data, Berks County is reporting recovery of recyclables on the order of approximately 17%. It is planned that with creation of new recycling

programs, the expansion of existing programs, and increased/better reporting requirements, Berks County can reach the DEP goal of 35% recycling. In addition, the Berks County Solid Waste Authority (Authority) has developed programs for the collection of household hazardous waste from County residents; during previous years the Authority conducted one-day collection events, and in 2004 the Authority entered into an agreement with Block Industries, Inc. t/a Keystone Environmental (Keystone) to operate a permanent collection facility in the County.

County, Authority and Municipality Obligations

This Plan Revision calls for the Authority to play an expanded role in developing new recycling programs during this 10-year period. Each municipality will review their program to reach the recycling targets on an annual basis. Prior to adoption of a municipality's fiscal budget, each municipality will review the prior years recycling figures to determine if they are lower or higher than the recycling target (refer to Section 5.6 of the Plan Revision). If lower than the recycling target, the municipality shall add or substitute recycling materials or make program improvements to reach the goal. Each municipality will send the result of this annual review to the Authority. If additional assistance is requested by the municipality, the Authority or the County can assist municipalities by offering ideas, helping with writing grant requests, or encouraging municipalities to work together and share services. Different approaches will be developed for most municipalities. These approaches will be consistent with their unique needs, geographic constraints and assets. The County and the Authority envision that increased recycling rates can be achieved through cooperation between the County, the municipalities and the private sector, as well as through better reporting of recyclables by haulers and others responsible for collection of recyclables.

The Authority will also have a monitoring responsibility over existing solid waste facilities in the County, including landfills, recycling process facilities, compost facilities, and permanent household hazardous waste facilities. The Berks County Conservation District has two certified PADEP Host Municipal Solid Waste Landfill Inspectors on staff, who provide inspection services on behalf of the County at the Conestoga Landfill, the Rolling Hills Landfill, and the Western Berks Refuse Authority Landfill. Exeter Township has one certified PADEP Host Municipal Solid Waste Landfill Inspector who inspects the Pioneer Crossing Landfill.

Monitoring Disposal Capacity

As area landfills reach final permitted capacity and begin closure operations, modifications to the Plan may be necessary to add additional disposal capacity or to develop additional landfills, transfer stations, or processing facilities. The Berks County Solid Waste Authority has been charged with monitoring landfills that provide disposal capacity to the County. As part of this monitoring responsibility, the Authority can perform technology assessments and feasibility studies which could include the feasibility of a county controlled landfill, transfer station, or processing facility. Among the technologies the County has particular interest in, is waste-to-energy. If the price of municipal waste disposal continues to rise, waste-to-energy could be an option in the future. The County and the Authority will continue to look out for the best interests of County residents, businesses and industries in regard to environmentally sound, regulatory compliant and cost effective waste management methods.

**BERKS COUNTY
MUNICIPAL WASTE MANAGEMENT PLAN REVISION
BERKS COUNTY, PENNSYLVANIA**

SEPTEMBER 2005

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CHAPTER 1 - PUBLIC PARTICIPATION

1.1 ADVISORY COMMITTEE

Berks County established its Solid Waste Advisory Committee (SWAC) as required by Section 503(a) of Act 101 in August 1988. The members of the SWAC participated in the development of the 1990 Municipal Solid Waste Management Plan; these members are identified in the 1990 plan. In May 2003, Berks County established a new Solid Waste Advisory Committee for the purpose of developing the Plan Revision. The following is a list of the members of the Solid Waste Advisory Committee (SWAC) who participated in the Plan Revision, and the entities that they represent:

SOLID WASTE ADVISORY COMMITTEE

Brian Clements	Berks County Solid Waste Authority, Chairman
Ruth Baker	Citizen representative
Michelle Kircher	Citizen representative
Jeri Kozloff	Municipal representative (Borough of Wyomissing)
Judy Kramlich	Private solid waste industry representative
Paul Lilienthal	Citizen representative
Jane Meeks	City representative (City of Reading)
Charles Mowbray	Industry representative
Mayer Pollock, II	Private scrap/recycling representative
Phil Preston	2 nd Class Township representative (South Heidelberg)
John Ravert	Acting County Recycling Coordinator
Tim Rowley	1 st Class Township representative (Cumru)

The Solid Waste Advisory Committee's involvement and ability to make suggestions is demonstrated in the minutes from the meetings. The members of this Committee represent diverse interests, including municipalities, private industry, waste haulers, disposal facilities, recycling centers, and public interest groups.

Gannett Fleming, Inc., provided feedback and guidance to the County on numerous issues related to development of the Plan Revision.

The Berks County SWAC met three times. The initial meeting was on May 14, 2003 and focused on reviewing Act 101 and planning requirements, statewide recycling goals, existing waste generation estimates, existing disposal facilities, future waste generation projections and how the request for waste disposal capacity process would advance. Additional meetings were held on November 13, 2003, and June 9, 2004. Minutes of these meetings are provided in Appendix A.

1.2 MUNICIPAL INPUT

Act 101 requires counties to provide written notice to municipalities when the Plan Revision Process has begun. Berks County provided this notice to its municipalities in May 2003, the same time at which it informed PA DEP.

Municipalities had the opportunity to provide input to the Plan Revision during the public review and comment period that was part of the revision process.

1.3 PUBLIC PARTICIPATION IN PREVIOUS PLANS

The 1990 Plan was drafted with input from approximately 70 municipalities through a series of public meetings, as well as with input from a Solid Waste Advisory Committee (SWAC), which met on numerous separate occasions to provide input on development of the Plan as a whole. The SWAC was composed of members from various parts of the County and from many different points of interest, and included County and municipal officials, owners of disposal facilities, members of industry, small business owners, private citizens, and members of other community groups.

Public participation in the previous plan included meetings with many local businesses, haulers, recyclers, environmental groups and municipalities.

CHAPTER 2 - DESCRIPTION OF BERKS COUNTY WASTE

2.1 INTRODUCTION

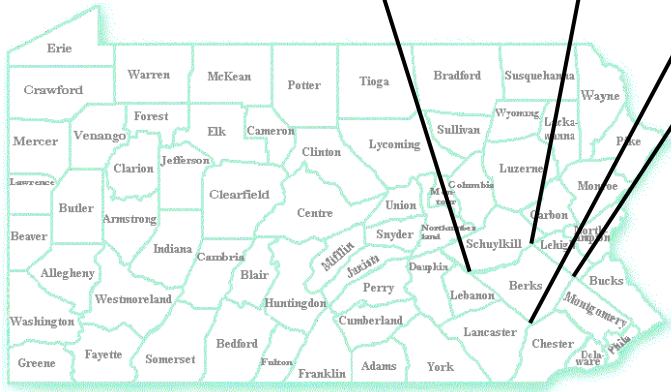
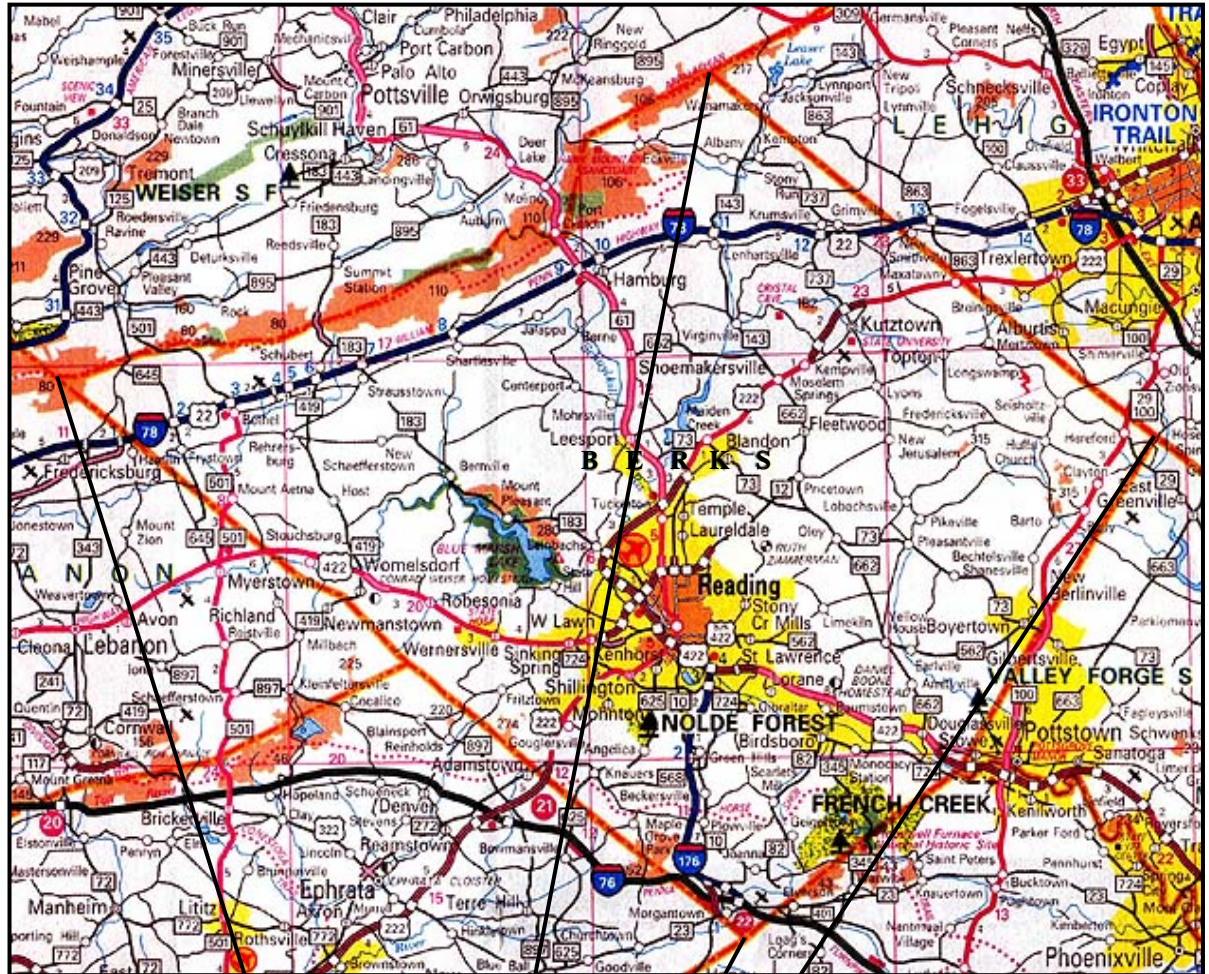
County Municipal Waste Management Plans are required to describe the origin, content, and weight of municipal solid waste currently generated in the planning area as well as projections for waste generation during the course of the planning period. The planning area for this Plan Revision is Berks County, which is located in southeastern Pennsylvania and is approximately 864 square miles in size. The County's location is illustrated in Figure 2-1. Currently, the County is composed of 75 municipalities: one city (Reading), 44 townships, and 30 boroughs (note: through redistricting, Wyomissing Hills Borough was incorporated into Wyomissing Borough in January 2002). Table 2-1 lists the Year 2002 Census Bureau's population estimates for municipalities.

2.2 ORIGIN OF WASTES

Waste generation information has changed since implementation of the 1990 Plan, due to factors such as increase in population, increase in residential development, changes in commercial and industrial services, and changed socio-economic factors, such as increased per capita income and shift in predominant type of employment.

The Plan Revision includes all of the fractions of municipal waste, but is also required to take into consideration the volumes of residual waste that would likely be disposed of in the facilities utilized by the County. In this discussion, the waste types are broken up into the same categories, or components, as they are reported by DEP. These components are:

- Municipal (includes residential, commercial/industrial, and institutional)
- Residual
- Sewage Sludge and Septage
- Infectious and Chemotherapeutic
- Construction and Demolition



**FIGURE 2-1
LOCATION MAP
BERKS COUNTY, PA**

SOURCE: Berks County, PA, and Eastern Central PA Area Education Health Center. Scanned image from the "Pennsylvania State Parks & Forests Map, 2000", PA DCNR.

TABLE 2-1
BERKS COUNTY MUNICIPALITIES

Municipality	Year 2002 Population Estimate	Municipality	Year 2002 Population Estimate
Adamstown Borough	2	Maxatawny Township	6,150
Albany Township	1,678	Mohnton Borough	3,009
Alsace Township	3,705	Mount Penn Borough	2,990
Amity Township	9,814	Muhlenberg Township	16,595
Bally Borough	1,055	New Morgan Borough	35
Bechtelsville Borough	930	North Heidelberg Township	1,349
Bern Township	6,976	Oley Township	3,603
Bernville Borough	865	Ontelaunee Township	1,213
Bethel Township	4,273	Penn Township	2,073
Birdsboro Borough	5,188	Perry Township	2,527
Boyertown Borough	3,914	Pike Township	1,753
Brecknock Township	4,569	City of Reading	80,494
Caernarvon Township	2,802	Richmond Township	3,548
Centerport Borough	326	Robeson Township	7,009
Centre Township	3,792	Robesonia Borough	2,036
Colebrookdale Township	5,361	Rockland Township	3,812
Cumru Township	14,085	Ruscombmanor Township	3,910
District Township	1,483	St. Lawrence Borough	1,800
Douglass Township	3,348	Shillington Borough	5,023
Earl Township	3,118	Shoemakersville Borough	2,123
Exeter Township	23,172	Sinking Spring Borough	3,005
Fleetwood Borough	3,996	South Heidelberg Township	5,960
Greenwich Township	3,484	Spring Township	22,609
Hamburg Borough	4,113	Strausstown Borough	335
Heidelberg Township	1,677	Tilden Township	3,654
Hereford Township	3,241	Topton Borough	1,945
Jefferson Township	1,701	Tulpehocken Township	3,385
Kenhorst Borough	2,659	Union Township	3,518
Kutztown Borough	5,082	Upper Bern Township	1,522
Laureldale Borough	3,742	Upper Tulpehocken Township	1,543
Leesport Borough	1,833	Washington Township	3,557
Lenhartsville Borough	172	Wernersville Borough	2,186
Longswamp Township	5,688	West Lawn Borough	1,582
Lower Alsace Township	4,475	West Reading Borough	4,018
Lower Heidelberg Township	4,435	Windsor Township	2,364
Lyons Borough	505	Womelsdorf Borough	2,607
Maiden Creek Township	7,302	Wyomissing Borough	8,563
Marion Township	1,583	Wyomissing Hills Borough*	2,559

* Note: Wyomissing Hills Borough was incorporated into Wyomissing Borough in January 2002.

Source: U.S. Census Bureau, 2002 Estimates.

Total Berks County Population (Year 2002) = 382,108

The DEP forms also report ash residue and asbestos, but these materials are not the focus of the Plan Revision and are not addressed in detail in this section.

Table 2-2 is based on the DEP waste destination reports for Berks County and shows the breakdown of wastes by individual components in 1993 and over the last five years. In addition, Table 2-2 shows the 5-year and 10-year average annual growth rates of waste disposal.

TABLE 2-2
TOTAL WASTE STREAM ^a
BREAKDOWN BY INDIVIDUAL COMPONENTS
Berks County, PA

Year	Total Waste Stream, tons disposed per year							
	Municipal	Residual	Sewage Sludge and Septage	Infectious/ Chemotherapeutic	Construction and Demolition	Ash Residue	Asbestos	Total Solid Wastes
1993	235,817	46,865	14,899	5.7	21,802	2,283	188	321,860
1999	270,544	105,055	24,488	11,260	34,218	7.1	305	445,878
2000	318,948	108,488	23,314	13,200	27,968	3,168	4,079	499,164
2001	273,437	109,827	26,616	16,069	30,952	150	422	457,473
2002	291,617	150,118	29,648	17,412	32,102	2.2	308	521,208
2003	297,455	152,099	29,675	21,565	15,052	6	291	516,144
Percent of Total Waste Stream, Average 1999 – 2003								
	59%	26%	5.5%	3.2%	5.7%	0.1%	0.2%	100 %
Average Annual Growth Rate								
10-yr	2.6%	23%	9.9%	N/A	-3.1%	-10%	5.5%	6.0%
5-yr	2.0%	9.0%	4.2%	18%	-11%	-3.1%	-0.9%	3.2%

Source: DEP Waste Destination Reports, 1993, 1999 – 2003.

Notes: a – Represents wastes originating in Berks County.

N/A – Not Available.

Based on the data presented in Table 2-2, the average annual growth rate of total solid waste disposed in Berks County is 6.0% over the last 10 years and 3.2% over the last 5 years; these rates represent the averages for all waste types originating in Berks County and disposed of in Pennsylvania facilities. It is especially interesting to note the increases over the past ten years in residual and infectious waste disposal, and the fluctuations in construction and

demolition, ash and asbestos wastes disposal. These changes do not necessarily reflect solely an increase in waste generation; rather, they also reflect the effects of better reporting requirements instituted by DEP and of more wastes being disposed of at in-state facilities instead of out-of-state disposal facilities.

Figure 2-2 also shows the breakdown of wastes into individual components, and identifies which components are considered part of the municipal waste stream. The following sections further break down the growth rates into individual components of the municipal waste stream.

The municipal solid waste types, or municipal waste stream, include the municipal, sewage sludge, construction, ash residue and asbestos waste components as categorized by the DEP waste destination reports. Table 2-3 presents the municipal waste stream (i.e., excluding the residual waste component) and the portions of the municipal waste stream comprised by the various waste components.

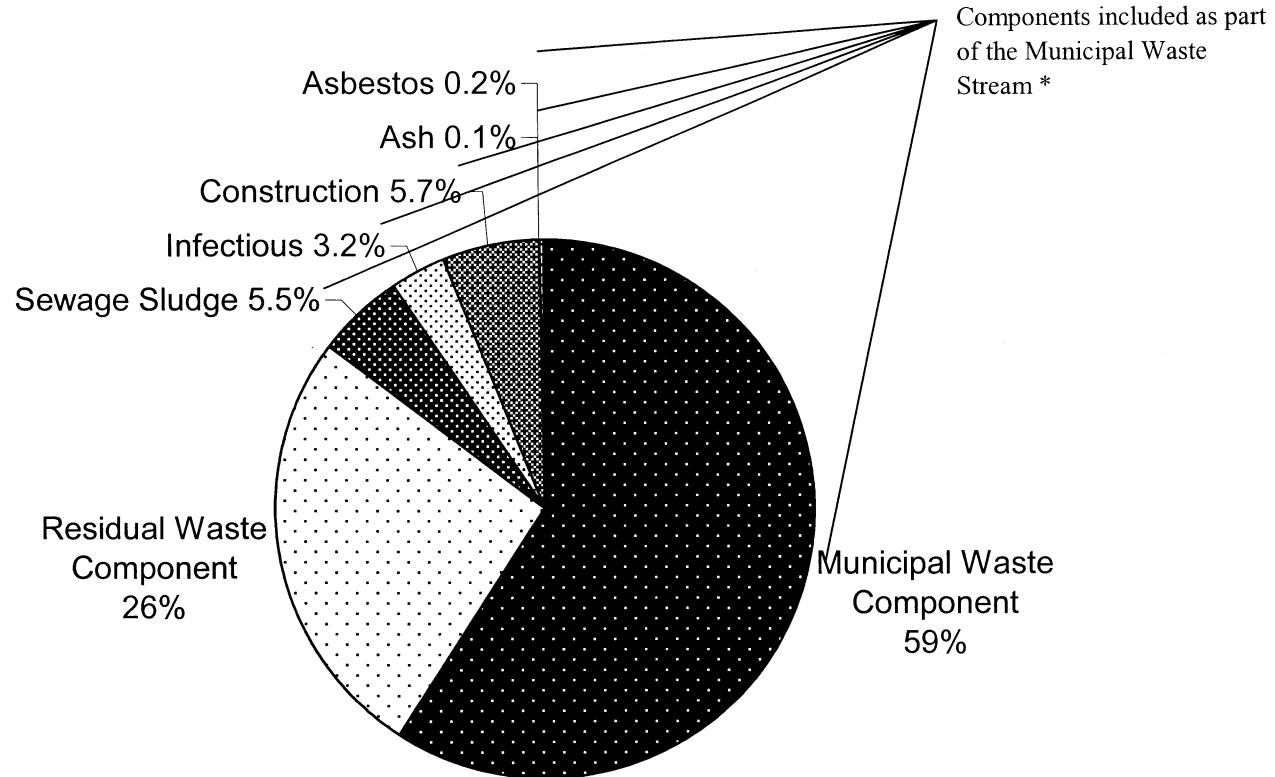
**TABLE 2-3
MUNICIPAL WASTE STREAM ^a
BREAKDOWN BY INDIVIDUAL COMPONENTS**

Year	Municipal Waste Stream, tons disposed per year						
	Municipal	Sewage Sludge and Septage	Infectious / Chemotherapeutic	Construction and Demolition	Ash Residue	Asbestos	Total Municipal Solid Waste ^a
1999	270,544	24,488	11,260	34,218	7.1	305	340,823
2000	318,948	23,314	13,200	27,968	3,168	4,079	390,676
2001	273,437	26,616	16,069	30,952	150	422	347,646
2002	291,617	29,648	17,412	32,102	2	308	371,090
2003	297,455	29,675	21,565	15,052	6	291	364,045
5-yr Average	290,400	26,748	15,901	28,058	667	1,081	362,856
Percent of Total	80 %	7.4 %	4.4 %	7.7 %	0.2 %	0.3 %	100 %

Source: DEP Waste Destination Reports, 1999 – 2003.

a – Represents waste originating in Berks County. Includes municipal, sewage sludge, I/C, C&D, ash and asbestos waste components; excludes residual waste component.

**FIGURE 2-2
TOTAL WASTE STREAM *
BREAKDOWN BY INDIVIDUAL COMPONENTS
BERKS COUNTY, PA**



The percentages represent the ratio of each individual component to the total waste stream, and are based on the most recent 5-year average (1999-2003) of reported disposal quantities by PA DEP.

2.2.1 Residential Waste Generation

Berks County had a Census 2000 population of 373,638, which placed it as the 9th largest county in Pennsylvania in terms of total population. Berks County has experienced significant growth in population in the past ten years. Berks County's growth of 37,115 people since 1990 was the tenth largest increase among all counties in Pennsylvania. The Year 2000 population represents an 11% increase since 1990. This increase is even greater than the population change that occurred from 1980 to 1990, when the population grew by 7.7%. Refer to Table 2-4.

Based on the Census data and other populations projections prepared by planning agencies, the population growth for Berks County is assumed to be 0.9% per year for the purposes of this Plan Revision.

TABLE 2-4
BERKS COUNTY POPULATION TRENDS

Year	Population	Change in Population	
1980	312,509		
1980 -1990		24,014	7.7 %
1990	336,523		
1990 - 2000		37,115	11.0 %
2000	373,638		

Source: U.S. Census Bureau

The residential sector accounts for a portion of the municipal waste stream generated in the County. Historically, the residential sector accounts for approximately 46% of the municipal waste stream; the commercial/industrial sector and the institutional sector account for approximately 42% and 12%, respectively, of the municipal waste stream. Estimates of future waste generation from these sectors are provided in Section 4.2.

2.2.2 Commercial/Industrial and Institutional Waste Generation

Berks County has historically had a diverse economy that provided a wide variety of jobs for its residents. According to the U.S. Census, the civilian labor force in the County as of 2000 was 190,552. For this same time period, the unemployment rate was approximately 3.3%. According to the U.S. Census, Department of Labor and Statistics, unemployment rates for the first 9 months of 2003 averages 5.9% for Pennsylvania and 6.7% for the Reading area.

The manufacturing sector, which in 2000 employed approximately 24.1% of the County's workforce, according to the 2000 U.S. Census, remains the major source of employment in Berks County. Other large employment sectors are retail trade and educational, health and social services. The 2000 average per capita income of Berks County residents was \$21,232, with full-time, year-round worker mean earnings of \$32,195.

In 1997, the Pennsylvania Department of Agriculture placed the number of farming and other agricultural establishments in the County at 1,586, which is a decrease of nearly 230 from the 1990 Plan. The average net cash return per farm was \$28,890 in 1997, and the total market value of products generated in the County in the year 1997 was approximately \$248 million, which ranks it third highest in the State.

Like the residential sector, the commercial/industrial and institutional sectors also account for portions of the various municipal waste types disposed of in the County. The commercial/industrial and institutional sectors account for that portion of municipal solid wastes generated by nonresidential establishments. Together, these wastes are similar in composition to the residential portion of the waste stream, and, combined, the commercial/industrial and institutional sectors historically account for approximately 54% of the municipal waste stream in the County. Section 4.2 provides estimates of future waste generation from these sectors.

2.2.3 Community Activities

Community activities in the County include those sponsored by numerous organizations, including the County, municipalities, local community groups, local restaurant organizations, agricultural groups and historical societies. Some of the sponsored events include a summer concert series, the Berks Jazz Fest, the Kutztown Festival, Halloween parades and other holiday celebrations, the Grand Prix National Championships, the PA Dutch Festival, craft shows and performing arts events.

2.2.4 Special Handling Wastes

Special handling wastes are defined as including sewage sludge and septage, infectious and chemotherapeutic, and construction and demolition wastes. These are described in the following subsections.

2.2.4.1 Sewage Sludge and Septic Wastes

Sewage sludge is defined as liquid or solid sludge or other residues from a municipal sewage collection and treatment system and liquid or solid sludges and other residues from septic and holding tank pumping from commercial, institutional, or residential establishments.

No new survey was completed to gather data from water and wastewater treatment plants in the County, as the volumes of sludge generated and disposed of by these facilities is well known and established and is reported by the DEP on the Waste Destination Reports.

As Table 2-2 shows, the volume of County-generated sewage sludge and septage disposed of at landfills has shown little variation in the past five years. The annual average sewage sludge growth rate in Berks County over the last five years (1999 – 2003) is determined to be 4.2%. This growth rate is for sewage sludge disposed of at Pennsylvania facilities. It does not include sewage sludges that may have been disposed either out of state, which is highly unlikely given the existing transportation

market for these materials in the County, or by other means, such as incineration (which accounts for only a small portion of disposal of sewage sludges) or land application.

2.2.4.2 *Infectious and Chemotherapeutic Wastes*

Infectious and chemotherapeutic (I/C) wastes are those wastes generated at hospitals, medical offices, or other medical-related facilities (including veterinary offices) that could cause adverse health effects to humans in the case of accidental and uncontrolled exposure. Infectious wastes include cultures of biological agents or vaccines, pathological wastes, human blood and body fluid waste or items that have been in contact with these fluids, animal wastes, used sharps (needles), or mixtures of the above. Chemotherapeutic wastes result from the production or use of agents used for the purpose of killing or stopping the growth of malignant cells.

As previously indicated in Section 2.2, the DEP reports these wastes separately from municipal waste on destination forms, although I/C wastes must be included in projections for generation and capacity. No new surveys of facilities (hospitals, medical facilities, or veterinary offices) were completed for this Plan Revision. Table 2-2 shows the volume of County-generated I/C wastes disposed in Pennsylvania facilities over the past five years (1999 – 2003). There has been a very significant increase in the amount of I/C wastes originating from Berks County and disposed of at Pennsylvania facilities in the past five years, and especially from 2002 to 2003. The average annual I/C growth rate in Berks County from 1999 to 2003 is approximately 18%. Table 2-5 shows a breakdown of the annual growth rate.

TABLE 2-5
INFECTIOUS AND CHEMOTHERAPEUTIC WASTE DISPOSAL GROWTH RATE

Period	Annual Growth Rate of Berks County I/C Wastes Disposed of in PA
1999-2000	17 %
2000-2001	22 %
2001-2002	8 %
2002-2003	24 %

Source: Based on DEP Waste Destination Reports.

From 1999 to 2002, the majority of the I/C wastes generated in Berks County were disposed of at Pioneer Crossing Landfill in Berks County; Conestoga Landfill in Berks County accepted nearly half of the I/C wastes generated in Berks County in 2002 and two-thirds of the I/C wastes in 2003. Prior to 1999, most of the I/C wastes generated in Berks County were disposed of out-of-County at the Pottstown SCA Services Landfill in Montgomery County.

2.2.4.3 *Construction and Demolition Wastes*

Construction and demolition (C&D) wastes are those that result from the construction or demolition of buildings and other structures. This waste type can include wood (lumber, scrap, and particle board), plaster, metals, asphalt and other paving materials, bricks, blocks, concrete, and other aggregate materials. As previously indicated in Section 2.2, the DEP reports these wastes separately from municipal waste on destination forms, although C&D wastes must be included in projections for generation and capacity.

The volume of C&D wastes that was generated in the County in the past few years has shown slight variation. In the past five years, the amount of waste originating in Berks County and disposed of in Pennsylvania facilities has decreased by an average

of 11% per year. The annual growth rate over the last five years has ranged from a decrease of 18% to an increase of 11%; refer to Table 2-6.

TABLE 2-6
CONSTRUCTION AND DEMOLITION WASTE DISPOSAL GROWTH RATE

Period	Annual Growth Rate of Berks County C&D Wastes Disposed of in PA
1999-2000	- 18 %
2000-2001	11 %
2001-2002	4 %
2002-2003	- 5 %

Source: Based on DEP Waste Destination Reports.

The generation of C&D waste is typically more variable than the generation of municipal solid waste. The fluctuation in figures for C&D waste disposal, and thus generation, is associated with the new real estate development and redevelopment observed in the County, as well as C&D material recycling. A significant volume of material may be recycled at area transfer stations and is not included in the DEP waste destination reports. These transfer stations can achieve recycling rates of up to 50% for materials they accept, such as metal, construction lumber, plywood, particle board, concrete, stone, rock, and cardboard.

2.2.5 Residual Waste Generation

Table 2-2 shows disposal of residual wastes generated in Berks County over the past five years. This table shows that the residual waste component represents 26% of the total solid wastes disposed of (averaged from 1999 – 2003). The annual average residual waste growth rate over this same period is determined to be 9%, primarily due to a significant increase in the volume disposed of in 2002 and 2003. Prior years reflect an annual average residual growth rate of approximately 1.4%. This growth rate is for residual wastes disposed of at

Pennsylvania facilities; it does not include residuals from Berks County that may have been shipped to out of state facilities.

2.3 WEIGHT AND CONTENT OF WASTES

This Plan Revision contains estimates of total solid waste generation, including sewage sludges resulting from water and wastewater treatment facilities, construction and demolition (C&D), infectious/chemotherapeutic (I/C), ash residue, and asbestos wastes. In addition, as per DEP guidelines, residual waste quantities projected for the planning period have been included in decisions presented in this document. While these wastes are not considered “municipal” solid waste, because they are generated by industries, they are considered herein for planning purposes because they are accepted as “municipal-like residual wastes” as determined by DEP and will occupy space in many of the same disposal facilities that accept municipal solid waste from the County.

Similarly, projections calculated for this Plan Revision take recycling into consideration, as required by DEP. The meaning of “waste disposal” in this document is equivalent to the term “Net Discards” as it was used previously in the 1990 Plan and in other older documents. This term is defined by subtracting recycled materials from the “Gross Discards”. “Gross Discards” is thus equivalent to what is referred to as “waste generation” in this document.

2.3.1 Net Discards of Municipal Solid Waste

In Pennsylvania, the municipal waste stream includes the municipal, sewage sludge, construction, infectious, ash residue, and asbestos waste components as reported by DEP. These waste components originate primarily from the residential, commercial, and institutional sectors of the County, and are herein referred to as total municipal solid waste.

2.3.1.1 Berks County Data

Net discards of total municipal solid waste were estimated based on the quantity of wastes originating in Berks County and disposed of at Pennsylvania disposal facilities and on population, housing and occupation data from Berks County.

Actual waste disposal quantities from 1990 through 2003 were obtained from the DEP Waste Destination Reports. The data represent wastes originating from Berks County and disposed of in Pennsylvania municipal waste disposal facilities. With the exception of residual and some special handling wastes in the early 1990's, the County's waste is disposed of almost exclusively within the County or adjacent counties (discussed more in Section 3.2). Therefore, the DEP Waste Destination Reports are appropriate, especially for the most recent years.

Population data were obtained from the U.S. Department of Commerce, Bureau of the Census, for years 1990 and 2000. Population estimates for other years were obtained from, and/or based on, various Berks County plans and demographic documents.

Based on these data, the annual per capita municipal waste component generation rate was estimated. The average of the most recent three-year period (i.e., 2001 – 2003) is 0.91 tons per person per year (the equivalent of 5.0 pounds per person per day). This generation rate is for the municipal waste component only and does not include other portions of the municipal waste stream or residual wastes. (Refer to Table 4-2.)

As stated in Section 2.2, total waste generation estimates must take into consideration the volumes of all solid waste components that would likely be disposed of in facilities utilized by the County. Therefore the quantity of the total municipal waste stream components, as well as the quantity of residual wastes, that will be required to be disposed of over the 10-year planning period was also estimated. (Refer to Section 4.3.)

2.3.1.2 *DEP Statewide Estimates*

The calculation of the annual per capita municipal waste stream generation rate of 0.91 tons per person per year in Section 2.3.1.1, above, is slightly higher than the state-wide average of 0.8 tons per person per year (roughly 4.4 lbs/person/day), used by the DEP.

CHAPTER 3 - CURRENT WASTE DISPOSAL FACILITIES

This section provides a description of the facilities that received Berks County-generated waste over the past five years, 1999 - 2003, as reported on DEP Waste Destination forms. The volumes and percentages included in this text include the categories of total solid waste (i.e. all waste components) as well as municipal solid waste (i.e., municipal, sewage sludge, construction, ash residue and asbestos wastes components) as they appear on the Waste Destination forms. Table 3-1 presents a breakdown of the facilities that received County waste over the past five years. These facilities include landfills and resource recovery facilities. The majority of wastes originating from Berks County are disposed of in landfills. Existing municipal waste landfill disposal facilities in eastern Pennsylvania are shown on Figure 3-1.

According to waste disposal reports filed with the DEP from 1999 to 2003, thirty landfills and four waste-to-energy (WTE) facilities received waste originating in Berks County (refer to Table 3-1). The majority of municipal waste from Berks County was disposed of at the following landfills: Delaware County Solid Waste Authority - Rolling Hills Landfill (formerly Colebrookdale); Conestoga Landfill; F.R. & S. Inc. - Pioneer Crossing Landfill; Western Berks Refuse Authority Landfill; Pottstown Landfill/SCA Services; Pine Grove Landfill; and Commonwealth Environmental Systems (CES) Landfill. These landfills are located in Berks, Montgomery and Schuylkill Counties. Based on the average over the past five years (1999 – 2003), these seven facilities received 73% of the municipal solid wastes generated by the County and disposed of within Pennsylvania, and 94% of total solid wastes generated by the County and disposed of within Pennsylvania. Refer to Table 3-2 for a comparison of waste types received at these facilities.

Twenty-three other landfills and four WTE facilities within Pennsylvania provided disposal capacity for the remaining waste from Berks County, although the majority of these facilities provided disposal capacity for less than 1,000 tons per year of municipal wastes (i.e., excluding residual wastes) from Berks County. Only the landfills that disposed of more than

**TABLE 3-1
DISPOSAL FACILITIES RECEIVING WASTES ORIGINATING IN BERKS COUNTY
FIVE-YEAR AVERAGE OF TONS OF WASTE DISPOSED (1999 - 2003)**

Disposal Facility Receiving Waste	Total Waste Stream, tons disposed per year (Ave. 1999 - 2003)										Subtotal: Municipal Waste Stream (Mun.+Constr.+ Sew. Sludge+Infect. +Ash+Asb.)		
	Municipal	Residual	Sew. Sldg.	Infect.	Constr.	Ash	Asbestos	Total	% of All Facilities	Tons	% of All Waste Types (1)	% of Total of All Facilities (2)	
Mosteller Landfill, Inc.	359.8	0.0	0.0	0.0	12.4	0.0	0.0	372.3	0.08%	372.3	100%	--	
BFI Wst. System of N. America (Imperial)	9.8	0.0	0.0	0.0	0.0	0.0	12.2	22.1	0.00%	22.1	100%	--	
Shade Township Waste Mgt Facility	0.0	7,427.8	0.0	0.0	0.0	0.0	0.0	7,427.8	1.52%	0.0	--	--	
Frey Farm Landfill	0.0	102.9	0.0	0.0	0.0	0.0	0.0	102.9	0.02%	0.0	--	--	
Kelly Run Sanitation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	--	--	
IESI PA Blue Ridge Landfill	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.00%	1.2	100%	--	
IESI PA Bethlehem City Landfill	775.9	137.5	0.0	0.0	177.6	0.0	1.0	1,092.0	0.22%	954.5	87%	--	
Chrin Brothers Landfill	699.0	25.7	2.4	0.0	149.8	0.0	0.2	877.1	0.18%	851.4	97%	--	
Southern Alleghenies Landfill	0.0	0.0	0.0	0.0	0.0	0.0	17.5	17.5	0.00%	17.5	100%	--	
Modern Landfill	4.3	4,732.5	0.0	0.0	636.8	0.0	19.8	5,393.4	1.10%	660.9	12%	--	
GROWS Landfill	19.3	769.5	0.0	30.3	4.4	1.4	0.0	824.9	0.17%	55.4	7%	--	
Arden Landfill	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.00%	2.2	100%	--	
Grand Central Sanitary Landfill	13.1	114.0	8.2	0.0	21.5	0.0	0.1	156.8	0.03%	42.8	27%	--	
Greenridge Reclamation (4/95) FMLY	15.1	0.0	0.0	0.0	0.0	0.0	79.8	94.8	0.02%	94.8	100%	--	
Delaware County Solid Waste Authority	99,392.7	3,750.7	26.6	0.0	133.0	0.0	6.3	103,309.3	21.1%	99558.6	96%	20%	
F.R. & S. Inc. (Pioneer Crossing)	51,386.2	16,556.4	4,925.8	10,495.0	5,230.2	2.5	0.0	88,596.1	18.1%	72039.7	81%	15%	
Pottstown Landfill - WMI (SCA Services)	10,660.9	17,874.9	6,746.0	2.7	3,688.6	633.1	761.8	40,367.9	8.2%	22493.1	56%	5%	
Western Berks Refuse Authority	45,976.7	24,339.2	905.4	0.0	0.0	0.0	0.0	71,221.3	14.5%	46882.2	66%	10%	
Harrisburg Refuse Incinerator	207.8	200.7	0.0	0.0	0.0	0.0	0.0	408.5	0.08%	207.8	51%	--	
Chester Co. SWA Lanchester Landfill	0.0	35.3	0.0	0.0	630.1	1.2	2.9	669.5	0.14%	634.2	95%	--	
Clinton Co. Solid Waste Authority	43.3	0.0	0.0	0.0	0.0	0.0	1.8	45.2	0.01%	45.2	100%	--	
Lycoming County Solid Waste Dept.	0.0	1.3	0.0	0.0	0.0	0.0	0.1	1.4	0.000%	0.1	9%	--	
Mifflin County Solid Waste Authority	0.0	17.6	0.0	0.0	0.0	0.0	0.0	17.6	0.00%	0.0	--	--	
County Landfill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	--	--	
Lancaster Co. Solid Waste Mgmt. Auth.	0.0	292.6	0.0	0.0	0.0	0.0	0.0	292.6	0.06%	0.0	--	--	
Greentree Landfill	12.5	3.9	0.0	0.0	0.0	0.0	2.6	19.0	0.00%	15.1	79%	--	
Resource Conservation Corp.	9.0	8,565.8	0.0	0.0	0.0	0.0	0.0	8,574.8	1.75%	9.0	0%	--	
Pine Grove Landfill Inc.	12,692.0	3,678.2	693.3	0.0	2,531.8	0.0	106.6	19,701.9	4.02%	16023.7	81%	3%	
Tullytown Resource Recovery Landfill	2.3	0.0	0.0	173.5	3.2	0.0	0.0	179.1	0.037%	179.1	100%	--	
New Morgan Landfill Co. (Conestoga)	56,630.4	36,709.2	13,440.6	5,199.6	14,067.0	28.5	65.3	126,140.7	25.7%	89431.4	71%	18%	
Dauphin Meadows	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.00%	0.9	100%	--	
Commonwealth Env. Systems Landfill	11,361.1	180.8	0.0	0.0	167.4	0.0	0.0	11,709.3	2.39%	11528.5	98%	2%	
Cumberland County Landfill	63.3	592.3	0.0	0.0	604.6	0.0	0.0	1,260.2	0.26%	667.9	53%	--	
Montenay Energy Resources of Mont. Co.	63.6	0.0	0.0	0.0	0.0	0.0	0.0	63.6	0.01%	63.6	100%	--	
York Co. Resource Recovery Ctr.	0.6	2.7	0.0	0.0	0.0	0.0	0.0	3.3	0.001%	0.6	18%	--	
Lancaster Co. Resource Recovery	0.0	961.6	0.0	0.0	0.0	0.0	0.0	961.6	0.20%	0.0	--	--	
Total (5-yr average) All Facilities (1)	290,400.1	127,073.0	26,748.3	15,901.1	28,058.5	666.7	1,081.2	489,928.9	100%	362,855.8	74%		
Percent of Total	59%	26%	5.5%	3.2%	5.7%	0.1%	0.2%	100%					

Source: PA DEP Bureau of Land Recycling & Waste Mgt., Division of Reporting & Fee Collection, County Waste Destinations Report.

Notes: (1) Represents the percent of municipal waste stream disposed at the facility: Percent of All Waste Types = (Municipal Waste Stream at disposal facility) / (Total Waste at disposal facility).

(2) Represents the percent of municipal waste stream disposed at ALL facilities. Percent of Total of All Facilities = (Municipal Waste Stream at disposal facility) / (Total of All Facilities).

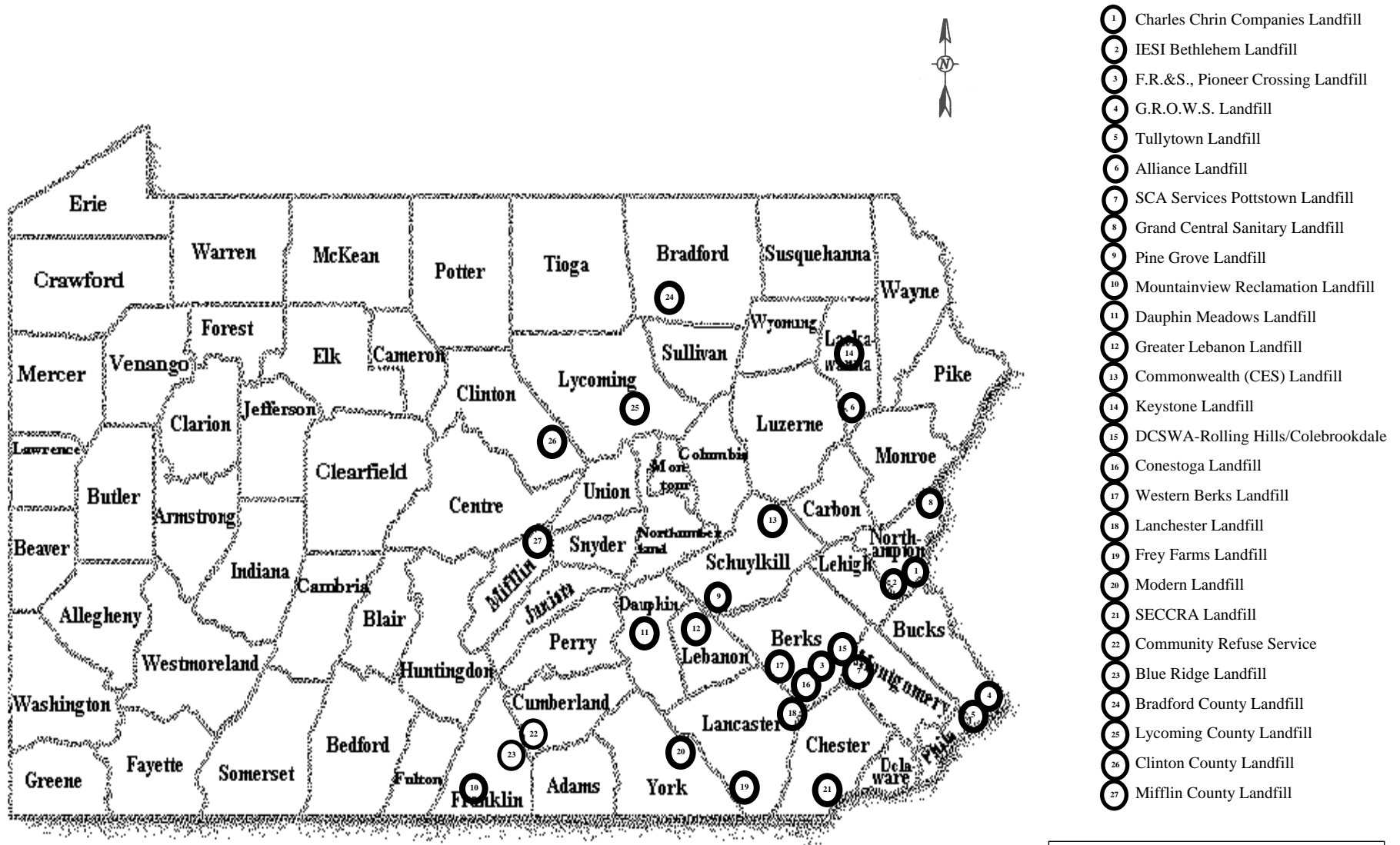



FIGURE 3-1
EXISTING MUNICIPAL WASTE
DISPOSAL LANDFILLS IN
EASTERN PENNSYLVANIA



1,000 tons per year of Berks County municipal waste are described in Section 3.1 of this Plan Revision. The WTE facilities are discussed in Section 3.3.1. The DEP does not maintain records on volumes of materials delivered to out-of-state facilities.

TABLE 3-2
DISPOSAL FACILITIES MOST UTILIZED BY BERKS COUNTY, 1999 - 2003

Disposal Facility	Municipal Solid Waste ^a		Total Solid Waste ^b	
	tons	%	Tons	%
DCSWA – Rolling Hills Landfill	99,559	20 %	103,309	21 %
New Morgan Landfill Co. (Conestoga)	89,431	18 %	126,141	26 %
F.R.& S. Inc. (Pioneer Crossing)	72,040	15 %	88,596	18 %
Western Berks Refuse Authority	46,882	10 %	71,221	15 %
Pottstown Landfill/SCA Services	22,493	5 %	40,368	8 %
Pine Grove Landfill	16,024	3 %	19,702	4 %
CES Landfill	11,529	2 %	11,709	2 %
Subtotal		73 %		94 %
Other Facilities		27 %		6 %
Total		100 %		100 %

Source: DEP Waste Destination Reports, average 1999 – 2003.

^a Municipal Solid Waste includes the municipal, sewage sludge, construction, ash residue and asbestos waste components; excludes residual wastes.

^b Total Solid Waste includes all waste components (i.e., includes all municipal waste types plus residual wastes).

3.1 LANDFILLS

The 1990 Municipal Waste Management Plan stated that Berks County executed agreements with Browning Ferris, Inc. (i.e., Conestoga Landfill) and the Delaware County Solid Waste Authority on October 12, 1989 to provide short-term and long-term landfill capacity. The 1990 Plan also stated that Berks County executed an agreement with Western Berks Refuse Authority on April 12, 1990 to provide additional short-term landfill capacity. The execution of these agreements was to provide landfill capacity for municipal waste and to generate monies for the County over 25 years (1990 – 2015).

The following descriptions of landfills include references to the maximum daily volume (MDV), which is the maximum amount the facility is permitted to receive on a given day,

and the average daily volume (ADV), which is the daily tonnage a facility can receive averaged over the quarter.

Specific permit limits are provided for information purposes and is not intended to limit the facility from applying for and receiving permit modifications that will change the volume of waste the facility receives. Based on this and other information available for the landfills, the status of disposal facilities most utilized by Berks County is presented in Table 3-3.

TABLE 3-3
STATUS OF DISPOSAL FACILITIES MOST UTILIZED BY BERKS COUNTY

Landfill	Estimated Remaining Landfill Capacity (as of Dec. 2003)	Estimated Remaining Landfill Life (until date)	Permit Expiration Date	Comments
DCSWA - Rolling Hills Landfill	13.2 mil cy	mid-2016	July 2013	
New Morgan Landfill Co. - Conestoga Landfill	22 mil cy	mid-2007	August 2007	Pending permit application for additional 7.5 years of capacity
FR&S Inc. - Pioneer Crossing Landfill	± 7.7 mil tons (±17.4 mil cy)	2019 - 2021	December 2013	
Western Berks Refuse Authority Landfill		mid-2004	April 2010	Closure phase scheduled to begin in 2005
Pottstown Landfill/ SCA Services		Late-2004	October 2005	December 2003 Order by DEP to begin closure operations
Pine Grove Landfill	80,000 cy	October 2004	July 2007	Pending permit application for additional 2.6 years of capacity
CES Landfill	± 3.9 mil tons (±9 mil cy)	2011 - 2012	December 2004	Pending permit renewal application (for extension of permit expiration date)

3.1.1 Delaware County Solid Waste Authority – Rolling Hills Landfill

The Delaware County Solid Waste Authority Landfill operates under DEP Solid Waste Permit No. 100345. It is also known as the Rolling Hills Landfill and formerly known as the Colebrookdale Landfill. This facility was described in the original 1990 Plan and is still used to provide capacity for the County's municipal waste. As mentioned above, the 1990 plan states that Berks County executed an agreement with Delaware County Solid Waste Authority on October 12, 1989 to provide short-term and long-term landfill capacity. The execution of the agreement was to provide landfill capacity for municipal waste and to generate monies for the County.

In 2003, DEP Waste Destination reports indicate that this facility received 111,766 tons, or nearly 22%, of total solid waste generated by the County. In the past five years, this facility received an average of 103,309 tons, or 21%, of total solid waste generated by the County.

The Rolling Hills Landfill has a permitted area of 213.8 acres with a disposal area of 156.7 acres. The facility operates under a permitted MDV of 3,840 tons and an ADV of 3,200 tons. The facility reports that the ADV in 2001 was approximately 1,641 tons, thus the facility accepts waste at a rate substantially lower than its permitted ADV. According to the facility's 2001 Annual Report, the remaining landfill capacity is approximately 15.4 million cubic yards (cy). Per the 2001 Annual Report, the estimated remaining landfill life at the current utilization rate (i.e., \pm 1,641 tons per day (tpd)) is about 30 years (i.e., until Year 2031), and the remaining landfill life at the ADV of 3,200 tpd is 14.6 years (i.e., until mid-2016). The existing permit is set to expire in July 2013.

3.1.2 Conestoga Landfill

This facility, described in the original 1990 Plan, operates under DEP Solid Waste Permit No. 101509, and is still used to provide capacity for the County's municipal waste. As mentioned above, the 1990 plan states that Berks County executed an agreement with Browning Ferris, Inc. (i.e., Conestoga Landfill) on October 12, 1989 to provide short-term and long-term landfill capacity. The execution of the agreement was to provide landfill capacity for municipal waste and to generate monies for the County.

In 2003, DEP Waste Destination reports indicate that this facility received 171,734 tons, or 33%, of total solid waste generated by the County. In the past five years, this facility received an average of 126,141 tons, or nearly 26%, of total solid waste generated by the County.

The Conestoga Landfill has a permitted area of 387 acres with a disposal area of 153.8 acres. The facility operates under a permitted MDV of 10,000 tons, and an ADV of 7,210 tons. However the facility reports it currently accepts waste at a rate substantially lower than its permitted ADV. In 2003, the facility reported the remaining landfill capacity was approximately 27.9 million cubic yards (cy) and the estimated remaining landfill life was 4.5 years (i.e., until mid-2007). The existing permit is set to expire in August 2007. In July 2002, the facility submitted to DEP an application for expansion for an additional 25.5 million cy and 7.5 years of capacity. DEP has announced that the regulator review of this application has been halted until odor complaints at the landfill have been resolved.

3.1.3 F.R. & S., Inc. (Pioneer Crossing)

F.R. & S. Sanitary Landfill, also known as Pioneer Crossing Landfill, is located in Birdsboro, Pennsylvania and is operating under a ten-year solid waste facility permit issued by DEP. This facility, described in the original 1990 Plan, operates under DEP Solid Waste Permit No. 100346, and is still used to provide capacity for the County's municipal waste.

In 2003, DEP Waste Destination reports indicate that this facility received 88,667 tons, or 17%, of total solid waste generated by the County. In the past five years, this facility received an average of 88,596 tons, or nearly 18%, of total solid waste generated by the County.

The facility is owned by J.P. Mascaro, Inc., and is situated on approximately 300 acres of land. The facility has a projected useful life of more than 24 years. Pioneer Crossing Landfill received its DEP permit (DEP No. 100346) in May 1990, when it was owned by F.R. & S., Inc and known as the F.R. & S. landfill. The permit was since renewed for ten

years in December 1993. The landfill has a permitted capacity of 10,000,000 cubic yards. The permitted area is 153.28 acres, with a disposal area of 100.81 acres, the capacity of which is expected to last for 10 years. Currently, the facility is in the final stages of a multi-million dollar expansion. A host municipality agreement is also in place with the host municipality, Exeter Township. DEP issued a new permit for this facility in 2002.

3.1.4 Western Berks Refuse Authority Landfill

This facility, described in the original 1990 Plan, operates under DEP Solid Waste Permit No. 100739, and is still used to provide capacity for the County's municipal waste. As mentioned above, the 1990 plan states that the Berks County executed an agreement with Western Berks Refuse Authority on April 12, 1990 to provide additional short-term landfill capacity. The execution of this and the other described agreements was to provide landfill capacity for municipal waste and to generate monies for the County over 25 years (1990 – 2015).

In 2003, DEP Waste Destination reports indicate that this facility received 76,999 tons, or nearly 15%, of total solid waste generated by the County. In the past five years, this facility received an average of 71,221 tons, or nearly 15%, of total solid waste generated by the County.

The Western Berks Refuse Authority Landfill has a permitted area of 200 acres with a disposal area of 6 acres. The facility operates under a permitted ADV of 400 tons and a MDV of 600 tons. The facility reports the remaining landfill life is approximately 10 months (i.e., until mid-2004). The existing permit is set to expire in April 2010. The facility reports that it had plans for expansion of the facility, which would add 5½ to 6 years of landfill life; however the facility has had difficulties in meeting the closure and post closure care bonding requirements of the permit application. The Western Berks Refuse Authority Landfill was not granted a permit for expansion and is set to begin the closure phase in 2005.

3.1.5 Pottstown Landfill / SCA Services

This facility, described in the original 1990 Plan, operates under DEP Solid Waste Permit No. 100549, and is still used to provide capacity for the County's municipal waste. In 2003, DEP Waste Destination reports indicate that this facility received 9,514 tons, or just 2%, of total solid waste generated by the County. In the past five years, this facility received an average of 40,368 tons, or nearly 8%, of total solid waste generated by the County.

The Pottstown facility has submitted several applications to the DEP to receive expansion permits. The first of these was approved by the state in October of 1995. The expansion added an additional 73 acres to the landfill area, 51 of which would be additional disposal area. The expansion was projected to increase capacity by 3.5 years.

Waste Management submitted two applications to DEP in August of 2000 to expand several portions of the facility. The first application proposed a vertical expansion in the landfill's eastern area, which was currently accepting waste, and the second application requested a vertical expansion onto closed, capped portions of the landfill. DEP returned both applications to the facility in December of the same year, citing "fundamental deficiencies". In February of 2002, Waste Management agreed to drop its plans for the vertical expansion of the western portion, but negotiated with the DEP to consider expansion of the permitted area. In December 2003, DEP denied the application for expansion and ordered Pottstown Landfill to begin closure operations. A committee has been formed by Waste Management Inc., to provide input on closure and to determine whether a new application should be prepared to increase grades at the facility to enhance closure.

3.1.6 Pine Grove Landfill

Pine Grove Landfill is located in Pine Grove Township, Schuylkill County, Pennsylvania and is owned and operated by Waste Management, Inc. The permitted area is 130 acres with a disposal area of 75 acres; the permit expiration date is July 1, 2007. Under its current permit (PA DEP No. 101427), Pine Grove Landfill has an MDV of 2,000 tons and has a permitted ADV of 1,500 tons. DEP records show this facility has received an average of nearly 20,000 tons per year of waste from Berks County in the past. As of August 20, 2004, the facility

suspended waste acceptance due to reaching final grade. A Permit Application for Expansion was denied by DEP on June 22, 2004. The decision by DEP is under appeal to the Environmental Hearing Board (EHB). If overturned and the permit for expansion is approved, the facility will have an additional 2.6 years of life.

3.1.7 CES Landfill

Louis DeNaples owns the Commonwealth Environmental Systems (CES) Landfill in Foster Township, Schuylkill County, Pennsylvania. DEP records show this facility has received an average of nearly 12,000 tons per year of waste from Berks County over the past few years. The facility estimates that, as of December 2003, CES had 3,900,000 tons of remaining permitted capacity, which is expected to last another 8 years. The facility is permitted to operate under a MDV of 2,350 tons and an ADV of 2,100 tons; as of the first quarter of 2004, the facility is operating under an ADV of 1,152 tons. The current permit (PA DEP No. 101615) is set to expire on December 21, 2004. The facility has filed a permit renewal application with DEP.

3.1.8 Other Landfills

The other 23 landfills that have received minor amounts of Berks County municipal waste in the past five years are included in Table 3-1. Descriptions of these facilities and evaluations of existing and future capacity have not been provided, because they have received small amounts of the County's waste, and it is unlikely that any will receive more significant amounts in this planning period.

3.2 PREVIOUS LANDFILL DISPOSAL FACILITIES

The 1990 Plan included several other landfill disposal facilities previously utilized by the County. These include the John Fry Landfill and Mt. Carmel Landfill; both are no longer in operation and are therefore not included in this Plan Revision.

3.3 OTHER FACILITIES

Other facilities that are utilized to dispose of wastes generated in the County include waste-to-energy (WTE) facilities and transfer stations. These are discussed in the following sections.

3.3.1 Waste-To-Energy Facilities

The Montgomery County Resource Recovery Facility, owned and operated by Montanay Montgomery Limited Partnership, has received minor amounts of Berks County-generated waste since the approval of the 1990 Plan. For example, between 1999 and 2003, the quantity of municipal solid waste disposed of at the Montanay facility ranged from 0.6 to 196 tons per year. The York County Resource Recovery Center received Berks County waste in the past five years (ranging from 0.7 to 13.5 tons per year), which was primarily residual waste. The Lancaster Resource Recovery Facility also received Berks County waste in the past five years (ranging from 0 to 1,645 tons per year), although this was of the residual type. The Harrisburg Refuse Incinerator received Berks County waste in the past five years (ranging from 0.2 to 1847 tons per year), including both municipal and residual wastes. Historically, very little of Berks County's generated municipal waste is managed at WTE facilities.

3.3.2 Transfer Stations

Because of the presence of multiple landfill facilities in and around Berks County, transfer stations are not used often to transfer municipal waste. Nothing in this Plan or this Plan Revision prohibits the transfer of municipal waste at a transfer station permitted by DEP.

Each and every application for a solid waste transfer facility proposed to be located in Berks County shall be copied for, and reviewed by, the Berks County Solid Waste Authority and the Berks County Planning Commission.

CHAPTER 4 - ESTIMATED FUTURE CAPACITY

4.1 ESTIMATED FUTURE CAPACITY AT FACILITIES

As indicated in Chapter 3, there are seven disposal facilities that accept the majority of Berks County waste for disposal. Two of the disposal facilities most utilized by Berks County (e.g., DCSWA Rolling Hills Landfill and F.R.& S. Pioneer Crossing Landfill), have future capacity of over 13 million cubic yards (cy) each, as well as adequate permitted life to serve the needs of Berks County for the duration of this planning period. Two of the disposal facilities are scheduled to close within the next year (Pottstown Landfill/SCA Services and Western Berks Refuse Authority Landfill). The Conestoga Landfill has filed an application for expansion with DEP, which is currently on hold pending resolution of complaints regarding landfill odors. The remaining two disposal facilities are located in Schuylkill County (Pine Grove Landfill and CES Landfill).

The need for capacity assurance was recognized by the County, and in June 2003, the Authority published a notice of need for capacity assurance in *Waste News*, a nationally recognized waste industry publication. The notice stated that the Berks County (PA) Solid Waste Authority had initiated the regulatory required municipal waste management planning process and requested that owners of facilities who desire to provide capacity assurance, and enter into an agreement with the Authority, contact the Authority. Section 4.4 of this Plan Revision includes more information on the need for capacity assurance and available estimated future capacity at responding facilities.

4.2 ESTIMATED FUTURE WASTE GENERATION

Solid waste disposal reports and population figures from the past ten years were used to determine the trend in per capita waste generation rates. Table 4-1 shows the generation rates that were calculated for the County for the municipal waste component, that is, wastes generated by residential households, and commercial and institutional establishments; this component excludes all other components of the waste stream (i.e., C&D, sewage sludge, etc.). Estimated waste generation rates for these other components of the municipal waste stream are included in Table 4-2.

**TABLE 4-1
HISTORICAL AND CURRENT WASTE GENERATION RATES ^a**

Year	NET DISCARDS Municipal Waste Component Disposed (tons) ^a	Reported Recycling (tons) ^b	GROSS DISCARDS Municipal Waste Component Generation (tons) ^c	Population ^d	GROSS DISCARDS Per Capita Municipal Waste Component Generation (#/person/day) ^b
1990	235,268	5,397	240,665	336,523	3.9
1992	236,674	29,207	265,881	341,700	4.2
1997	243,339	52,404	295,743	354,057	4.6
1998	270,197	56,625	326,822	364,900	4.9
1999	270,544	54,810	325,354	368,900	4.8
2000	318,948	62,330	381,278	373,638	5.6
2001	273,437	63,083	336,520	377,900	4.9
2002	291,617	54,418	346,035	382,100	5.0
2003	297,455	62,913	360,368	385,500	5.1

^a DEP Waste Destination report values for municipal waste component (excludes all other waste components such as sewage sludge, construction, etc.) for Berks County.

^b Years 1990 and 1992 from DEP. Years 1997 through 2003 from Berks County Recycling Data; represents data provided by municipal and county recycling programs; excludes industrial and other probable (i.e., C&D) recycling data.

^c Gross Discards equals sum of Net Discards and Reported Recycling.

^d Years 1990 and 2000 per US Census; other years based on Census estimates or County records.

**TABLE 4-2
ESTIMATED WASTE GENERATION RATES**

Year	Population	Municipal Waste Stream ^a (tons per year)						Total Municipal Solid Waste ^{a,b}
		Municipal ^b	Sewage Sludge	I/C	C&D	Ash	Asbestos	
2001	377,900	336,520	26,616	16,069	30,952	150	422	410,729
2002	382,100	346,035	29,648	17,412	32,102	2	308	425,508
2003	385,500	360,368	29,675	21,565	15,052	6	291	426,958
3-yr ave	381,800	347,600	28,600	18,300	26,000	50	340	421,100
Estimated Per capita Generation (#/person/day)		5.0	0.41	0.26	0.37	0.001	0.005	6.0

a – Based on waste disposal report values and reported recycling as noted. Includes municipal, sewage sludge, I/C, C&D, ash and asbestos waste components; excludes residual waste component.

b - Includes Reported Recycling.

I/C – Infectious and chemotherapeutic wastes.

C&D – Construction and demolition wastes.

In 1990, the municipal waste component generation rate was approximately 3.8 pounds per person per day (see Table 4-1). By 2000, this had increased to 5.6 pounds per person per day, followed by a decrease to 4.9 pounds per person per day in 2001. The generation rate then increased to 5.0 and 5.1 pounds per person per day in 2002 and 2003, respectively. Essentially, the municipal waste component generation rate has remained steady over the past five years. Based on these data, this Plan Revision will assume a municipal waste component generation rate of 5.0 pounds per person per day (i.e., most recent three-year average, 2001-2003) over the planning period.

Table 4-3 shows the estimated generation and disposal quantities over the planning period for both the municipal waste component and for the total municipal solid wastes. The total municipal solid wastes include all municipal waste stream components (i.e., excludes residual wastes; includes municipal, sewage sludge, construction, infectious, ash and asbestos wastes). (For a visual aid, refer to Figure 2-2, which shows the break down of the waste streams into its individual components.)

TABLE 4-3
ESTIMATED MUNICIPAL WASTE STREAM GENERATION AND DISPOSAL QUANTITIES
OVER 10-YEAR PLANNING PERIOD (2005 - 2014)
Berks County, PA

Year	Population ^b	Municipal Waste Stream ^a				
		Generation		Recycled		Disposed
		Total Municipal Solid Wastes (tons) ^{a,c}	Municipal Component (tons) ^d	Recycled Materials (tons) ^f	Projected County Recycling Rate ^{e,f}	Total Municipal Solid Wastes (tons) ^{a,g,h}
2000	373,638	453,006	381,278	62,330	0.16	390,676
2001	377,900	410,729	336,520	63,083	0.19	347,646
2002	382,100	425,508	346,035	54,418	0.16	371,090
2003	385,500	426,958	360,368	62,913	0.17	364,045
2004	389,000	428,800	354,300	67,300	0.19	361,500
2005	392,500	432,700	357,400	71,500	0.20	361,200
2006	396,000	436,500	360,600	90,200	0.25	346,300
2007	399,600	440,500	363,900	109,200	0.30	331,300
2008	403,200	444,400	367,200	121,200	0.33	323,200
2009	406,800	448,400	370,500	129,700	0.35	318,700
2010	410,500	452,500	373,800	130,800	0.35	321,700
2011	414,200	456,600	377,200	132,000	0.35	324,600
2012	417,900	460,700	380,600	133,200	0.35	327,500
2013	421,700	464,800	384,000	134,400	0.35	330,400
2014	425,500	469,000	387,500	135,600	0.35	333,400
Totals (2005 - 2014):		4,506,000		1,188,000		3,318,000

Notes:

- a- Includes municipal waste stream components: municipal, C&D, I/C, sewage sludge, ash and asbestos wastes. Excludes residual wastes.
- b- Based on Year 2002 US Census Bureau population estimates and population growth rate of 0.9% per year.
- c- Calculated using a generation rate of approximately 6.0 pounds of waste / person / day throughout the planning period. Years 2000-2003 based on reported data.
- d- Calculated using a generation rate of 5.0 pounds of municipal waste / person / day throughout the planning period. Years 2000-2003 based on reported data.
- e- Projected rates accomplish DEP goal of 35% recycling of municipal waste component.
- f- The recycling rate accounts for the municipal waste component recyclables (i.e., paper, plastic, glass, etc.) from residential, commercial and institutional sources.
- g- Difference of Total Solid Waste Generation and Recycled Materials
- h - Values in 2000, 2001, 2002 and 2003 are actual data from DEP Waste Destination Reports (posted as of March 2004) for Berks County.

Items in italics represent estimated data.

Total waste generation is required by Act 101 to include all municipal waste components, but is also required to take into consideration the volumes of residual waste that would likely be disposed in facilities utilized by the County. Therefore, the projected quantity of residual waste generation over the planning period is also included in this Plan Revision (refer to Section 4.2.4.2.).

It should be noted that, from 1990 to 1992 the municipal waste stream (i.e., municipal, sewage sludge, construction, ash residue, and asbestos wastes, per DEP reporting), made up approximately 90% of the total solid waste disposed. From 1999 to 2003, however, the municipal waste stream made up approximately 74% of the total solid waste disposed (refer to Table 3-1). Thus, the increase in solid waste generation rates from the early 1990's to the present is not only attributed to population increases, but also to the increase in residual, infectious, ash and asbestos wastes being disposed of in Pennsylvania facilities, as well as to better reporting requirements instituted by DEP.

Using population data and the per capita waste generation rates estimates described previously, total municipal solid waste generation projections for the County over the 10-year planning period have been estimated. In addition, the quantities of the recyclable portion of the municipal waste stream have been estimated based on historic recycling rates in the County and the DEP goal of 35% recycling. These projections are shown in Table 4-3. (Refer to Table 5-2 for a further breakdown of the generation projections into individual components of the municipal waste stream.)

The total municipal solid waste to be disposed of over the 10-year planning period is approximately 3.32 million tons. This includes the municipal waste stream (i.e., wastes originating from residential, commercial and institutional establishments), which includes the following waste components: municipal, C&D, I/C, sewage sludge and septage, ash residue and asbestos wastes; this does not include residual wastes or recyclables.

4.2.1 Residential Waste Projections

Based on the evaluation of current data, including 2000 census data for demographic, economic, housing and social characteristics, the current proportion of residential-generated waste in the municipal waste stream is estimated to be 46% (refer to Table 4-4). A breakdown of the municipal waste stream into fractions from residential sources, and projected disposal quantities is provided in Table 4-5.

4.2.2 Commercial/Industrial Waste Projections

Based on the evaluation of current data, including 2000 census data for demographic, economic, housing and social characteristics, the current proportion of commercial/industrial-generated waste in the municipal waste stream is estimated to be 42% (refer to Table 4-4). A breakdown of the municipal waste stream into fractions from commercial/industrial sources, and projected disposal quantities is provided in Table 4-5.

4.2.3 Institutional Waste Projections

Based on the evaluation of current data, including 2000 census data for demographic, economic, housing and social characteristics, the current proportion of institutional-generated waste in the municipal waste stream is estimated to be 12% (refer to Table 4-4). A breakdown of the municipal waste stream into fractions from institutional sources, and projected disposal quantities is provided in Table 4-5.

4.2.4 Other Waste Types

The DEP requires counties to project the volumes of special handling wastes for the planning period. These waste types include infectious/chemotherapeutic waste, residual waste, construction and demolition waste, and sewage sludge and septage, and are also generated by residential, commercial, industrial, and institutional sources. They are discussed individually here to give a sense of the individual portions generated.

TABLE 4-4
WASTE CHARACTERISTICS BY GENERATION SOURCES
Berks County, PA

Employment by Occupation	Percentage	Notes		
180,881 Employed (civilian, age 16 or older)				
53,005 Management, professional & related occupations	14.2%	**,***		
24,139 Service occupations	6.5%	**		
47,193 Sales and office occupations	12.6%	**		
1,545 Farming, fishing and forestry occupations	0.4%	*		
16,451 Construction, extraction and maintenance occupations	4.4%	*		
38,548 Production, transportation, and materials moving occupations	10.3%	*		
Employment by Industry	Percentage	Notes		
180,881 Employed (civilian, age 16 or older)				
3,215 Agriculture, forestry, fishing, hunting & mining	0.9%	*		
10,591 Construction	2.8%	*		
43,600 Manufacturing	11.7%	*		
6,873 Wholesale trade	1.8%	**		
21,804 Retail trade	5.8%	**		
8,896 Transportation & warehousing, and utilities	2.4%	*		
3,060 Information	0.8%	**		
11,582 Finance, insurance, real estate and rental & leasing	3.1%	**		
13,575 Professional, scientific, management, admin & waste mgt.	3.6%	**		
33,496 Educational, health & social services	9.0%	***		
11,384 Arts, entertainment, recreation, accommodation & food services	3.0%	**		
8,679 Other services (except public administration)	2.3%	**		
4,126 Public administration	1.1%	**		
MSW Generation - assumptions for proportioning sectors / sources of MSW generation				
	<u>By</u>	<u>By</u>	<u>Average</u>	<u>Totals</u>
	Occupation	Industry		
* estimated industrial portion =	15%	18%	16%	
** estimated commercial portion =	29%	22%	25%	
<i>subtotal commercial/industrial =</i>				42%
The remaining proportion of waste generation can be broken-down into the residential and institutional sectors:				
*** estimated institutional portion (1)	4.3%	9.0%	6.6%	
additional institutional portion (2)	6%	6%	6%	
<i>subtotal institutional =</i>				12%
<i>subtotal residential (3) =</i>				46%
Total MSW generation =				100%

Source: US Census 2000 Data, Berks County, PA.

- Notes: (1) Includes employee-related portion only; excludes portion from schools, nursing and boarding homes, etc.
(2) For waste quantification purposes, assume portion from schools, nursing and boarding homes, etc., represents approximately 6%.
(3) For waste quantification purposes, residential portion is the remaining percentage.

TABLE 4-5
MUNICIPAL WASTE STREAM ORIGIN AND PROJECTED DISPOSAL QUANTITIES
OVER 10-YEAR PLANNING PERIOD (2005 - 2014)
Berks County, PA

Year	Municipal Waste Stream, Tons Disposed per Year			
	Total Municipal Solid Wastes ^{a,b}	Residential Fraction ^c	Commercial/Indust. Fraction ^d	Institutional Fraction ^e
2000	390,676	179,700	164,100	46,900
2001	347,646	159,900	146,000	41,700
2002	371,090	170,700	155,900	44,500
2003	364,045	167,500	152,900	43,700
2004	361,500	166,300	151,800	43,400
2005	361,200	166,200	151,700	43,300
2006	346,300	159,300	145,400	41,600
2007	331,300	152,400	139,100	39,800
2008	323,200	148,700	135,700	38,800
2009	318,700	146,600	133,900	38,200
2010	321,700	148,000	135,100	38,600
2011	324,600	149,300	136,300	39,000
2012	327,500	150,700	137,600	39,300
2013	330,400	152,000	138,800	39,600
2014	333,400	153,400	140,000	40,000
Totals (2005 - 2014):	3,318,000	1,527,000	1,394,000	398,000

Notes:

- a- Includes municipal, C&D, I/C, sewage sludge, ash residue and asbestos wastes. Excludes recycled materials; excludes residual wastes.
- b- Based on data presented in Table 4-3, Estimated Solid Waste Generation and Disposal Quantities.
- c- Residential Sector = 46% of municipal waste types. Based on Table 4-4, Waste Characteristics by Generation Source.
- d- Commercial/industrial sector = 42% of municipal waste types. Based on Table 4-4, Waste Characteristics by Generation Source.
- e- Institutional sector = 12% of municipal waste types. Based on Table 4-4, Waste Characteristics by Generation Source.

Items in italics represent estimated data.

4.2.4.1 *Infectious/Chemotherapeutic Waste Projections*

The wastes included in the medical sector are managed separately from typical municipal solid wastes. These wastes, often called infectious and chemotherapeutic (I/C) wastes in Pennsylvania, are separately quantified. The DEP waste receipts show that infectious and chemotherapeutic wastes currently make up approximately 3.7% of the Berks County waste stream disposed of in PA landfills (2001-2003 waste receipts). This represents a slight increase over the past five-year average (1999 – 2003) of 3.2% (refer to Table 3-1). However, it is worth noting that the annual growth rate of I/C wastes disposed in Berks County has fluctuated from 8% to 24% over recent years (refer to Table 2-5).

4.2.4.2 *Residual Waste Projections*

The DEP waste receipts show that residual wastes make up approximately 28% of the waste stream disposed of in PA landfills (2001-2003 waste receipts). This represents a slight increase over the past five-year average of 26%. It is therefore estimated that, over the ten-year planning period, residual wastes to be disposed of will total 1.17 million tons. This value, added to the 3.32 million tons of municipal solid waste, results in a disposal capacity requirement of nearly 4.5 million tons over the ten-year planning period.

4.2.4.3 *Construction and Demolition Waste Projections*

The DEP waste receipts show that construction and demolition wastes make up approximately 5.2% of the waste stream disposed of in PA landfills (2001-2003 waste receipts). This represents a slight decrease over the past five-year average (1999 – 2003) of 5.7% (refer to Table 3-1).

4.2.4.4 *Sludge Generation Projections*

The DEP waste receipts show that sludge and septage wastes make up approximately 5.7% of the waste stream disposed of in PA landfills (2001-2003 landfill waste receipts). This represents a slight increase in the past five-year average of 5.5%.

4.3 ESTIMATED TOTAL CAPACITY REQUIRED

As shown in Table 4-3, the projected total capacity required for this planning period is approximately 3.32 million tons. This figure includes municipal, C&D, sewage sludge, I/C, ash residue and asbestos waste types but does not include materials that have been removed from the waste stream as a result of recycling and waste reduction. This value does not include residual wastes. As indicated in Section 4.2.4.2, it is estimated that residual wastes to be disposed of over the ten-year planning period will total 1.17 million tons. This value, added to the 3.32 million tons of municipal solid waste, results in a disposal capacity requirement of nearly 4.5 million tons over the ten-year planning period. In order for the disposal capacity required by the County to demonstrate a “worst case” scenario, the 4.5 million tons should be used for planning purposes.

4.3.1 Variables Affecting Total Capacity Requirements

The variables that affect the capacity required by the County for waste generated by its residents and businesses have been factored into the calculations and projections contained in this report. These variables include the rate of population growth, the rate of expanded development in the County, and the success of the County’s recycling and waste reduction programs. Population projections used in this Plan Revision are based on the most accurate and recent available data.

Real and probable data has been utilized to represent the volume of recyclable materials that the County will recover during the planning period. The County has established recycling programs and will continue to assist municipalities in improving these programs. As of the date of this submission, the County does not appear to meet the State 35% recycling goal, but the County is committed to work to achieve this rate of recycling. Continued improvement in recycling and waste reduction efforts will decrease the volume of waste that requires disposal.

4.4 NEED FOR CAPACITY ASSURANCE

In June 2003, the Authority published a notice of need for capacity assurance in *Waste News*, a nationally recognized waste industry publication. The notice stated that the Berks County (PA) Solid Waste Authority had initiated the regulatory required municipal waste management planning process and requested that owners of facilities who desire to provide capacity assurance, and enter into an agreement with the Authority, contact the Authority. A copy of the publication is included in Appendix B.

4.4.1 Responses to Notice of Need for Capacity Assurance

Seven entities, representing eleven landfill disposal facilities and two transfer stations, responded to the request for capacity assurance. The County contacted each of the seven entities and sent them copies of the Disposal Capacity Agreement. Of these seven, four companies have executed agreements with the County of Berks and the Berks County Solid Waste Authority, and these agreements were adopted by the Berks County Board of Commissioners through Resolution No. 591-03 on October 23, 2003.

In addition, an April 1, 2003, letter agreement between the Berks County Solid Waste Authority, the County of Berks and the New Morgan Landfill Company, Inc., was executed. This letter agreement acknowledges that the Conestoga Landfill will have sufficient capacity to meet the County's needs for the duration of the indicated planning period, and the Conestoga Landfill will be included in the pending revision of the County's Municipal Waste Management Plan.

In all, six companies, representing nine municipal waste landfills and one C&D landfill have agreed to provide capacity for Berks County municipal solid waste over the ten-year planning period (refer to Table 4-6). Note that one of these landfills – Dauphin Meadows – has executed a disposal capacity agreement, however the capacity available to Berks County is zero tons per year. Two transfer stations, represented by one of the companies, have also executed disposal capacity agreements, however transfer stations cannot offer disposal capacity. Copies of the letter agreement and the executed disposal capacity agreements are

included in Appendix C. An evaluation of the capacity offered by these facilities, based on the remaining life of the facility and the County's annual waste disposal projections, was conducted (refer to Table 4-7). Based on this evaluation, the County has sufficient capacity available for the ten-year planning period.

**TABLE 4-6
FACILITIES PROVIDING CAPACITY ASSURANCE
Berks County, PA**

Owner	Facility Name (Location)	Type of Facility
Chester County Solid Waste Authority	Lanchester Landfill (Lancaster County / Chester County)	MSW landfill
Delaware County Solid Waste Authority	Rolling Hills Landfill (Berks County)	MSW landfill
Louis & Dominick DeNaples	Keystone Sanitary Landfill (Lackawanna County)	MSW landfill
L & D Management, Inc.	CES Landfill (Schuylkill County)	MSW landfill
New Morgan Landfill Company, Inc.	Conestoga Landfill (Berks County)	MSW landfill
Waste Management of Pennsylvania, Inc.	Grand Central Sanitary Landfill (Northampton County)	MSW landfill
	Dauphin Meadows Landfill ^a (Dauphin County)	MSW landfill
	Pine Grove Landfill (Schuylkill County)	MSW landfill
	Alliance Sanitary Landfill (Lackawanna County)	MSW landfill
	Phoenix Resources (Tioga County)	C&D landfill

a – A disposal capacity agreement was executed for Dauphin Meadows Landfill, however, the capacity available to Berks County is zero tons per year.

TABLE 4-7a
MUNICIPAL WASTE MANAGEMENT PLAN REVISION
BERKS COUNTY, PA
EVALUATION OF OFFERED CAPACITY (1)

Year	Proposed Quantity of Berks County MSW Disposal, tons (2)	Capacity Offered through Agreement, tons/year									Total Available Capacity	Remaining Available Capacity, tons	Additional Required Capacity, tons
		Lanchester	Conestoga (3)	Rolling Hills	CES	Keystone	Grand Central Sanitation	Pine Grove	Alliance	Phoenix Resources (C&D) (4)			
<i>Remaining landfill life, years:</i>		2.5	11	17	8	24	5.2	0.8	3.6	1.9			
2005	488,108	2,000	218,708	120,000	6,000	6,000	15,500	12,400	77,500	30,000	488,108	0	0
2006	467,973	2,000	210,973	120,000	6,000	6,000	15,500		77,500	30,000	467,973	0	0
2007	447,703	1,000	221,703	120,000	6,000	6,000	15,500		77,500		447,703	0	0
2008	436,757		242,757	120,000	6,000	6,000	15,500		46,500		436,757	0	0
2009	430,676		283,176	120,000	6,000	6,000	15,500				430,676	0	0
2010	434,730		299,630	120,000	6,000	6,000	3,100				434,730	0	0
2011	438,649		306,649	120,000	6,000	6,000					438,649	0	0
2012	442,568		310,568	120,000	6,000	6,000					442,568	0	0
2013	446,486		320,486	120,000		6,000					446,486	0	0
2014	450,541		324,541	120,000		6,000					450,541	0	0
10-yr total	4,484,000	5,000	2,739,000	1,200,000	48,000	60,000	81,000	12,000	279,000	60,000	4,484,000	0	0

Notes:

- (1) Evaluation of offered capacity assuming Conestoga Landfill is granted its pending permit application for expansion.
- (2) Includes residual waste.
- (3) Per the April 1, 2003 letter of agreement, Conestoga Landfill offers sufficient capacity to meet all of the County's needs.
- (4) Phoenix Resources accepts only construction and demolition wastes. Although it has offered to accept 62,000 tons/yr of C&D from Berks County, the county only generates approximately 30,000 tons/yr.

TABLE 4-7b
MUNICIPAL WASTE MANAGEMENT PLAN REVISION
BERKS COUNTY, PA
EVALUATION OF OFFERED CAPACITY (1)

Year	Proposed Quantity of Berks County MSW Disposal, tons (2)	Capacity Offered through Agreement, tons/year									Total Available Capacity	Remaining Available Capacity, tons	Additional Required Capacity, tons
		Lanchester	Conestoga (3)	Rolling Hills	CES	Keystone	Grand Central Sanitation	Pine Grove	Alliance	Phoenix Resources (C&D) (4)			
<i>Remaining landfill life, years:</i>		2.5	3.5	17	8	24	5.2	0.8	3.6	1.9			
2005	488,108	2,000		120,000	6,000	6,000	15,500	12,400	77,500	30,000	269,400	-218,708	218,708
2006	467,973	2,000		120,000	6,000	6,000	15,500		77,500	30,000	257,000	-210,973	210,973
2007	447,703	1,000		120,000	6,000	6,000	15,500		77,500		226,000	-221,703	221,703
2008	436,757			120,000	6,000	6,000	15,500		46,500		194,000	-242,757	242,757
2009	430,676			120,000	6,000	6,000	15,500				147,500	-283,176	283,176
2010	434,730			120,000	6,000	6,000	3,100				135,100	-299,630	299,630
2011	438,649			120,000	6,000	6,000					132,000	-306,649	306,649
2012	442,568			120,000	6,000	6,000					132,000	-310,568	310,568
2013	446,486			120,000		6,000					126,000	-320,486	320,486
2014	450,541			120,000		6,000					126,000	-324,541	324,541
10-yr total	4,484,000	5,000	0	1,200,000	48,000	60,000	81,000	12,000	279,000	60,000	1,745,000	-2,739,000	2,739,000

Notes:

- (1) Evaluation of offered capacity excluding Conestoga Landfill.
- (2) Includes residual waste.
- (3) Per the April 1, 2003 letter of agreement, Conestoga Landfill offers sufficient capacity to meet all of the County's needs.
- (4) Phoenix Resources accepts only construction and demolition wastes. Although it has offered to accept 62,000 tons/yr of C&D from Berks County, the county only generates

TABLE 4-7c
MUNICIPAL WASTE MANAGEMENT PLAN REVISION
BERKS COUNTY, PA
EVALUATION OF OFFERED CAPACITY (1)

Year	Proposed Quantity of Berks County MSW Disposal, tons (2)	Capacity Offered through Agreement, tons/year									Total Available Capacity	Remaining Available Capacity, tons	Additional Required Capacity, tons
		Lanchester	Conestoga (3)	Rolling Hills	CES	Keystone	Grand Central Sanitation	Pine Grove	Alliance	Phoenix Resources (C&D) (4)			
<i>Remaining landfill life, years:</i>		2.5	3.5	17	8	24	5.2	0.8	3.6	1.9			
2005	488,108	2,000	218,708	120,000	6,000	6,000	15,500	12,400	77,500	30,000	488,108	0	0
2006	467,973	2,000	210,973	120,000	6,000	6,000	15,500		77,500	30,000	467,973	0	0
2007	447,703	1,000	221,703	120,000	6,000	6,000	15,500		77,500		447,703	0	0
2008	436,757		121,379	120,000	6,000	6,000	15,500		46,500		315,379	-121,378	121,378
2009	430,676			120,000	6,000	6,000	15,500				147,500	-283,176	283,176
2010	434,730			120,000	6,000	6,000	3,100				135,100	-299,630	299,630
2011	438,649			120,000	6,000	6,000					132,000	-306,649	306,649
2012	442,568			120,000	6,000	6,000					132,000	-310,568	310,568
2013	446,486			120,000		6,000					126,000	-320,486	320,486
2014	450,541			120,000		6,000					126,000	-324,541	324,541
10-yr total	4,484,000	5,000	773,000	1,200,000	48,000	60,000	81,000	12,000	279,000	60,000	2,518,000	-1,966,000	1,966,000

Notes:

- (1) Evaluation of offered capacity including Conestoga Landfill under current permit (as of March 2004).
- (2) Includes residual waste.
- (3) Per the April 1, 2003 letter of agreement, Conestoga Landfill offers sufficient capacity to meet all of the County's needs.
- (4) Phoenix Resources accepts only construction and demolition wastes. Although it has offered to accept 62,000 tons/yr of C&D from Berks County, the county only generates

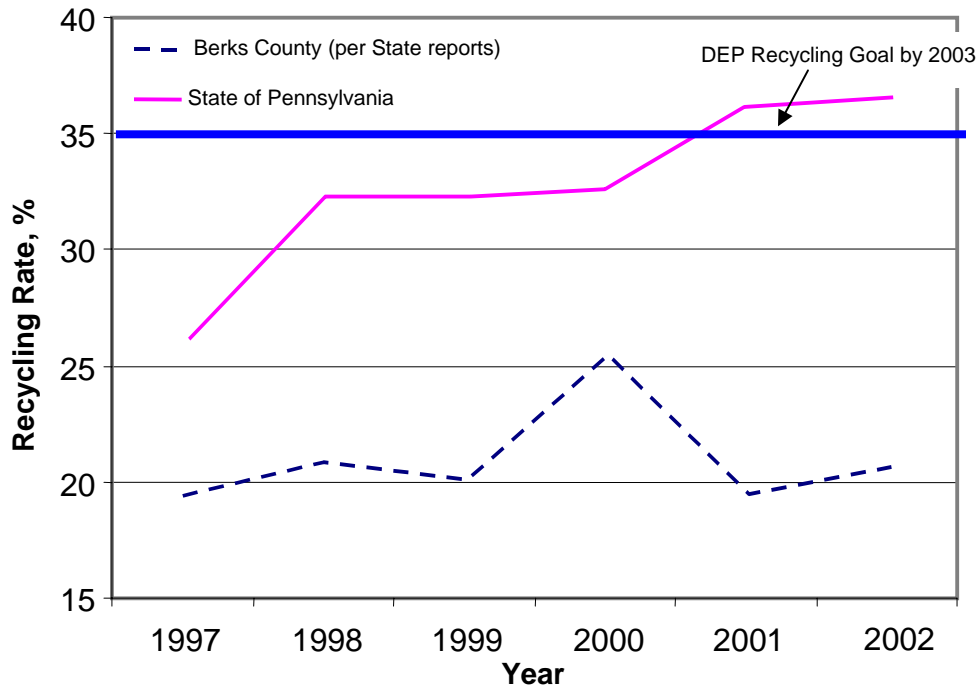
CHAPTER 5 - DESCRIPTION OF RECYCLABLE MATERIALS

5.1 INTRODUCTION

In the past decade, recycling in Berks County appears to have fallen short of DEP’s recycling goal of 35%, based on the existing, but incomplete, historical data for recycling in Berks County. Considerable effort was expended trying to determine the reasons for the County’s moderate recycling rate. The result of these efforts focus on inadequate reporting by the following: residents recycling such items as newspapers to farmers, residents recycling yard wastes through backyard composting, and businesses and commercial establishments either do not have a recycling program in place or do not report types and quantities of materials collected for recycling.

The recycling rates in Berks County have increased and decreased from year to year since 1997, as seen in Figure 5-1.

FIGURE 5-1
Berks County and Pennsylvania State Recycling Rates,
1997 through 2002



The variation in these reported values is a result of several factors. In addition to inadequate reporting previously mentioned, these include:

- Recycling in non-mandated municipalities is not being reported because there is insufficient incentive to report;
- Prior to Year 2000, less than 15% of County municipalities were mandated to recycle;
- No requirement exists for recycling haulers to report tonnages of recyclable materials collected;
- No requirement exists for materials recovery facilities (MRFs) to maintain records of volumes of recyclables on a by-municipality basis; and
- There is a lack of education among municipalities regarding recycling performance grants.

Through this Plan Revision, the County intends to improve reporting channels for recycling data collection, thereby improving the accuracy of the County's overall reported recycling rate and improving the accuracy of the recycling reports.

5.2 RECYCLABLES FOR POSSIBLE CONSIDERATION

5.2.1 Standard Materials

The 1990 Plan focused on basic material types for recycling programs, including:

- Paper (newspaper, corrugated cardboard, mixed paper, and high-quality office paper)
- Metal (aluminum cans, bi-metal cans, steel cans, scrap metals, and appliances)
- Glass (clear, amber, green, mixed colors)
- Others (food wastes, leaf and yard wastes, HDPE plastics, PET bottles, used motor oil, and household goods)

Due to the efforts put forth by the municipalities within the County, recycling in Berks County has moved beyond the traditional Act 101 materials and now includes such items as

tires, textiles, consumer electronics, mixed plastic, magazines, auto parts, lead-acid batteries, and fluorescent tubes. The Berks County Solid Waste Authority has also conducted a hazardous waste collection program that has been successful in removing hazardous and toxic wastes from the waste stream.

This section will briefly describe the materials that are most commonly targeted in municipal recycling programs. Table 5-1 presents the estimated percent of recyclable materials in the County's municipal waste stream and a comparison of recyclables recovered from County waste to national and State projections. Projections of potential quantities of recyclable materials theoretically available in the County are based upon U.S. Environmental Protection Agency Year 2000 (national) estimates of the recyclable fraction of the waste stream.

TABLE 5-1
Comparison of National, and State Waste Composition Data with Berks County Recovery
Berks County, PA

Material	Percent Recyclables in MSW, National Estimate ^a	Percent Recyclables in MSW, State Estimate ^b	Tonnage of County Waste Generated Annually, by National Estimates ^d	Tonnage of County Waste Generated Annually, by State Estimates ^d	Actual Recyclables Recovered by County, in tons ^c	Percentage of Potential Recyclables Recovered, National Estimate ^e	Percentage of Potential Recyclables Recovered, State Estimate	Recyclables Recovered by County, Percent of Total
Paper	37.4	34	102,265.4	92,968.6	26,120.0	25.5	28.1	41.9
Yard Waste	12	NA	32,812.4	NA	10,383.0	31.6	(NA)	16.7
Food Scraps	11.2	NA	30,624.9	NA	3,534.0	11.5	(NA)	5.7
Plastics	10.7	13	29,257.8	35,546.8	6,039.0	20.6	17.0	9.7
Metals	7.8	5	21,328.1	13,671.9	4,764.3	22.3	34.8	7.7
Rubber, Leather & Textiles	6.7	NA	18,320.3	NA	131.8	0.7	(NA)	0.2
Glass	5.5	4.5	15,039.0	12,304.7	8,265.2	55.0	67.2	13.3
Wood	5.3	NA	14,492.2	NA	2,013.0	13.9	(NA)	3.2
Other	3.2	NA	8,750.0	NA	987.1	11.3	(NA)	1.6
Totals			272,890.1	154,491.9	62,237.4	22.8	29.2	

a- U.S. EPA 2000 Report: Total Waste Generation

b- R.W. Beck preliminary results of Waste Composition Study, residential data, January 2001. Does not contain comparable categories for Yard Waste, Food, Rubber\Leather\Textiles, Wood or Other.

c- Source is Year 2001 recycling report submitted to PA DEP by Berks County.

d- County-generated tonnage of MSW (273,437 tons) based on PA DEP Waste Destination Reports for Year 2001; includes only municipal portion.

e- Measures the success of recycling in Berks County for each waste type relative to National and State expectations.

5.2.2 Yard Waste

Another major change in municipal recycling programs is in the recovery of yard waste. Each year, Pennsylvania generates more than two million tons of yard waste, which accounts for approximately 20% of the municipal waste stream. This fraction increases significantly in autumn due to the seasonal collection of leaves from municipalities that do not have collection programs throughout the year. The definition of the materials that are the subject of this focus includes leaves, garden residues, tree trimmings, brush, and grass clippings.

Recovery of this organic portion of the waste stream, as an alternative to landfilling or burning, has been the focus of a number of recent DEP programs. In fact, Act 101 prohibits landfills from accepting truckloads of leaf waste for disposal and also mandates that larger municipalities recycle these items. Grant applications under Act 101, Section 902 have historically been a popular way for municipalities to request monies to assist in the development of recycling and composting programs.

5.3 POTENTIAL BENEFITS OF RECYCLING

The 1990 Plan discussed three main benefits of recycling. These benefits still exist in the County. The first and most direct potential benefit of recycling programs is economic. The economic benefits come both from the potential revenues from sale of materials and the avoided collection and disposal costs. In many municipal programs, it has been, and will continue to be, cheaper to collect and recycle materials for which markets can be found than to dispose of them in a landfill or resource recovery plant. The County as a whole also realizes some income from the sale of these materials. Waste defined by the DEP as “municipal waste” (i.e., residential, commercial, and institutional discards as well as recyclables), is estimated to be approximately 428,800 tons in 2004. As indicated on Table 5-2, with a per capita gross discard generation rate of 5.0 pounds per person per year, 354,300 tons of the municipal component of this total municipal solid waste would be generated in 2004.

TABLE 5-2
Breakdown of Estimated Municipal Waste Stream Generation and Disposal Quantities
Over 10-year Planning Period (2005 - 2014)
Berks County, PA

Year	Population ^a	Recycling ^j	% Recycling ^j	Generation (tons) ^b						Total MSW Generation ⁱ	Total MSW Disposal ^k	
				Municipal Waste Component ^c	Construction and Demolition Waste Component ^d	Infectious/ Chemotherapeutic Waste Component ^e	Sewage Sludge Waste Component ^f	Ash Waste Component ^g	Asbestos Waste Component ^h			
1998	370,308	56,625	0.17	326,822	34,867	8,544	26,390	107	391	397,122	340,497	
1999	371,973	54,810	0.17	325,354	34,208	11,260	24,488	7	305	395,622	340,812	
2000	373,638	62,330	0.16	381,278	27,968	13,200	23,314	3,168	4,079	453,007	390,677	
2001	377,900	63,083	0.19	336,520	30,952	16,069	26,616	150	422	410,730	347,647	
2002	382,100	54,418	0.16	346,035	32,102	17,412	29,648	2	308	425,507	371,089	
2003	385,500	62,913	0.17	360,368	15,052	21,565	29,675	6	291	426,957	364,044	
2004	389,000	67,300	0.19	354,300	26,300	18,000	29,800	70	350	428,800	361,500	
↑ Planning Period ↓	2005	392,500	71,500	0.20	357,400	26,500	18,300	30,100	70	360	432,700	361,200
	2006	396,000	90,200	0.25	360,600	26,700	18,400	30,400	70	360	436,500	346,300
	2007	399,600	109,200	0.30	363,900	27,000	18,600	30,600	70	360	440,500	331,300
	2008	403,200	121,200	0.33	367,200	27,200	18,700	30,900	70	360	444,400	323,200
	2009	406,800	129,700	0.35	370,500	27,500	18,800	31,200	70	360	448,400	318,700
	2010	410,500	130,800	0.35	373,800	27,700	19,100	31,500	70	360	452,500	321,700
	2011	414,200	132,000	0.35	377,200	28,000	19,300	31,700	70	360	456,600	324,600
	2012	417,900	133,200	0.35	380,600	28,200	19,500	32,000	70	360	460,700	327,500
	2013	421,700	134,400	0.35	384,000	28,500	19,600	32,300	70	360	464,800	330,400
	2014	425,500	135,600	0.35	387,500	28,700	19,800	32,600	70	360	469,000	333,400
Over 10-year Planning Period=		1,188,000		3,723,000	276,000	190,000	313,000	700	3,600	4,506,000	3,318,000	

a- Actual Census data for years 1998 thru 2000; others based on Year 2002 population estimates from U.S. Department of the Census, increasing at a rate of 0.9% per year.

b- Years 1998 through 2003 values are from PADEP Waste Destination Forms for Berks County.

c- Municipal Waste Generation includes recycling; values after 2003 are calculated using a generation rate of 5.0 pounds per person per day (based on Table 4-2).

d- C&D Waste Generation after 2003 is calculated using a generation rate of approximately 0.37 pounds/person/day (based on Table 4-2).

e- I/C Waste Generation after 2003 is calculated using a generation rate of approximately 0.26 pounds/person/day (based on Table 4-2).

f- Sewage Sludge Generation after 2003 is calculated using a generation rate of approximately 0.41 pounds/person/day (based on Table 4-2).

g- Ash Waste Generation after 2003 is calculated using a generation rate of approximately 0.001 pounds/person/day (based on Table 4-2).

h- Asbestos Waste Generation after 2003 is calculated using a generation rate of approximately 0.005 pounds/person/day (based on Table 4-2).

i- Total MSW includes municipal, C&D, I/C, sewage sludge, ash and asbestos waste components. Total MSW excludes the residual waste component.

j- The recycling rate accounts for the municipal waste component recyclables (i.e., paper, plastic, glass, etc.) from residential, commercial and institutional sources.

k- Total MSW Disposed is sum of municipal + C&D + I/C + sewage sludge + ash + asbestos - recycling. Total MSW excludes residual wastes.

Items in italics represent estimated data.

At a 35 percent recycling rate, the DEP recycling goal, 124,000 tons of recyclable materials would be diverted this year (2004) from disposal. However, currently and based on incomplete recycling data, Berks County is reporting recovery of recyclables on the order of approximately 63,000 tons (approximately 17% recycling rate). The amount of recyclables recovered is expected to increase to nearly 67,000 tons in 2004. It is anticipated that with creation of new recycling programs, considering available markets, and expansion of existing programs and increased/better reporting requirements, Berks County can reach the DEP goal of 35 percent recycling.

The decrease in the tonnage of municipal waste requiring disposal in 2009 as a result of diversion for recycling (at the 35% recycling rate) would result in a savings of \$5,837,000 in disposal fees (assuming a gate rate of \$45/ton). By the end of the planning period (2014), as many as 135,600 tons of recyclables can be expected to be diverted from the County's waste stream.

The second economic benefit of recycling is saving resources. This item applies primarily to materials that have commercial value, such as aluminum. However, items such as paper and glass that have relatively weaker markets are not as valuable when recycled. Paper is made from a renewable resource, and glass is inexpensive and easy to produce due to its commonly found ingredients. Analysis of economic benefit is not valid for yard waste, which is completely renewable and is not typically considered a raw material.

The third potential benefit of removing recyclable materials from the waste stream is that it will improve the combustibility characteristics of the waste stream. For the purposes of this Plan Revision, and based on DEP Waste Destination forms over the past 5 years, it is sufficient to say that little waste material generated in the County is disposed of at waste-to-energy (WTE) facilities, and the impacts of County waste on these facilities is negligible.

State recycling grants under Act 101 have provided support of, and benefits to, County and municipal recycling programs in the form of planning grants under Section 901, Development and Implementation Grants under Section 902, County Recycling Coordinator

Grants under Section 903, and Recycling Performance Grants under Section 904. Some of these grants reimburse counties for money spent implementing or enhancing recycling programs, while others reward counties that have succeeded in recovering significant volumes of materials. In the case of the Recycling Coordinator Grant, the State currently pays half of the salary of a full-time County employee who focuses on improving recycling and educating residents about existing programs. Monies from these grants can be significant. For example, as shown in Appendix D, in Berks County in the Year 2000, over \$650,000 in Section 902 and Section 904 grants was awarded to the County and 29 of its participating municipalities. However, in some years, grants that were submitted to the State by Berks County municipalities (such as Amity Township and Bally, Hamburg, and Muhlenberg Boroughs in 2002) were denied on the basis that available funds should be committed to higher priority projects. A secondary rationale identified for re-appropriation of grant funds requested by some municipalities was a low population. In 2002, Maiden Creek Township received a large Section 902 grant award for multi-municipality recycling, based partly on a large population increase in that municipality.

The County and individual municipalities will continue to work with the DEP to enhance their recycling programs and, through the BCSWA Executive Director and/or the County Recycling Coordinator, improve reporting channels for recycling data collection as well as determine which of the programs are eligible for appropriate grant funds. The County will also work with municipalities to prioritize applications for municipalities that are in the most need of grant funding to start recycling programs or improve the efficiency of successful existing ones.

In addition to the potential benefits of recycling, the benefits of waste reduction are valuable. Strategies for waste reduction are included in Section 5.13 of this Plan Revision.

5.4 EXISTING RECYCLING ACTIVITIES

As per §272.411 of the PA Code, all municipalities with populations exceeding 5,000 people and population densities exceeding 300 people per square mile are required to recycle, as well as any municipality exceeding 10,000 residents. These are referred to as “mandated

municipalities”. Table 5-3 summarizes the recycling programs, both curbside and drop-off, that are presently in place in the municipalities in Berks County and also indicates if that municipality is required to recycle. The following sections summarize the existing recycling activities in the County available through state and county reports, and as well as through responses to a municipal survey conducted as part of this Plan Revision process.

5.4.1 Mandated Municipalities

Prior to the 2000 Census, ten municipalities in the County were required to recycle. These are: the City of Reading; Amity, Bern, Colebrookdale, Cumru, Exeter, Muhlenberg, and Spring Townships; and the Boroughs of Shillington, and Wyomissing. All ten of these mandated municipalities in the County utilize curbside collection of recyclables for residents, as shown in Table 5-3. Furthermore, each of these municipalities has implemented a curbside recycling program that collects more than the minimum required types of materials.

As a result of the 2000 Census, four municipalities in Berks County are newly mandated to recycle. These are the Boroughs of Birdsboro and Kutztown and the Townships of Maiden creek and South Heidelberg.

Each of these four municipalities have curbside programs in place, and one currently has a drop-off location implemented (Birdsboro Borough). Maiden creek Township was awarded Section 902 grant monies for its efforts to develop its program. South Heidelberg Township applied for and received a technical assistance grant offered jointly through DEP, the Governor's Center for Local Government Services, the Pennsylvania State Association of Township Supervisors (PSATS) and the Solid Waste Association of North America (SWANA).

The County Recycling Coordinator will continue to provide the municipalities with assistance in developing an appropriate program and coordinating details of these programs. The BCSWA Executive Director and/or the County Recycling Coordinator will also assist municipalities to improve reporting channels for recycling data collection, thereby improving the accuracy of the County’s overall reported recycling rate and improving the accuracy of the recycling reports.

TABLE 5-3: Curbside and Drop-Off Recycling Programs Implemented in Berks County (Page 1 of 3)

Municipality	Mandated Municipality?	Curbside ^a	Drop-off ^a
Adamstown Borough	No	NONE	
Albany Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Alsace Township	No	NONE	
Amity Township	Yes	Aluminum, clear glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Bally Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal	
Bechtelsville Borough	No	NONE	
Bern Township	Yes	Aluminum, clear glass, colored class, newspaper, steel/bimetal, PET plastic, HDPE plastic, corrugated cardboard	County-run; Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, corrugated, magazines, phone books, mixed paper, office paper
Bernville Borough	No	Aluminum, clear glass, colored class, newspaper, steel/bimetal, PET plastic, HDPE plastic	
Bethel Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books, catalogs
Birdsboro Borough	Yes	Aluminum, glass, newspaper, steel/bimetal, plastic, corrugated cardboard	Aluminum, clear glass, colored glass, newspaper, mixed plastic, corrugated cardboard, magazines, office paper, paperboard, phone books, catalogs, junk mailyard waste, ferrous metals
Boyetown Borough	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Brecknock Township	No	NONE	
Caernarvon Township	No	NONE	NONE
Centre Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Centerport Borough	No	NONE	
Colebrookdale Township	Yes	Aluminum, clear glass, colored class, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves, phone books	
Cumru Township	Yes	Aluminum, clear glass, colored class, newspaper, steel/bimetal, PET plastic, HDPE plastic, corrugated cardboard, office paper, leaves, phone books, magazines	
District Township	No	NONE	
Douglass Township	No	NONE	
Earl Township	No	NONE	
Exeter Township	Yes	Aluminum, clear glass, colored class, steel/bimetal, PET plastic, HDPE plastic, mixed plastics, leaves, office paper, magazine, paperboard, phone books, corrugated cardboard	
Fleetwood Borough	No	Leaves	
Greenwich Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books

TABLE 5-3: Curbside and Drop-Off Recycling Programs Implemented in Berks County (Page 2 of 3)

Municipality	Mandated Municipality?	Curbside ^a	Drop-off ^a
Hamburg Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, corrugated cardboard, magazines, mixed paper	
Heidelberg Township	No		NONE
Hereford Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Jefferson Township	No		NONE
Kenhorst Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves, phone books	
Kutztown Borough	Yes	Aluminum, clear glass, colored glass, newspaper, PET plastic, HDPE plastic, mixed plastic, office paper, corrugated cardboard, mixed paper, leaves	
Laureldale Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Leesport Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, mixed plastic, corrugated cardboard	
Lenhartsville Borough	No		NONE
Longswamp Township	No		NONE
Lower Alsace Township	No		NONE
Lower Heidelberg Township	No	Leaves	
Lyons Borough	No		NONE
Maidencreek Township	Yes	Aluminum, glass, newspaper, steel/imetal, plastic, corrugated cardboard, mixed paper	
Marion Township			Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Maxatawny Township	No		NONE
Mohnton Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves, phone books	
Mount Penn Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Muhlenberg Township	Yes	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
New Morgan Borough	No		NONE
North Heidelberg Township	No		NONE
Oley Township	No		NONE
Ontelaunee Township	No		NONE
Penn Township	No		NONE
Perry Township	No		NONE
Pike Township	No		NONE
City of Reading	Yes	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, mixed paper, corrugated cardboard, magazines, mixed paper	
Richmond Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Robeson Township	No		NONE

TABLE 5-3: Curbside and Drop-Off Recycling Programs Implemented in Berks County (Page 3 of 3)

Municipality	Mandated Municipality?	Curbside ^a	Drop-off ^a
Robesonia Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Rockland Township	No		NONE
Ruscombmanor Township	No		NONE
St. Lawrence Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, mixed paper, leaves	
Shillington Borough	Yes	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Shoemakersville Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic	
Sinking Spring Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
South Heidelberg Township	Yes	Aluminum, clear glass, colored glass, corrugated cardboard, steel/bimetal, plastic	
Spring Township	Yes	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Strausstown Borough	No		NONE
Tilden Township	No		NONE
Topton Borough	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Tulpehocken Township	No		County-run drop-off
Union Township	No		NONE
Upper Bern Township	No		NONE
Upper Tulpehocken Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Washington Township	No		Aluminum, clear glass, colored glass, steel/bimetal, newspapers, phone books, magazines, cardboard, PET plastic, HDPE plastic, empty laser and ink jet cartridges
Wernersville Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic	
West Lawn Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
West Reading Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, mixed paper, leaves, magazines, junk mail	
Windsor Township	No		Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, magazines, phone books
Womelsdorf Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves	
Wyomissing Borough	Yes	County-run; Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, leaves, grass clippings, other yard waste	
Wyomissing Hills Borough	No	Aluminum, clear glass, colored glass, newspaper, steel/bimetal, PET plastic, HDPE plastic, mixed paper, leaves, junk mail	

a - Summarized from PA DEP database of programs and from County's Year 2000 recycling report.

5.4.2 Non-mandated Municipalities

Sixty (60) municipalities in Berks County are not yet mandated to implement recycling programs. Of these 60 non-mandated municipalities, twenty-four have voluntary programs in place.

Five non-mandated municipalities have voluntary recycling drop-off programs in place (Robeson and Washington Townships, and Fleetwood, New Morgan and Topton Boroughs), and nineteen non-mandated municipalities have voluntary curbside collection programs in place (Albany, Lower Heidelberg and Upper Tulpehocken Townships, and Bally, Bernville, Hamburg, Kenhorst, Laureldale, Leesport, Mohnton, Mount Penn, Robesonia, St. Lawrence, Shoemakersville, Sinking Spring, Wernersville, West Lawn, West Reading and Womelsdorf Boroughs).

Twelve non-mandated municipalities are included in the county's recycling drop-off program (Boyertown, Hereford, Topton, Greenwich, Richmond, Albany, Windsor, Center, Marion, Bethel, Tulpehocken and Upper Tulpehocken). The drop-off containers are delivered on a rotating basis to municipalities for three days per month, then picked up from the municipal sites, and emptied at the county's recycling center in Bern Township.

5.4.3 Curbside Collection

Standard Materials

Presently, the majority of successful County programs involve curbside collection of recyclables, often by the same vendor that provides the municipal waste collection services. The recycling vendor is typically contracted directly by the municipality or resident to provide the service. There is an extensive network of private haulers that provide recycling collection services to Berks County. The major haulers in the County are J. P. Mascaro, Waste Management, Lebanon Farms Disposal and BFI.

Robesonia, Wernersville, and Womelsdorf operate under a Council of Government (COG) through which trash collection and recycling for all three municipalities are contracted

together. This type of intermunicipal cooperation and agreement benefits the participants by achieving lower rates for joint collection services than for individual collection services. An example of the intermunicipal agreement is included in Appendix E.

Yard Waste

The collection of fall leaves is often handled by municipal staff or addressed in municipal waste collection contracts. Amity, Colebrookdale, Cumru, Exeter, Fleetwood, Lower Heidelberg, Muhlenberg, and Spring Townships, and Kenhorst, Kutztown, Laureldale, Mohnton Mount Penn, Robesonia, St. Lawrence, Shillington, Sinking Spring, West Lawn, West Reading, Womelsdorf, and Wyomissing Boroughs all currently provide curbside collection of fall leaves for their residents.

In addition, Act 101 requires mandated municipalities to collect yard waste, including garden residues, shrubbery, tree trimmings and similar materials, through curbside collection twice per year. These materials are to be collected such that they are diverted from disposal in landfills. Often these materials are collected for either mulching or composting operations. Yard waste composting facilities must be approved by DEP. Currently the DEP approved composting facilities relevant to the Berks County area include the following:

- **Zwicky Processing and Recycling**
- **Exeter Township**
- **City of Reading composting site (Lower Alsace Township)**

Other seasonal drop-off facilities for leaves are available to residents around the County; drop-off centers for yard wastes are discussed in more detail in the following section. Throughout Berks County the leaves are currently taken to farms for direct land application or to other private facilities. Some examples of curbside leaf and yard waste collection practices are discussed herein.

The City of Reading provides a city-wide loose leaf collection program to its residents throughout the fall, as well as spring and summer collection of grass and brush. The grass and brush must be placed in brown paper bags and put out with the regular trash for pick up. Overall, both the leaf collection and grass and brush collection yielded approximately 25,000 cubic yards (cy) of recycled yard wastes in 2002. The materials are taken to the permitted city-owned property in Lower Alsace Township for processing/composting.

Additional examples include Cumru and Muhlenberg Townships. Cumru Township operates a loose leaf collection program, where the leaves are used as mulch by a local tree farm. The township estimated 300 tons of leaves were collected last year. Muhlenberg Township also conducts a loose leaf collection program in the fall. An estimated 829 tons of leaf waste were collected in 2002 and taken to Giorgio Foods, Inc., for use in making compost solely for its own private facility operations and governed under agricultural guidelines.

There is also a group of five municipalities working together under an intergovernmental cooperative agreement (a draft of the agreement is included in Appendix E). That is, Spring Township, Sinking Spring Borough, West Lawn Borough, Wyomissing Borough, and Lower Heidelberg Township have a joint arrangement for curbside leaf collection. Leaves that are collected from these five municipalities are taken to a site in Spring Township, from which they are transported to Giorgio Foods, Inc., in Maiden creek Township. Here, the leaves are used as substrate for making high-quality compost, which Giorgio then uses as a feedstock for mushroom production in its many local growing facilities, solely for its own private facility operations and governed under agricultural guidelines. Between 14,000 and 17,000 cy of leaves were collected from the five municipalities in 2002. The municipalities share the cost of collection and transportation of these leaves. This innovative program won the recognition of DEP in 1999, when the municipalities and Giorgio were presented with a Waste Watcher Award.

5.4.4 Municipal Drop-Off Centers

Standard Materials

Numerous municipalities feature drop-off facilities, as previously discussed in Section 5.4 and shown on Table 5-3. In addition, the County operates the Berks County Recycling Center in Bern Township. This facility is open weekdays for the convenience of County residents, and accepts clear, brown, and green glass; aluminum and bi-metallic cans; PET and HDPE plastics; newsprint; cardboard; phonebooks; magazines; junk mail; catalogs; office paper; and paperboard.

As indicated, many municipalities not mandated to recycle have voluntary drop-off centers, are able to participate either as part of the County's recycling drop-off program, or as a host municipality to one of the landfills, or with a private processing/recycling company (see Section 5.4.5).

Yard Wastes



According to a municipal survey conducted as part of this Plan Revision, nine of the responding municipalities have drop-off centers where residents can bring their brush, branches, and other yard materials. For example, Birdsboro Borough has a drop-off center where its residents can bring their brush, branches, and other yard materials. Similarly, Cumru Township provides a location where residents may drop-off yard wastes (brush); these are collected and turned into mulch by an outside contractor.

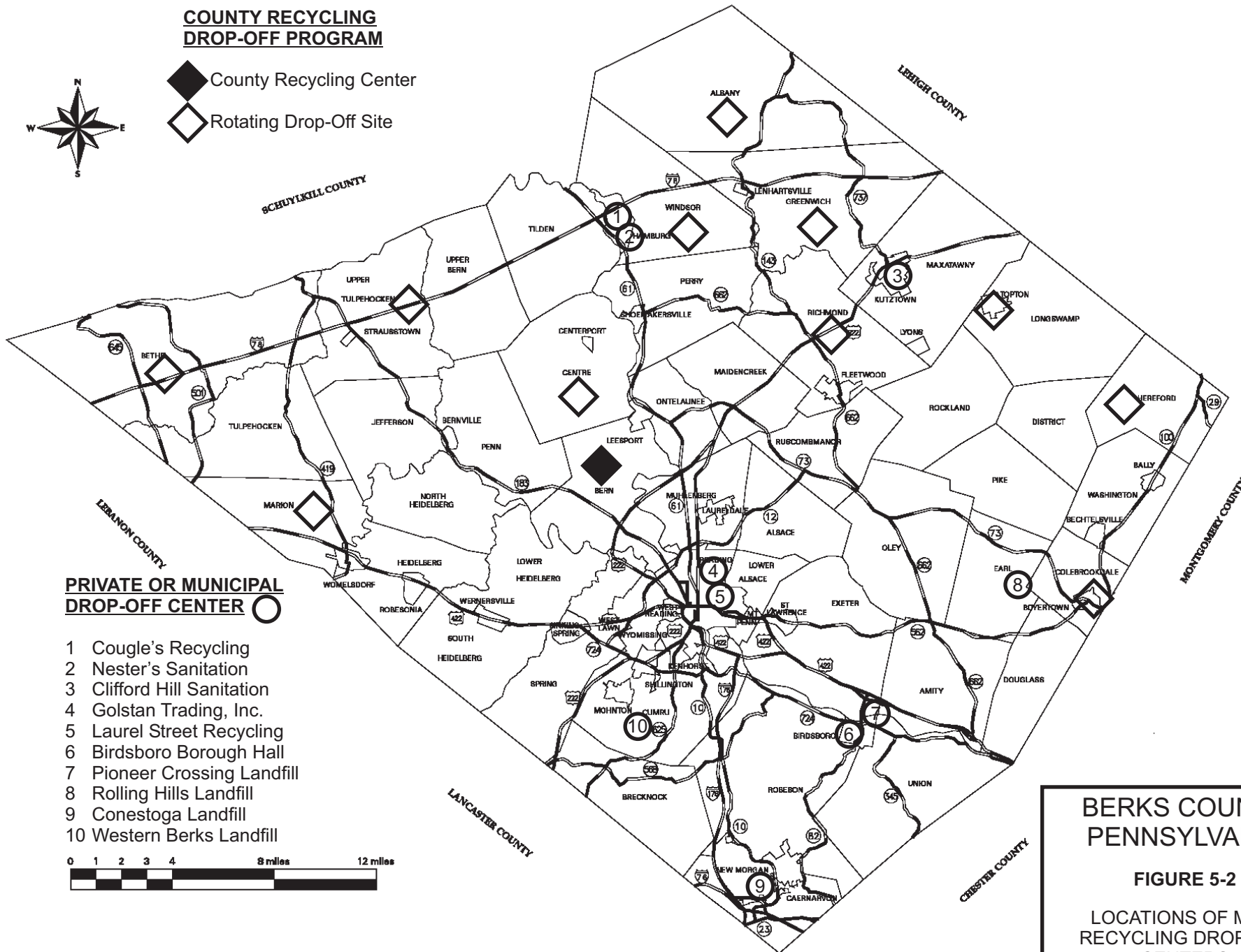
5.4.5 Facilities Provided by Landfills or Other Private Entities

Numerous waste-disposal and processing facilities in the County have provided drop-off centers for recyclable materials. These are listed in Appendix F, along with specific information related to location, availability, and items collected at each. Information on major commercial facilities, such as landfills and large recycling processing operations, is also summarized in the following sections, and their locations are shown on Figure 5-2.

**COUNTY RECYCLING
DROP-OFF PROGRAM**



-  County Recycling Center
-  Rotating Drop-Off Site



**PRIVATE OR MUNICIPAL
DROP-OFF CENTER** 

- 1 Cogle's Recycling
- 2 Nester's Sanitation
- 3 Clifford Hill Sanitation
- 4 Golstan Trading, Inc.
- 5 Laurel Street Recycling
- 6 Birdsboro Borough Hall
- 7 Pioneer Crossing Landfill
- 8 Rolling Hills Landfill
- 9 Conestoga Landfill
- 10 Western Berks Landfill



**BERKS COUNTY
PENNSYLVANIA**

FIGURE 5-2

**LOCATIONS OF MSW
RECYCLING DROP-OFF
CENTERS**

5.4.5.1 Conestoga Landfill Recycling Center

A formal recycling center is provided at the BFI Conestoga Landfill Recycling Center in New Morgan Borough, just north of Caernarvon Township in Berks County. Items can be dropped off weekdays and limited hours on Saturday. The BFI Conestoga Landfill Recycling Center is currently accepting newspapers, magazines, telephone books, cardboard, junk mail, aluminum and bi-metal cans, and clear glass bottles and jars.

5.4.5.2 Western Berks Landfill

Western Berks Refuse Authority Landfill offers a drop-off facility for newsprint, glass, aluminum, and steel cans. The drop-off facility is open to the general public during normal landfill operating hours. This facility is expected to close upon initiation of the closure phase of the Landfill in 2005.

5.4.5.3 Rolling Hills Landfill

Rolling Hills Landfill undertakes captive recycling of bulk metal/white goods that are received as part of the landfill's wastestream.

5.4.5.4 Pottstown Landfill & Recycling Center

The Pottstown Landfill & Recycling Center is a formal recycling center provided at SCA Services Pottstown Landfill in Montgomery County. The recycling center is open weekdays and acceptable items include the following: clear, brown and green glass; plastic types PET #1 and HDPE #2; aluminum and bi-metal cans; newspaper, office paper, cardboard, paperboard, magazines, catalogs, phone books, and junk mail; and tires (car only, off rim, \$5 each, maximum of 4 tires).

Although the Pottstown Landfill has been ordered to begin closure operations, Waste Management, Inc., is considering installing a recycling transfer operation at the

Pottstown Landfill site that would be available to transfer single stream recyclables to the York recycling facility.

5.4.5.5 *Cogle's Recycling*

Cogle's Recycling is located in Hamburg in the northern section of the County. Cogle's Recycling is open weekdays with limited hours on Saturdays. Cogle's accepts the following materials: all glass, plastics #1 to #7, aluminum and bi-metallic cans, newsprint, cardboard, office paper, paperboard, phone books, catalogs, magazines, junk mail, ferrous metals, motor oil, transmission fluid, and appliances (freon must be removed).

5.4.5.6 *York Recycling Facility*

Recycling America (owned by Waste Management, Inc.) and the Poltz Group have formed Recycle America Alliance. Recycle America Alliance operates 160 material recovery facilities in the United States. The closest Recycle America Alliance facility is located in York, PA. The York facility is a single stream operation, which will take commingled paper and containers unseparated from each other. Waste Management, Inc. is exploring putting in a single stream transfer operation at the Pottstown Landfill site. If this project is implemented, municipalities located in southeast Berks County could deliver single stream (separated) materials to the Pottstown location.

5.4.5.7 *Others*

Numerous other private recyclers operate in Berks County, including Goldstan Trading, Laurel Street Recycling, and Nester's Sanitation, to name a few (refer to Appendix F for a complete list of current recycling centers). These entities operate under market conditions and will continue to provide these services at market-determined rates. Disadvantages of utilizing some private recycling centers include limitations on types of materials accepted, and/or restrictions on co-mingling of materials (i.e., glass must be separated by color, plastics must be separated by type, etc.).

5.4.6 Private Composting Facilities

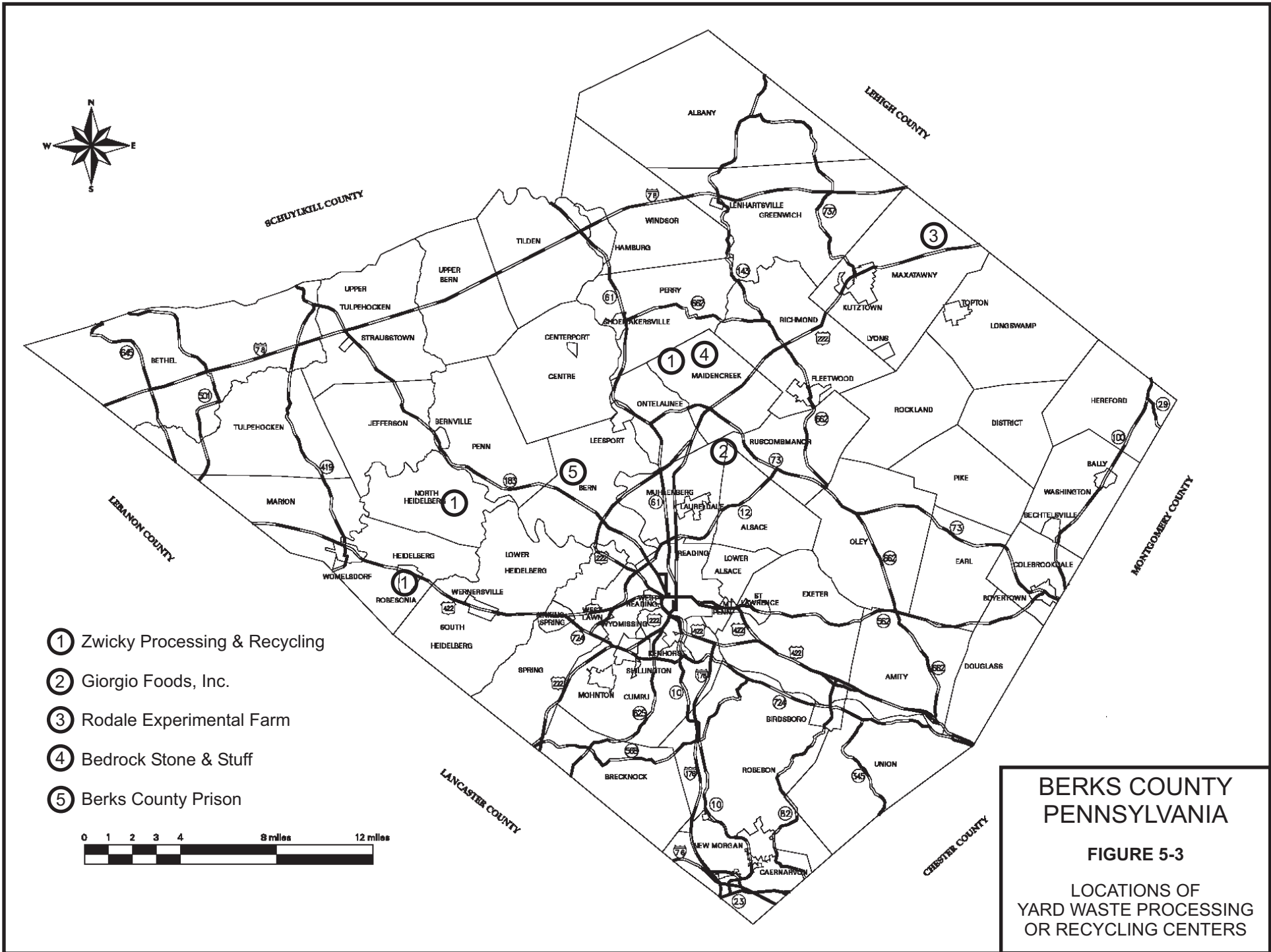
There are several private composting facilities that currently service the Berks County area. These facilities include Rodale Institute, Zwicky Processing and Recycling, Giorgio Foods, Bedrock Stone and Stuff, and the Berks County prison, and their locations are shown on Figure 5-3.

5.4.6.1 *Zwicky Processing & Recycling, Inc.*

Zwicky Processing & Recycling runs wood recycling and composting operations at facilities in Berks County. Zwicky processes and composts a variety of yard wastes, scrap wood, land clearing debris, grass clippings and leaves. Zwicky accepts materials from local land clearing operations, landscape contractors and homeowners, and has been aggressive in providing yard waste debris collection services to municipalities in Berks County by furnishing container services at drop off sites. Currently Zwicky runs two wood processing facilities and three composting operations, all in Berks County (Robesonia Borough, and Maiden creek and North Heidelberg Townships). Through its recycling processes, Zwicky produces several varieties of wood mulch, manufactured topsoil and finish compost that are available to landscape contractors and nurseries.

5.4.6.2 *Giorgio Foods, Inc.*

Giorgio Foods, Inc., is one of the largest growers, processors and distributors of mushrooms in the country. Giorgio operates several mushroom production facilities at sites located in Berks County. As previously described in Section 5.6.1, Giorgio Foods uses leaves as substrate for making high-quality compost, which Giorgio then uses as a feedstock for mushroom production in its many local growing facilities. With the use of this compost for mushroom production, the operation is governed under agricultural guidelines rather than under waste processing/composting/recycling guidelines.



- ① Zwicky Processing & Recycling
- ② Giorgio Foods, Inc.
- ③ Rodale Experimental Farm
- ④ Bedrock Stone & Stuff
- ⑤ Berks County Prison

**BERKS COUNTY
PENNSYLVANIA**

FIGURE 5-3

LOCATIONS OF
YARD WASTE PROCESSING
OR RECYCLING CENTERS

5.4.6.3 *Rodale Institute Composting Education and Research Center*

The Rodale Institute, located just outside the Borough of Kutztown, researches and promotes composting to help people improve soils, grow healthier crops, conserve resources, and protect the environment. Public and private partners include the U.S. Department of Agriculture, Pennsylvania State University, Composting Council, Pennsylvania Composting Association, and the Department of Environmental Protection.

Rodale's main production area features all-weather access and appropriate environmental protection, and is available to the Berks County Conservation District, Natural Resource Conservation Service, DEP, and others to use as a model site for agricultural compost production. This facility is primarily an experimental farm for manure composting, therefore is governed under agricultural guidelines rather than under waste processing/composting/recycling guidelines.

5.4.6.4 *Bedrock Stone & Stuff*

Bedrock Stone & Stuff is a private company offering materials for landscaping, including mulch derived from yard waste composting. According to PA DEP, the major sources of composting materials received at Bedrock Stone & Stuff currently come from out of state.

5.4.6.5 *Berks County prison*

The Berks County prison in Bern Township currently operates a composting site for yard wastes and pre-consumption food scraps. This operation is permitted by PA DEP. The materials come from on-site sources, with the rare exception of yard wastes received from public property within the county (i.e., parks and recreation areas). The composted material is used on the prison grounds for mulching flower beds and vegetable gardens, and occasionally on other county properties.

5.4.7 Commercial and Institutional Establishments Recycling

Commercial and institutional establishments have been contracting privately with haulers to provide recycling services. This practice has been effective and will continue. Some businesses in the County have gone above and beyond typical recycling practices. For instance, Vanity Fair Factory Outlet has been a pioneer in commercial recycling in Berks County. In years 1998 through 2001, this commercial establishment was awarded the Waste Watcher Award for Commercial Recycling. This award was bestowed on the outlet as a result of numerous recycling education activities and programs that the center has developed for its tenants and customers. This includes training related to how to use a cardboard baler, information on paper recycling, buying recycled goods, and sorting, recycling, and disposing of trash. In addition, the center provides on-site composting of its landscaping wastes and has provided all tenants with bottle and can recycling receptacles.

5.4.8 Summary of Existing Recycling Activities

In summary, 15% of County municipalities were mandated to recycle prior to the 2000 Census. Four additional municipalities were added based on the Census, bringing the total mandated to fourteen, or 20% of the County's municipalities. Currently twelve mandated municipalities rely on curbside programs alone, one utilizes a combination of curbside and drop-off centers, and one continues to develop its program. In Berks County, 61% of all municipalities, mandated or not, have some form of recycling program in place.

As non-mandated municipalities become mandated or request assistance from the County to develop programs, the BCSWA Executive Director and/or the Recycling Coordinator will assist them in developing appropriate programs. The BCSWA Executive Director and/or the Recycling Coordinator will encourage municipalities to continue to take advantage of the PADEP/SWANA Technical Assistance grants described previously in this section, and will assist municipalities with developing reporting channels for recycling data collection.

Results of the Municipal Survey

A municipal survey was conducted as part of this Plan Revision process to determine current waste management and recycling practices, and to gain input on the concerns and needs of the municipalities with respect to waste collection and recycling. The survey was sent to each of the seventy-five municipalities, and sixty-five (86%) of the municipalities responded to the survey. Results of the municipal survey indicate the following:

- 1) nearly 90% of the municipalities in Berks County feel they have adequate opportunities to recycle;
- 2) most municipalities would use a recycling drop-off center if available and convenient;
- 3) about one-third of the municipalities indicated they have opportunities for yard waste composting, with backyard composting being the most common method;
- 4) few residents benefit from the use of compost from the yard waste collection programs currently in place;
- 5) backyard composting of wastes is practiced in the County, unfortunately the quantity of wastes recycled by this method is unknown;
- 6) most municipalities expressed interest in utilizing a drop-off facility for yard waste composting; and
- 7) most municipalities have expressed an interest in, and need for, a household hazardous waste (HHW) collection program.

5.5 INTEGRATION OF RECYCLING WITH WASTE MANAGEMENT SYSTEMS

At the present time, recycling programs in mandated municipalities in the County are relatively well integrated into the existing waste management systems by private haulers. Recycling has been implemented in the County, and in areas where residential recycling collection practices are routinely performed, recycling is fully integrated with existing waste management programs.

5.6 MENU OF OPTIONS FOR INCREASED RECYCLING

Increased recycling rates can be achieved by a number of different methods, or a combination of methods. Existing programs can be expanded by adding materials, increasing volume, or by the development of new collection programs.

Table 5-4 summarizes current recycling rates as well as the recycling targets that need to be reached by municipalities to achieve the Pennsylvania recycling goal of 35%. Specific information on the types and quantities of materials recycled by municipalities is included in Appendix G. Each municipality will review its program to reach the recycling targets on an annual basis. Prior to adoption of a municipality's fiscal budget, each municipality will review the prior year's recycling figures to determine whether they are lower or higher than the recycling target. If lower than the recycling target, the municipality shall add or substitute recycling materials or make program improvements to reach the goal. The results of this annual review will be sent by each municipality to the Berks County Solid Waste Authority. If additional assistance is requested by the municipality, the Authority or County can assist.

Different approaches will be developed for different municipalities. These approaches will be consistent with a given municipality's unique needs, geographic constraints, and assets. The County envisions that increased recycling rates can be achieved through cooperation among the County, the municipalities and the private sector, as well as better through reporting of recyclables by haulers and others responsible for collection of recyclables. The Authority encourages municipalities to investigate and evaluate recycling options, including intermunicipal cooperation, and encourages the County and municipalities to work together to research and evaluate options for establishing a wide range program of recycling opportunities.

**TABLE 5-4
RECYCLING TARGETS BY MUNICIPALITY (1)**

Municipality	Estimated Waste Generated (tons)	Total Reported Recycling (tons)	Current Recycling Rate (tons)	Quantity Required to meet DEP 35% Recycling Goal (tons)	RECYCLING TARGET Additional Tons Required to meet DEP 35% Recycling Goal
Adamstown Borough	(2)	(3)	n/a	1	1
Albany Township	1,570	81.2	5.17%	553	472
Alsace Township	(2)	(3)	n/a	1,220	1,220
Amity Township	9,103	2,877.3	31.61%	3,190	313
Bally Borough	993	81.3	8.19%	347	265
Bechtelsville Borough	(2)	(3)	n/a	307	307
Bern Township	6,520	976.0	14.97%	2,283	1,307
Berville Borough	813	121.6	14.95%	287	165
Bethel Township	4,007	21.4	0.53%	1,403	1,382
Birdsboro Borough	4,857	1,332.3	27.43%	1,700	368
Boyertown Borough	3,683	35.0	0.95%	1,290	1,255
Brecknock Township	(2)	(3)	n/a	1,497	1,497
Caernarvon Township	(2)	(3)	n/a	887	887
Centerport Borough	(2)	(3)	n/a	110	110
Centre Township	3,550	17.6	0.50%	1,243	1,226
Colebrookdale Township	5,027	705.0	14.03%	1,757	1,052
Cumru Township	13,187	2,589.8	19.64%	4,617	2,027
District Township	(2)	(3)	n/a	487	487
Douglass Township	3,143	0.8	0.03%	1,100	1,099
Earl Township	(2)	(3)	n/a	1,027	1,027
Exeter Township	21,507	6,293.8	29.26%	7,527	1,233
Fleetwood Borough	3,760	393.5	10.46%	1,317	923
Greenwich Township	3,263	19.6	0.60%	1,143	1,124
Hamburg Borough	3,860	458.7	11.88%	1,350	891
Heidelberg Township	(2)	(3)	n/a	553	553
Hereford Township	3,043	14.2	0.47%	1,067	1,053
Jefferson Township	(2)	(3)	n/a	557	557
Kenhorst Borough	2,503	810.3	32.37%	877	66
Kutztown Borough	4,777	1,295.6	27.12%	1,673	378
Laureldale Borough	3,520	620.3	17.62%	1,230	610
Leesport Borough	1,720	102.9	5.98%	600	497
Lenhartsville Borough	160	1.9	1.17%	57	55
Longswamp Township	(2)	(3)	n/a	1,870	1,870
Lower Alsace Township	4,207	42.1	1.00%	1,473	1,431
Lower Heidelberg Township	4,133	159.5	3.86%	1,450	1,291
Lyons Borough	(2)	(3)	n/a	167	167
Maidencreek Township	6,783	752.6	11.09%	2,373	1,621
Marion Township	1,490	4.2	0.28%	520	516
Maxatawny Township	5,780	71.0	1.23%	2,020	1,949
Mohnton Borough	2,827	429.9	15.21%	990	560
Mt. Penn Borough	2,813	338.5	12.03%	987	648
Muhlenberg Township	15,567	8,511.5	54.68%	5,447	(4)
New Morgan Borough	33	11.3	34.00%	10	-1
North Heidelberg Township	(2)	(3)	n/a	443	443
Oley Township	(2)	(3)	n/a	1,183	1,183
Ontelaunee Township	1,143	69.3	6.06%	400	331
Penn Township	(2)	(3)	n/a	680	680
Perry Township	(2)	(3)	n/a	833	833
Pike Township	(2)	(3)	n/a	573	573
City of Reading	75,773	9,817.5	12.96%	26,520	16,702
Richmond Township	3,330	13.2	0.40%	1,163	1,150

**TABLE 5-4
RECYCLING TARGETS BY MUNICIPALITY (1)**

Municipality	Estimated Waste Generated (tons)	Total Reported Recycling (tons)	Current Recycling Rate (tons)	Quantity Required to meet DEP 35% Recycling Goal (tons)	RECYCLING TARGET Additional Tons Required to meet DEP 35% Recycling Goal
Robeson Township	6,573	15.0	0.23%	2,300	2,285
Robeson Borough	1,920	196.8	10.25%	670	473
Rockland Township	(2)	(3)	n/a	1,253	1,253
Ruscombmanor Township	(2)	(3)	n/a	1,283	1,283
Shillington Borough	4,730	2,542.1	53.74%	1,657	(4)
Shoemakersville Borough	1,997	150.6	7.54%	700	549
Sinking Spring Borough	2,760	420.8	15.25%	967	546
South Heidelberg Township	5,560	164.8	2.96%	1,947	1,782
Spring Township	21,180	5,881.7	27.77%	7,413	1,532
St. Lawrence Borough	1,693	181.3	10.71%	590	409
Strausstown Borough	(2)	(3)	n/a	113	113
Tilden Township	(2)	(3)	n/a	1,200	1,200
Topton Borough	1,827	23.6	1.29%	640	616
Tulpehocken Township	3,167	19.2	0.61%	1,107	1,087
Union Township	(2)	(3)	n/a	1,153	1,153
Upper Bern Township	(2)	(3)	n/a	500	500
Upper Tulpehocken Township	1,443	19.3	1.34%	503	484
Washington Township	3,310	43.2	1.31%	1,157	1,113
Wernersville Borough	2,047	79.6	3.89%	720	640
West Lawn Borough	1,487	189.5	12.74%	520	331
West Reading Borough	3,783	1,174.9	31.06%	1,323	148
Windsor Township	2,220	12.6	0.57%	780	767
Womelsdorf Borough	2,450	301.7	12.31%	857	555
Wyomissing Borough	9,697	5,479.0	56.50%	3,393	(4)
Wyomissing Hills Borough (5)					
Total County (3-yr ave) (2)	306,000	55,966	18%		

Notes:

- (1) Data based on most recent three-year average (2001-2003).
- (2) Excludes municipalities that did not provide recycling reports.
- (3) No recycling report received from municipality.
- (4) Recycling reports show the municipality currently meets or exceeds the PA DEP recycling goal. In most cases, municipalities that exceed the 35% recycling goal have included large amounts of recycled material from commercial sources. These include tires (Amity, Muhlenberg), stainless steel (Birdsboro), commercial cardboard (Birdsboro, Muhlenberg, Spring, Wyomissing), newsprint (Muhlenberg, Spring), and yard wastes (Muhlenberg, Shillington, Wyomissing). In addition, Muhlenberg also reported significant quantities of commercial recyclables such as polystyrene, batteries, circuit boards, ferrous, fluorescent tubes, among other items.
- (5) Wyomissing Hills Borough was incorporated into Wyomissing Borough in January 2002.

The following sections provide options for increasing recycling of municipal and yard wastes.

5.6.1 Options for Standard Materials

In addition to the following options for increasing recycling of municipal wastes, municipalities should first consider reviewing, and if necessary, updating the method(s) of reporting. As shown on Table 5-4, twenty-three municipalities have not submitted recycling reports to the County. Inadequate reporting ultimately results in lower reported recycling rates. The BCSWA Executive Director and/or the County Recycling Coordinator will be available to assist municipalities with improving reporting channels for recycling data collection, thereby improving the accuracy of the County's overall reported recycling rate and improving the accuracy of the recycling reports.

5.6.1.1 Curbside Collection

As mentioned previously, the majority of successful programs involve curbside collection of recyclables, often by the same vendor that provides the municipal waste collection services. The recycling vendor is typically contracted directly by the municipality to provide the service.

Municipalities will continue to contract for these services. Municipalities desiring to increase curbside collection of recyclables can add materials to their current program. Municipalities desiring to add curbside collection of recyclables can investigate opportunities for joint/intermunicipal agreements for such services; refer to Section 5.8 for additional information. The Recycling Coordinator will strive to assist municipalities to reach their full recycling potential by providing information on recyclables markets as well as information on financial assistance and program costs.

5.6.1.2 Commercial and Institutional Establishments Recycling

Commercial and institutional establishments have been contracting privately with haulers to provide recycling services. This practice has been effective and will

continue over the life of this Plan Revision. The Recycling Coordinator will strive to assist establishments to reach their full recycling potential. Among other programs, the County should encourage establishments to provide containers for recyclables in lunchrooms and encourage they hold cleaning services accountable for keeping wastes separate from materials collected for recycling.

5.6.1.3 Drop-Off Locations

The low-density, agricultural nature of much of the County encourages the use of multiple recycling drop-off areas that are sited at locations accessible to County residents. Municipalities in many cases will share locations with other municipalities and County agencies. The County Recycling Drop-off Program has been well received, according to municipal surveys received from County municipalities, and educational materials about the existence of these centers and the materials that are accepted at each will be developed with the assistance of the BCSWA Executive Director and/or the County Recycling Coordinator. This recycling drop-off program could be expanded to include more sites at schools, parks and municipal facilities.

Although many municipalities not mandated to recycle have voluntary drop-off centers, participate in the County's recycling drop-off program, or utilize one of the landfills or private recycling centers, there are still many mandated municipalities that do not have drop-off centers. This includes Amity, Colebrookdale, Cumru, Exeter, Muhlenberg, and Spring Townships, and Hamburg, Shillington and Wyomissing Boroughs, and the City of Reading. Some of these municipalities have expressed interest in utilizing drop-off facilities at the time of this Plan Revision. Again, municipalities can investigate opportunities to co-operate with each other in establishing drop-off centers through intermunicipal agreements. A continued goal of the BCSWA Executive Director and the County Recycling Coordinator is to encourage these municipalities to develop and open drop-off centers, which should help the County meet and maintain a recycling rate of 35%.

5.6.1.4 Facilities Provided by Landfills or Other Private Entities

Numerous waste-disposal and processing facilities in the County provide drop-off centers for recyclable materials (described in Section 5.4.5). Municipalities in need of increasing their recycling rates should consider the services available through these facilities.

5.6.2 Options for Yard Wastes

In addition to the following options for increasing recycling of yard wastes, municipalities should first consider reviewing, and if necessary, updating the method(s) of reporting. As shown on Table 5-4, twenty-three municipalities have not submitted recycling reports to the County. Inadequate reporting ultimately results in lower reported recycling rates. The BCSWA Executive Director and/or the County Recycling Coordinator will be available to assist municipalities with improving reporting channels for recycling data collection, thereby improving the accuracy of the County's overall reported recycling rate and improving the accuracy of the recycling reports.

5.6.2.1 Curbside Collection

The collection of yard wastes is often handled by municipal staff or addressed in municipal waste collection contracts. Municipalities will continue to provide, or contract for, these services. Municipalities desiring to add or increase curbside collection of yard wastes can investigate opportunities for joint/intermunicipal agreements for such services. Refer to Section 5.8 for additional information concerning yard waste collection.

5.6.2.2 Municipal Composting Facility

The responses to the municipal survey indicate that three municipalities expressed interest in hosting or co-hosting a yard waste composting facility. A goal of the BCSWA Executive Director and the County Recycling Coordinator is to encourage municipalities to develop and open a yard waste drop-off center, which should help the County meet and maintain a recycling rate of 35%.

5.6.2.3 *Private Composting Facilities*

There are several private composting facilities that currently serve the Berks County area (described in Section 5.4.6). Municipalities in need of increasing their recycling rates should consider the services available through these facilities.

5.6.2.4 *Backyard Composting*

The responses to the municipal survey indicate that the most common method of yard waste recycling in the County is backyard composting. Unfortunately, the quantities of yard wastes recycled via this method are not reported. With respect to backyard composting, the BCSWA Executive Director and/or the County Recycling Coordinator should continue to educate and encourage municipalities to assess the degree to which this practice is occurring in their area.

5.7 OPTIONS FOR PROCESSING, STORAGE AND SALE OF RECYCLABLES

Processing and disposal facilities in Berks County presently utilize the broker method to sell recyclable materials and move them into the market for reuse. This method takes advantage of market prices and is used by both private entities and municipalities. The exception to this rule is paper products, which are often taken directly to the end users, many of which are in New Jersey.

Processing of recyclable materials occurs mostly by the end user. However, Cogle's Recycling in Hamburg provides a limited amount of storage and processing services.

Temporary storage of recyclable materials occurs at each drop-off center, whether private or municipal.

Storage of finished compost and mulch is always handled at the composting facility, whether it is a municipal or private operation.

5.8 OPTIONS FOR INTERMUNICIPAL COOPERATION

The Berks County Planning Commission has prepared the Berks County Comprehensive Plan Revision, known as Berks Vision 2020. Berks Vision 2020 is a guide to growth and development within the County through year 2020. It focuses on many topics, including Intergovernmental Cooperation/Participation. The goal of this topic is “to develop and expand cooperation and communication among municipal officials and citizens to provide for increased participation in the planning process, and to create a more efficient mechanism to meet government responsibilities.”

As indicated in Section 5.4.3, three municipalities (Robesonia, Wernersville and Womelsdorf), already operate under a Council of Government (COG) through which trash collection and recycling for all three municipalities are contracted together. Similarly, five municipalities have an intergovernmental cooperative agreement that enables them to provide curbside leaf collection to their residents (refer to Section 5.4.3). These types of intermunicipal cooperation and agreements benefit the participants by achieving lower rates for joint services than for individual services.

The Recycling Coordinator will work to provide municipalities with the information necessary to achieve the goals set in Berks Vision 2020 with respect to partnerships and coordination and intermunicipal incentives for collection, storage, and sale of recyclable materials. Options for consideration should include, at a minimum, joint collection contracts and cooperative drop-off locations.

5.9 SCHEDULE FOR IMPLEMENTATION OF RECYCLING PROGRAMS

As discussed in Section 5.4.1, fourteen municipalities in the County are now mandated to recycle, and most already have appropriate programs in place. Birdsboro Borough, Kutztown Borough, Maiden creek Township, and South Heidelberg Township are newly mandated to recycle. These municipalities now have curbside programs in place.

5.10 ESTIMATED COSTS OF A RECYCLING PROGRAM

As discussed in Section 5.3, the three main benefits of implementing a recycling program are the potential revenues from sale of materials and the avoided collection and disposal costs; the resources saved by reusing materials; and the removal of recyclable materials from the waste stream to improve the combustibility and/or decomposition characteristics of the waste stream.

Municipal waste collection contracts should be unaffected or may benefit from including recycling with the waste collection services because of avoided disposal costs and potential revenues. The cost of implementing these contracts is offset by the decrease in overall disposal costs for disposing of solid waste, because the volume of waste to be disposed of will be less. The sale of recyclable materials is often volatile, with a market that suffers from peak highs and lows. Because of these variations, recycling programs often break even and at times even recover revenue, but they can also pose additional costs.

The actual cost of the composting pilot project and any eventual countywide system will depend on the extent to which the County and municipalities opt to utilize the services of the private sector versus the development and operation of municipal drop-off sites, transportation systems, and processing facilities. The County and municipalities will research and analyze the available options and select and implement the approach that best meets the overall needs of individual residents and the overall community.

5.11 CONSIDERATION OF EXISTING RECYCLING BUSINESSES

Act 101 requires that the County plan describe what consideration has been accorded to persons engaged in the business of recycling (as of September 26, 1988) and explain how recycling under the plan will be coordinated with, and will not interfere with, recycling by mandated municipalities. The previous parts of this section pointed out how the county's current recycling strategy is based primarily upon continuation of the present municipal and other recycling programs in the County. These existing operations will coexist with municipal recycling programs and with non-profit and for-profit recycling drop-off operations.

5.12 RECYCLING EDUCATION EFFORTS

Both the County and municipalities share the responsibility for public education. The County provides recycling educational materials to municipalities, special interest groups, commercial and institutional establishments, and local school districts throughout the County. The County will also assist municipalities to tailor their educational materials to their specific needs. Community-specific promotional materials have the advantage of harnessing community pride to generate interest and boost participation. Even for program-specific public education efforts, the County has, and will, provide assistance, such as model brochures, names of printers, and cost information.

Costs of developing a recycling program, whether curbside or drop-off, or a mandatory or non-mandatory program, are specific to each municipality or group developing the program. The County, through the Recycling Coordinator, can provide recycling program cost analysis and guidance to any municipality or group that seeks assistance in developing a program.

5.13 WASTE REDUCTION STRATEGIES

Waste reduction, including reuse of products, may be achieved through both education of consumers and regulation of the amount and types of packaging. Educational efforts are to be carried out by the County working in conjunction with the waste system authorities and municipalities. Regulations designed to reduce the amount of packaging may be encouraged at both the state and federal level. Although Berks County can have little impact on the design of products ranging from food packaging to electronics, the County can educate residents to make wise decisions when they purchase these products.

Berks County has elected to focus on waste reduction in order to complement its recycling programs. Although the environmental benefits of recycling are well known, it is much more difficult to quantify the effect that successful waste reduction, minimization, and reuse programs have on decreasing the waste stream. As previously noted, the County has room for improvement in its recycling programs and/or methods of reporting recyclables. The County's residents are still apparently generating more waste per person than other counties

in the State. In the past three years, on average, each Berks County resident generated about 5.0 pounds of municipal waste material per day, which exceeded the state average of 4.4 pounds per person per day (0.8 tons/person/year, PA DEP).

Berks County is not alone in examining possible programs and actions to decrease the volume of the waste stream at its source. Numerous federal programs and other states have begun to shift the focus from recycling and pollution cleanup to pollution avoidance and decreasing waste stream volume or pollution potential.

Source reduction techniques that will be encouraged by the County include:

- backyard composting of yard waste;
- buying products in bulk or larger containers rather than multiple small containers;
- making a concerted effort to purchase goods that feature reduced packaging;
- using reusable fabric bags for packing purchases at grocery stores instead of disposable paper or plastic ones;
- using a sponge rather than disposable towels;
- buying foods and detergents in concentrated form;
- buying fresh produce with minimal packaging;
- avoiding purchase of products that are double packaged;
- avoiding single-use products such as disposable razors, diapers, lighters, and some food products;
- repairing broken items rather than disposing of them;
- donating unwanted items to charity;
- decreasing the volume of unwanted “junk mail” by removing name from national mailing lists.

In addition, the County will encourage residents and businesses to complete the recycling loop by purchasing goods made from recycled materials. The County will educate residents about the logos that can be found on products that identify them as packaged in containers made from recycled materials. This includes foods such as dry food packages, canned foods and beverages, detergent and other cleaning product containers, glass bottles, health and beauty product containers, and paper products such as tissues, paper towels and bathroom

tissue. County educational materials will also inform residents that recycled materials can be found in other consumer products as well, such as writing paper, cards, and other stationery supplies, carpeting, tools, cardboard boxes, plastic “lumber”, retread tires, and even some articles of clothing.

6 SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PLAN

6.1 INTRODUCTION

This section describes how the County evaluated waste processing and disposal options.

6.2 FINANCING OF SELECTED PROGRAMS

Berks County does not intend to develop or construct a waste disposal facility and will, therefore, incur no financing costs associated with its obligation to ensure disposal capacity.

Berks County has executed a separate host agreement with the Conestoga Landfill, Rolling Hills Landfill, and the Pottstown Landfill. Revenue generated by host fees in these agreements is used to fund costs associated with the household hazardous waste program, recycling, remaining debt service payments, and costs of the Berks County Solid Waste Authority.

6.3 RECYCLING AND WASTE REDUCTION PROGRAMS

Under the Plan Revision, municipalities have the obligation to look at their recycling rates and to select a recycling program that best matches the needs of their municipality. Waste Reduction Programs, as outlined in the Plan Revision, are encouraged at all levels of government and in the private sector. The result of improvements recommended in the Plan Revision will be a significantly improved recycling rate for the County, one that meets the State goal of 35%.

6.4 PROCESSING AND DISPOSAL PLAN

The Berks County Solid Waste Authority elected to solicit letters of interest from disposal facilities to secure adequate disposal capacity for the Plan Revision's 10-year time frame. This process resulted in disposal capacity agreements that have been entered into with facilities that were responsive to the advertisement. Disposal facilities that are designated in the Plan Revision are as follows:

- Lanchester Landfill
- Keystone Sanitary Landfill
- CES Landfill
- Grand Central Sanitary Landfill
- Dauphin Meadows Landfill
- Pine Grove Landfill
- Alliance Sanitary Landfill
- Phoenix Resources (C&D Landfill)
- Conestoga Landfill
- Rolling Hills Landfill

The County does not control the amount of waste delivered to the facility. There is no obligation by the County to provide a facility with a specific amount of waste.

Based on existing capacity and that which would result from reasonable expansion of facilities, as well as information included in the disposal capacity agreements, the County has adequate capacity available to it for the life of the Plan Revision (refer to Table 4-7a).

6.5 PROCEDURES TO ADD FACILITIES TO THE PLAN AS DESIGNATED FACILITIES

There are other facilities permitted for municipal waste and residual waste disposal that have the potential for serving Berks County. These facilities have the option of being designated in this Plan in the future if they are authorized through a disposal capacity agreement with the County, meeting the same conditions as the agreements included in Appendix C. This document may be utilized for the specific purpose of adding additional qualified facilities to the Plan.

If a County-licensed hauler, municipality, business or a disposal facility desires to have a facility added to the Plan for processing or disposing of Berks County municipal waste, other

than those currently under Agreement with the County and designated in this Plan, the procedure described below must be followed to obtain County authorization to include another facility. The County must be certain that any facility used for the deposition of the County's waste minimizes the County's risks by being in full compliance with state and federal rules and regulations. The following procedure will enable the County to be reasonably assured that County generated waste is being properly managed.

A County-licensed hauler, municipality, business, or disposal facility must petition the County using the one page form shown in Table 6-1 to have a facility considered for addition to this Plan. After receiving the petition, the County will forward a copy of the Disposal Capacity Agreement to the facility being requested for inclusion in the Plan. The County will evaluate the facility's permit and operational status with the intent of executing a Disposal Capacity Agreement with the facility.

At a convenient and practical time thereafter, the County will then follow the non-substantial plan revision process to add the facility to the Plan. At the County's discretion, the facility being added to the Plan may be asked to finance the cost of this non-substantial plan revision process. If the disposal facility in question refuses to finance this cost, the County may delay including this new facility in the Plan until it can combine this activity with a plan revision undertaken for other reasons.

Once the plan revision is completed, adopted by Berks County and approved by PADEP, the Disposal Capacity Agreement will be executed.

Once a plan revision has been made to include a new designated disposal site and the Disposal Capacity Agreement is executed for that site, thereafter any hauler, municipality or business will be at liberty to use this new facility for disposal of Berks County generated municipal waste.

**TABLE 6-1
Petition Form to Add a Facility**

Purpose of Petitioning Process – Berks County has, through Municipal Waste Disposal Agreements, secured a sufficient amount of disposal capacity for all municipal waste generated from County sources. However, business opportunities may arise for County licensed haulers or municipalities with processing/disposal facilities other than those designated in the County’s Municipal Waste Management Plan that attract the interest of these parties to use another facility. Therefore, the County’s Plan has defined a process by which additional facilities can be added to the Plan. This form is used to notify the County of a party’s interest in using another processing or disposal facility and provides the County with the necessary information to contact a facility representative to begin the process to qualify the facility as a designated facility in the Plan. Please complete this form and forward to the:

Berks County Board of Commissioners
Berks County Services Center, 13th Floor
633 Court Street
Reading, PA 19601-4310

Petitioning Party’s Name: _____

Address: _____

Phone Number: _____

Name of Requested Facility: _____

Facility Contact Person: _____

Facility Address: _____

Phone Number: _____

Fax Number: _____

E-Mail Address: _____

Explanation for requesting additional facility:

(Attach Additional Sheets if Necessary)

7 LOCATION OF FACILITIES AND PROGRAMS

This Plan Revision identifies the location of all facilities that have been designated as well as recycling programs that exist or are planned in the County. This includes all landfills with which the County has signed Disposal Capacity Agreements, yard waste composting or processing facilities, recycling centers, and recycling drop-off or curbside programs.

Municipal Waste

The recycling programs (for mandated and non-mandated municipalities) that are presently in place in the County were discussed in Section 5.4, as were recycling drop-off centers and yard waste composting facilities. Locations of disposal facilities are identified in Section 4.4. Additional facilities can be added at any time.

Criteria for municipalities that wish to voluntarily implement a recycling drop-off site are as follows:

- The site should be near the population center of the municipality so as to be as convenient as possible for the majority of residents. This will result in as much material being collected as possible.
- The property should ideally be owned by the municipality, which can sponsor the site and also submit grants to the State for the volume of materials collected at the site. If this is not possible, perhaps a local civic or environmental group or even a private owner would be willing to donate land for the use.
- The location should be secure to prevent illicit dumping of non-recyclable materials or garbage, and to prevent persons from removing recyclable materials from the site illegally for personal profit.
- The site should be isolated from residences, local commercial establishments, or institutions so as not to produce a visual, noise, or olfactory nuisance.
- The site should be easily accessible by standard vehicles, with adequate signage to direct the resident where he or she may and may not drive.
- Signs should clearly indicate what materials are accepted and where they should be deposited.

Municipalities that will develop curbside collection programs should keep in mind the following factors when designing a program that best meets their needs:

- The municipality should work with the BCSWA Executive Director and/or the County Recycling Coordinator, as well as neighboring municipalities, to design a program that will optimize recycling while keeping expenses down.
- The existing municipal waste management collection contract method utilized by the municipality, whether municipal, residential, or subscription.
- The number of haulers located in or nearby the municipality that are equipped to collect recycled materials.
- The amount that the municipality is initially willing to pay for the recycling contract.
- The availability of staff to promote the program, monitor participation, and follow through with DEP performance grant applications to secure monies based on a program's success.
- The centers of population in the municipality and the likely participation rate that would be provided by the area. This would entail review of existing participation rates of residents at nearby drop-off facilities.

Household Hazardous Waste

In 2004, the Berks County Solid Waste Authority entered into a contract with Block Industries, trading as Keystone Environmental, for the purpose of providing the residents of Berks County with a facility to receive residentially generated household hazardous wastes (HHW). The contract provided a total of eight Saturdays over an eight-month period whereby Berks residents could drive their HHW to Keystone's facility on Rt. 61 near Shoemakersville, Berks County. At the end of 2004, after Keystone successfully completed its contract with the Authority, Keystone Environmental ceased operations at that facility.

In 2005, it is the Authorities intent to utilize a program through the Pennsylvania Dept. of Agriculture whereby the Authority can "piggy-back" on a contract the State of PA has with MSE Environmental. This program would provide for at least one and up to a maximum of

four, one-day HHW drop-off events per year in Berks County. Based on available funding, the Authority anticipates holding two such events for our resident's of our county.

Future HHW drop-off programs beyond 2005 will be considered after a thorough analysis of available program options and available funding from the county.

8 IMPLEMENTING ENTITY IDENTIFICATION

Berks County

The County's implementation responsibilities under the Plan Revision involve execution of disposal capacity agreements with the designated facilities as identified in Section 4.4 of this Plan Revision. Section 303(a) of Act 101 gives the County the power and duty to ensure adequate disposal capacity. Berks County's solid waste responsibilities, which have been delegated to the Berks County Solid Waste Authority, are described in this portion of the Plan Revision.

Berks County Solid Waste Authority

The Berks County Solid Waste Authority (Authority) has been in existence since 1992. The Authority's primary activities include oversight of the implementation of the Berks County Solid Waste Management Plan Revision and payment of debt service remaining on an Authority debt obligation.

The Authority also has implemented programs for the collection of household hazardous waste from County residents. Although during previous years the Authority conducted one-day collection events, in 2004 the Authority entered into an agreement with Block Industries, Inc. t/a Keystone Environmental Services (Keystone) to operate a permanent collection facility in the County. Keystone opened on July 10, 2004.

The Authority has proposed to coordinate municipal recycling activities in the County as set forth in Section 5-6. Table G – 1.A contains recycling targets (in tons) for each municipality based upon the prior year deliveries and the County recycling goal of 35%. Prior to adoption of a municipality's fiscal budget, each municipality should review the prior year's recycling figures to determine whether they are lower or higher than the Recycling Target. If lower than the Recycling Target, the municipality is requested to add recycling materials or make program improvements to reach the goal. The County or Authority personnel will be available to offer technical assistance to municipalities that need assistance in preparing this

evaluation and in learning which PADEP grants can be utilized to fund new collection programs.

The Authority will also have a general oversight responsibility for existing solid waste facilities in the County. This will include landfills, recyclables processing facilities, compost facilities, and permanent household hazardous waste facilities. Inspection reports of these facilities by DEP, Exeter Township, or the Berks County Conservation District shall be mailed to the following address for the Authority: Berks County Solid Waste Authority, Two Woodland Road, 2nd Floor P.O. Box 5889, Wyomissing, PA 19610.

Berks County Conservation District

The Conservation District has two certified PADEP Host Municipal Solid Waste Landfill Inspectors on staff, who provide inspection services on behalf of the County at the Conestoga Landfill, the Rolling Hills Landfill, and the Western Berks Refuse Authority Landfill. The purpose of the host municipal landfill inspection program is to provide the public with the assurance that the three landfills are being operated in compliance with the PA Code 25, Chapter 273, Municipal Waste Landfill Rules and Regulations. These comprehensive inspection reports shall be provided to the facility operator, host municipality, and the Authority. Communication between PADEP inspectors and the Conservation District should continue with the goal to maximize compliance with PA Code 25, Chapter 273.

Host Municipalities

Pioneer Crossing Landfill is located in Exeter Township. Exeter Township has one certified PADEP Host Municipal Solid Waste Landfill Inspector who inspects the Pioneer Crossing Landfill. The Inspector is an employee of Exeter Township. Inspection reports prepared by Exeter Township shall be provided to the facility operator, Exeter Township, and the Authority.

If additional host landfill inspection programs are developed by Berks County municipalities, the County requests that Host Municipal Inspectors be certified under the PADEP Host

Municipal Solid Waste Landfill Inspector program. In addition, the County requests that a copy of each inspection report be filed with the Authority.

Berks County Planning Commission

The Planning Commission receives an official copy of all solid waste permit applications filed with the PADEP for solid waste facilities located in Berks County. The Planning Commission will notify the County Commissioners and Authority of each and every application received from landfills and solid waste facilities located within the County limits. The Planning Commission should request a determination from the Authority as to whether the application is consistent or inconsistent with the Berks County Solid Waste Management Plan Revision.

9 PUBLIC FUNCTION

As this Plan Revision does not propose a municipal waste processing or disposal facility to be operated by the County, no discussion comparing the benefits of public and private facilities is required to be included in this document.

10 IMPLEMENTING DOCUMENTS

The County implementation documents associated with this Plan Revision will consist of documents as described below.

1. The County has secured, or is in the process of securing, disposal capacity agreements with the facilities designated in Section 4.4 of this Plan Revision. Copies of executed agreements are included in Appendix C. Necessary ordinances have also been adopted (refer to Appendix C).
2. Disposal service agreements provided in the 1990 Plan and still in effect and/or as amended by subsequent agreements and/or settlements between the County and contractors are presented in refer to Appendix C.

11 ORDERLY EXTENSION

As new development takes place, the Recycling Coordinator will ensure that recycling is extended into those new areas by the public or private trash and recycling haulers involved, taking into consideration planning, zoning, population estimates, engineering, and economics. This Plan Revision proposes to use only facilities that have already been approved with respect to State, regional, or local plans affecting the development, use, and protection of air, water, or land.

The extension of the Plan Revision does not initially conflict with the Statewide Solid Waste Management Plan. The Recycling Coordinator will monitor development of the State Plan, and will work with DEP to ensure that the County Plan Revision does not conflict with the State Plan in its final form.

12 FACILITIES DEVELOPED PURSUANT TO SUB-COUNTY PLANS

As no other Municipal Solid Waste Plans are in effect in the County, this section is not applicable.