

Cumberland County, Tennessee Solid Waste Planning Region



Solid Waste Needs Assessments

**Prepared by:
The Upper Cumberland County Development District, and
Cumberland County, Tennessee
December 2008**

as required by The Solid Waste Management Act (T.C.A. §68-211-811).

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
401 Church Street, 8th Floor
Nashville, TN 37243-1533

INTRODUCTION

The Solid Waste Management Act of 1991 requires that local governments comprehensively plan to manage their solid waste through modern, integrated, efficient systems. In order to assure that such planning is carried out on the solid Waste foundation of relevant and objective knowledge of local conditions, the Act requires that staff of the Development District coordinate, conduct and maintain a Needs Assessment of each municipal solid waste planning region. This assessment shall be revised every five years [T.C.A. 68-211-811].

The categories of information required are:

- Demographic information and projections;
- An analysis of economic activity within the Region;
- Characterization of the waste stream;
- Projection of solid waste generation;
- Evaluation of the collection systems for every municipality & county with the region;
- Evaluation of existing, new or expanded solid waste capacity and management facilities within the region;
- A statement of goals that are consistent with the state plan;
- An analysis of existing or potential waste flows within the region and between adjacent regions;
- A comparison of projected demands from waste generation & importation of waste with available and projected capacity and an identification of potential shortfalls in capacity; a
- Any additional information as the commissioner may require.

In order that the regional planning effort is implemented on a solid foundation of relevant and objective knowledge of local conditions, the Act requires the Development Districts to coordinate, conduct and maintain a Needs Assessment for each solid waste region. This Assessment shall be revised every five (5) years.

SECTION 1:

DEMOGRAPHIC INFORMATION AND PROJECTION

Provide a table and chart showing the region's population for the last ten (10) years with a projection for the next five (5) years. Provide a breakdown by sub-table and sub-chart, or some similar method to detail all county and municipality populations. Discuss projected trends and how it will affect solid waste infrastructure needs over the next five (5) years.

Population Trends in Cumberland County

Cumberland County's annual population change averages about 2%. Land once controlled by mining and timber interests is gradually changing hands with residential land owners and developers. Cumberland County attracts a lot of retirees, especially those that are golfers, Cumberland County is known as the Golf Capital of Tennessee. However, the uncertainty of a sustainable source of potable water necessary to continue residential development will slow the potential for any significant increase in population growth.

TABLE 1.1 Cumberland County Historic and Projected Population Trends (1996 thru 2012)

Year	Cumberland County	Crossville	Crab Orchard	Pleasant Hill	Unincorporated
1996	42,381	8,275	860	529	32,717
1997	43,715	8,480	853	534	33,848
1998	44,788	8,688	848	539	34,713
1999	46,068	8,895	840	544	35,789
2000	47,030	9,126	837	547	36,520
2001	47,704	9,329	848	555	36,972
2002	48,620	9,622	862	570	37,566
2003	49,118	9,763	871	578	37,906
2004	49,928	10,030	883	585	38,430
2005	50,912	10,457	897	598	38,960
2006	52,056	10,840	914	612	39,690
2007	53,040	11,125	927	620	40,368
2008	54,100	11,411	940	629	41,120
2009	55,250	11,696	955	638	41,961
2010	56,300	11,985	967	646	42,702
2011	57,500	12,270	980	659	43,591
2012	58,900	12,550	995	672	44,683

Sources: Historic data are from the U.S. Census Bureau. Projections are based on data from the University of Tennessee CBER. Data compiled by the Upper Cumberland Development District, 2008.

Economic Impact of Increasing Retiree Population

In the past two decades, most rural counties in Tennessee have witnessed declines in traditional sources of economic activity and employment, especially natural-resource based industries and manufacturing. At stake is \$2.3 trillion in annual spending power—more than half of total U.S. consumption—held by a diverse crowd of highly educated retirees who are more likely than their parents to relocate later in life.

Tourism Industry in Cumberland County

Cumberland County has many of recreation facilities, such as three (3) Parks, eleven (11) Golf Courses, eight (8) swimming pools, four (4) Country Clubs, three (3) theaters, one (1) Bowling Alley, nine (9) Hotels and Motels with 600 rooms combined. Other recreational activities include hunting, fishing, and hiking.

In-Migration of Retirees and the Impact on Cumberland County’s Public Infrastructure

Tennessee has already experienced a substantial in-migration of retirees. A Census 2000 Special Report entitled, Internal Migration of the Older Population: 1995-2000 (2003), indicates that Tennessee ranked seventh nationally with a net migration figure for people aged 65 and older (the number of in-migrants minus the number of out-migrants).

“This year is the beginning of an 18-year demographic bulge in which about 4 million people—20 percent more than in previous years—will leave their full-time jobs each year and either stay put or purchase a retirement home somewhere else. Economists predict that at least 400,000 boomers a year—with an average of \$320,000 to spend on a new home—will choose greener pastures beyond their state borders.” (Source: Pew Research Center, 2006.)

Other sources of information include a case study coordinated by the University of Tennessee, Institute for Public Service (UT-IPS), and the University of Agriculture, Department of Agricultural Economics, entitled, The Long-Term Impacts of Retiree In-Migration on Rural Areas: a Case Study of Cumberland County, Tennessee, 2007. Research focuses on the political, social and economic impacts of the in-migration of retirees (IMRs) into rural communities in Tennessee.

SECTION 2:

ECONOMIC ACTIVITY WITHIN THE REGION

Provide a table and chart showing the region’s economic profile for all county and municipalities for the last ten (10) years with a projection for the next five (5) years. This can be accomplished by using the following economic indicators:

- *Taxable sales, property tax generation, and per capita income*
- *Evaluation by break down of each economic sector*
- *County or municipal budgeting information*
- *Other commonly accepted economic indicators*

TAXABLE SALES

2008	593,435,000
2007	637,339,000
2006	618,336,000
2005	580,473,000
2004	546,212,000
2003	214,053,000
2002	462,642,000
2001	440,074,000
2000	450,361,000
1999	429,962,000

PROPERTY TAX GENERATION

07-08	15,907,700.69
05-06	14,800,442.84
04-05	14,378,355.94
03-04	12,299,168.14
02-03	11,862,553.15
01-02	11,587,347.62
00-01	10,265,464.88
99-00	9,812,436.29
98-99	9,456,038.66

PER CAPITA 1997 - 2012

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
18,501	19,755	20,427	21,743	21,867	21,622	22,754	23,546	24,805	25,962

2007	2008	2009	2010	2011	2012
26,826	27,965	28,729	29,689	30,525	31,988

Taxable sales in Cumberland County increased from \$488.5 million in FY 03 to \$619.1 million in FY 08. This relatively strong growth rate declined in the last few years and was actually negative for the FY 07 to FY 08 period. This decline is probably related to the general nationwide slowdown and the fact that a major new shopping area has opened on the west side of Knoxville some 50 miles east of Crossville.

Total payroll employment in the county has been growing over the past eight years increasing from 15,180 in 2000 to 16,910 in 2007. But, as with taxable sales, this indicator turned negative in the last year. Major growth areas were Education and Health Services, and trade transportation and utilities. The major decline sector was manufacturing.

General Social and Economic Data

GENERAL SOCIAL AND ECONOMIC DATA

CUMBERLAND COUNTY, TENNESSEE

Population		Percent	Personal Income			
Total-2000 Census	46,802	100.0	2000 Census (1999 Income)			
White	45,917	98.1	Median Family	\$35,928		
Black	59	0.1	Median Household	\$30,901		
Other	826	1.8	Per Capita	\$16,808		
Hispanic	578	1.2	Individual Poverty Rate (%)	14.7		
Age 0-4	2,560	5.5	Family Poverty Rate (%)	11.1		
5-17	7,451	15.9	2006 Bureau of Economic Analysis			
18-64	27,176	58.1	Total (000's)	\$1,351,471		
65+	9,615	20.5	Per Capita	\$25,962		
Median Age	42.5	----	Miscellaneous			
2007 Estimated Total	53,040	----	2008 Bank Deposits (000's)	\$827,679		
1990 Census Total	34,736	----	2002 Wholesale Trade (000's)	NA		
Land Area (sq. miles)	681.6	----	2002 Farm Sales (000's)	\$35,679		
Employment, Labor Force			2000 Adult (Age 25+) Education			
Labor Force-Total	2007 Avg	10/08	Percent College Graduates	13.7		
Employment	23,010	22,360	Percent H.S. Graduates	72.5		
Unemployment	21,730	20,560	Property Tax Rate-2008			
Rate (%)	1,280	1,800	Per \$100 Assessment	\$1.24		
Available Labor	5.6	8.0	Effective	\$1.24		
Work Force-Total	1,400	1,950	State Sales Tax Rate (%)			
Manufacturing	16,910	16,130	Local Sales Tax Rate (%)	7.00		
Nonmanufacturing	2,280	1,740		2.75		
2007 Wages	14,630	14,390	Retail Sales			
Average Weekly	Total	Mfg	2007	2006		
	\$538	\$659	(000's)	\$735,875	\$713,518	
Municipal Data		Population		2008 Property Tax Rate		2000 Census Per Capita Income
		2000	1990	Nominal	Effective	
Crab Orchard		838	876	\$0.00	\$0.00	\$11,161
Crossville		8,981	6,930	\$0.55	\$0.55	\$18,066
Fairfield Glade (CDP)		4,885	2,209	NA	NA	\$26,403
Lake Tansi (CDP)		2,621	NA	NA	NA	\$15,749
Pleasant Hill		544	494	\$0.00	\$0.00	\$21,384

Note: Hispanic population may be of any race. Workforce data exclude self-employed and farm workers and are based on place of employment. Wage data include part-time workers. Effective tax rates estimate the rates required to raise similar revenues under current property appraisals.

**Sanitation Fund
Fiscal Year 2008-2009**

**Cumberland County, Tennessee, Solid Waste / Sanitation Fund
Statement of Proposed Operations
For the Fiscal Year Ending June 30, 2009**

Acct No:	Estimated Revenues	Actual 06-07	Estimated 07-08	Proposed 08-09
42000	Fines, Forfeitures and Penalties			
42300	General Sessions Court			
42310	Fines	254	200	200
	Total Fines, Forfeitures & Penalties	254	200	200
44000	Other Local Revenues			
44100	Recurring Items			
44145	Sale of Recycled Materials	216,114	313,953	315,000
	Totals Other Local Revenues			
44500	Nonrecurring Items			
44530	Sale of Equipment	0	0	0
	Totaling Non-Recurring Items	0	0	0
46000	State of Tennessee			
46100	General Government Grants			
46430	Litter Program	32,406	41,849	42,000
	Total State of Tennessee	32,406	41,849	42,000
49000	Other Sources			
49800	Transfers In	925,000	1,425,000	1,179,000
	Total Other Sources	925,000	1,425,000	1,179,000
	Total Est. Revenues & Other Sources	1,173,774	1,781,002	1,536,220
	Estimated Expenditures			
55000	Public Health & Welfare			
55731	Waste Pickup	Actual 06-07	Estimated 07-08	Proposed 08-09
149	Laborers	112,510	111,934	121,900
169	Part-time Personnel	9,909	10,890	13,795
186	Longevity Pay	2,718	2,659	2,431
187	Overtime	1,942	863	2,138
201	Social Security	9,891	9,819	10,862
204	State Retirement	9,872	10,330	11,370
205	Employee & Department Insurance	25,214	28,488	31,154
206	Life Insurance	148	144	180
208	Dental Insurance	1,208	1,314	1,347
299	Other Fringe Benefits	2,662	2,475	1,718
412	Diesel Fuel	72,000	88,026	108,200
451	Uniforms	1,704	1,521	2,381
499	Other Supplies & Materials	38,278	49,533	51,000
718	Motor Vehicles	0	0	0
724	Site Developments	0	13,383	0
790	Other Equipment	0	4,500	0
	Total Waste Pickup	288,056	335,879	358,476

**Sanitation Fund
Fiscal Year 2008-2009**

55732	Convenience Centers	Actual 06-07	Estimate 07-08	Proposed 08-09
160	Guards	113,674	127,925	126,081
169	Part-time Personnel	274,215	286,967	308,613
186	Longevity Pay	2,777	3,256	3,399
187	Overtime Pay	443	419	3,250
201	Social Security	29,920	31,933	33,907
204	State Retirement	10,201	11,431	11,941
205	Employee & Dependent Insurance	32,521	35,287	38,590
206	Life Insurance	166	156	216
208	Dental Insurance	1,475	1,577	1,616
299	Other Fringe Benefits	0	1,658	1,889
310	Contracts with other Public Agencies	0	25,000	0
330	Lease Payments	5,500	9,300	9,300
451	Uniforms	7,431	8,141	11,352
452	Utilities	29,997	33,222	36,314
499	Other Supplies & Materials	7,091	19,384	17,400
706	Building Construction	0	15,844	7,500
724	Site Development	0	28,244	37,500
790	Other Equipment	28,213	79,068	42,000
	TOTAL CONVENIENCE CENTERS	543,624	718,812	690,868
55751	Recycling Center	Actual 06-07	Estimated 07-08	Proposed 08-09
149	Laborers	94,112	97,804	100,100
169	Part-time Personnel	28,128	34,014	46,800
186	Longevity Pay	2,312	2,203	2,719
187	Overtime	790	457	1,375
201	Social Security	9,589	10,324	11,624
204	State Retirement	8,512	7,982	9,205
205	Employee & Dependent Insurance	21,467	22,082	25,727
206	Life Insurance	119	113	144
208	Dental Insurance	984	1,008	1,078
299	Other Fringe Benefits	0	874	959
355	Travel	795	443	1,600
412	Diesel Fuel	794	2,804	5,800
435	Office Supplies	2,379	2,218	2,380
451	Uniforms	2,134	3,400	4,092
452	Utilities	8,365	4,648	12,920
499	Other Supplies & Materials	34,779	45,153	45,650
706	Building Construction	0	5,850	0
707	Building Improvements	0	0	5,000
724	Site Developments	8,500	252,820	239,500
790	Other Equipment	0	48,236	23,000
	TOTAL RECYCLING CENTER	223,759	542,433	539,674

**Sanitation Fund
Fiscal Year 2008-2009**

58000	Other General Government	Actual 06-07	Estimated 07-08	Proposed 08-09
58400	Other Charges			
510	Trustee's Commission	2,159	3,171	4,000
	Total Other Charges	2,159	3,171	4,000
58600	Employee Benefits	Actual 06-07	Estimated 07-08	Proposed 08-09

210	Unemployment Compensation	4,051	3,503	4,000
513	Workers' Compensation	45,000	77,163	82,000
	Total Employee Benefits	49,051	80,666	86,000
60000	Highways			
64000	Litter and Trash Collection	Actual 06-07	Estimated 07-08	Proposed 08-09
106	Deputies	36,383	41,551	44,500
186	Longevity Pay	374	427	445
201	Social Security	2,812	3,211	3,438
204	State Retirement	3,220	3,677	3,987
205	Employee & Dependent Insurance	10,524	11,533	12,613
206	Life Insurance	69	72	72
208	Dental Insurance	472	526	539
307	Communications	100	20	150
355	Travel	73	282	400
412	Diesel Fuel	0	1,350	1,050
435	Office Supplies	69	268	700
451	Uniforms	127	52	938
499	Other Supplies & Materials	812	2,982	3,000
718	Motor Vehicle	0	0	5,000
	Total Litter and Trash Collection	55,035	68,952	76,832
	Total Estimated Expenditures	1,161,684	1,746,913	1,755,849
	Over / Under (-)	12,090	34,089	-219,629
	Beginning Fund Balance 07/01	223,659	235,749	269,838
	Ending Fund Balance 06/03	235,749	269,838	50,209

**Landfill Fund
Fiscal Year 2008-2009**

Cumberland County, Tennessee, Solid Waste Disposal Fund Statement of Proposed Operations For the Fiscal Year Ended June 30, 2009				
Acct No:	Description	Actual 06-07	Estimated 07-08	Proposed 08-09
	Estimated Revenues			
43000	Charges for Current Services			
43100	General Services Charges			
43110	Tipping Fees	915,382	841,554	850,000
	Total Charges for Current Services	915,382	841,554	850,000
44000	Other Local Items			
44100	Recurring Items			
44170	Miscellaneous Refunds	33	0	0

	Total Other Local Revenues	33	0	0
46000	State of Tennessee			
46100	General Government Grants			
46170	Solid Waste Grants	43,579	28,085	30,000
	Total State of Tennessee	43,579	28,085	30,000
	Total Estimated Revenues	958,994	869,639	880,000
49000	Other Sources			
49700	Insurance Recovery	0	70,739	0
	Total Estimated Revenues & Other Sources	958,994	940,378	880,000
	Estimated Expenditures			
55000	Public Health and Welfare			
55754	Landfill Operation and Maintenance	Actual 06-07	Estimated 07-08	Proposed 08-09
105	Supervisor / Director	39,562	39,707	40,300
143	Equipment Operator	103,181	105,787	106,744
169	Part-time Personnel	14,433	16,765	24,795
186	Longevity Pay	2,911	3,209	3,242
187	Overtime Pay	257	624	1,345
201	Social Security	12,441	12,872	13,716
204	State Retirement	13,020	13,326	13,704
205	Employee & Dependent Insurance	26,625	29,176	31,907
206	Life Insurance	232	232	258
208	Dental Insurance	1,229	1,314	1,347
299	Other Fringe Benefits	2,722	2,793	2,867
355	Travel	175	520	700
363	Contracts for Landfill Facilities	61,566	62,676	67,565
366	Contracts for Post Closure Costs	0	16,193	25,000
412	Diesel Fuel	41,429	51,091	89,500
435	Office Supplies	1,877	1,297	1,850
451	Uniforms	1,351	1,653	2,000
452	Utilities	7,866	12,937	18,000
499	Other Supplies & Materials	146,291	170,219	200,000
514	Depreciation	232,834	0	0
523	Landfill Closure / Post Closure	158,096	27,455	291,000
599	Other Charges	152,753	264,479	357,600
715	Land	0	0	0
724	Site Development	0	0	0
733	Solid Waste Equipment	0	84,500	0
	Total Landfill Operation & Maintenance	1,020,851	918,825	1,293,440
58000	Other General Government			
58400	Other Charges			
510	Trustee's Commission	4,768	4,318	5,000
	Total Other Charges	4,768	4,318	5,000
58600	Employee Benefits			

210	Unemployment Compensation	593	438	500
513	Workers' Compensation	18,000	17,618	20,000
	Total Employee Benefits	18,593	18,056	20,500
	Total Expenditures	1,044,212	941,199	1,318,940
	Over/Under (-)	-85,218	-821	-438,940
	Estimated Beginning Fund Balance July 1	987,632	902,144	901,323
	Prior Period Adjustment		0	0
	Estimated Ending Fund Balance June 30	902,144	901,323	462,383

SECTION 3:

WASTE STREAM CHARACTERIZATION

Elaborate on the entire region's solid waste stream. Compare today's waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics and other problem wastes are currently handled and are projected to be handled in the next five (5) years. What other waste types generated in this region require special attention? Discuss disposal options and management of these waste streams as well as how these waste streams will be handled in the future. Include in this discussion how commercial or industrial wastes are managed. Also provide an analysis noting source and amounts of any wastes entering or leaving out of the region.

Regional Solid Waste Stream

Waste tires "free" disposal is limited to residents of Cumberland County only, with disposal limitation of (4) tires per resident per day and (8) tires per resident annually. Free disposal is limited to the Recycling Center at 96 Maryetta Street; Crossville, TN and must be placed at a specific location. All collected waste tires are diverted to beneficial end use programs. No whole tires are allowed for disposal in the landfills. Paint cans must be empty, dried up or solidification materials added (kitty litter, etc.) prior to disposal. Gas tanks must have no free liquids and a hole pierced in the tank prior to disposal. No propane tanks are allowed for disposal, although they may be recycled through Wal-Mart or Lowe's (Blue Rhino program). No limbs, brush, stumps, leaves, or grass clippings are allowed. No fence wire, barb wire, no chain link fence is allowed. Wire may be taken separately to the Cumberland County landfill for disposal in the C&D landfill. No animal waste, no dead animals, no lead-acid batteries, no medical waste, no free liquids. No roofing shingles are allowed for disposal at any of the fifteen (15) convenience centers, shingles may be taken to the C&D landfill. No refrigerators or freezers are allowed for disposal except at the Recycling Center so that Freon may be recovered by an EPA certified refrigeration contractor prior to being recycled for their metal content.

Waste Stream Analysis over the Next 5 Years

All available and efficient technology and waste diversion efforts have been implemented to extend the landfill space. Modification of the cap design is planned to allow usage of lesser soil materials during potential final closure of landfill for 2011. The County Class I/III/IV landfill, recycling center, individuals recycling efforts and businesses contribute significantly to extend the life of the current landfill. Currently the County is planning for 10-year disposal capacity by evaluating solid waste management options, such as continued landfill operations or transferring waste out-of county. Regardless of which method of waste disposal the County chooses, a 10-year capacity will be assumed. Attached hereto is the Cumberland County Landfill 2007 Life Calculations.



PROFESSIONAL ENGINEERING SERVICES, INC.

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March 14, 2008

Mr. Wayne Blaylock
Solid Waste Director
96 Marietta Street
Crossville, TN 38555

RE: Cumberland County Landfill 2007 Life Calculations
Job # 181302

Mr. Blaylock:

The 2007 Life Calculations for the Cumberland County Class I and Class III landfills have been completed. Please find enclosed four (4) sets of the Estimate of Remaining Landfill Life for the Class I and Class III landfills. I have also attached the calculations as prepared.

These items are being submitted for your review and approval. Please sign all four copies, retain one copy for your files, and return the remaining three copies to our office for submittal to the State. If you have any questions, please call me at (931) 836-3764.

Sincerely,

Kyle E. Hazel, P.E.

KEH:bb

CC: Mr. Brock Hill, Cumberland County Mayor

ESTIMATE OF REMAINING LANDFILL LIFE

Registration No. SNL 18-107-212

Name of Site Cumberland County Sanitary Landfill - Class I - Phases I,II, and III

Location Flynns Cove Road County Cumberland

Owner Cumberland County

Number of Usable Acres Originally 9.6 acres

Remaining Number of Usable Acres 0.0 acres

Estimated Remaining Life of Site in Years 2 Months 0

Average Daily Weight (in tons) or Volume (cubic yards) of Waste Received:

91.2 tons per day, or
_____ cubic yards per day
5 days/week days of operation

Report Prepared By Kyle E. Hazel, P.E.

Title Civil Engineer Date 3-14-2008

Signature of Registrant If Different From Person Preparing Form

Title Cumberland County Mayor

Date Signed: 3-26-2008

Spaces Below This Line For Office Use Only

Reviewed by Solid Waste Representative _____

Agree With Estimate Yes _____ No _____

If Disagree With Estimate Give Own Estimate _____ Years _____ Months

Date of Review _____

Sam/E60841 65/SWM 6.0

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1 of 2

**Cumberland County Landfill
Class 1
Phases I / II / III
2007 Life Calculations
W/ Annual 6% Increase**

Waste Received

Time Period	Waste Received (Tons)	Average (Tons / Month)
May 2000 to December 2000	19,484.23	2,435.53
January 2001 to December 2001	24,193.87	2,016.16
January 2002 to December 2002	24,053.39	2,004.45
January 2003 to December 2003	25,982.70	2,165.23
January 2004 to December 2004	26,781.39	2,231.78
January 2005 to December 2005	23,223.69	1,935.31
January 2006 to February 2007	27,268.08	1,947.72
March 2007 & December 2007	19,888.90	1,988.89
Total	190,876.25	2,074.74

Landfill Volume

Original Volume Available (Cubic Yards)	383,945		
Volume Consumed By Annual Survey	Volume (Cubic Yards)	Annual Volume (Cubic Yards)	Compaction Rate (Tons / Cubic Yard)
May 2000 to December 2000	29,637	29,637	0.66
January 2001 to December 2001	66,001	36,364	0.67
January 2002 to December 2002	114,327	48,326	0.50
January 2003 to December 2003	151,563	37,236	0.70
January 2004 to December 2004	182,123	30,560	0.88
January 2005 to December 2005	219,880	37,757	0.62
January 2006 thru February 2007	261,244	41,364	0.66
March 2007 thru December 2007	279,688	18,444	1.08

PES Job No. 181301

Prepared by Professional Engineering Services, Inc.

Kyle E. Hazel, P.E.
Tn. License No. 108863

1/15/2008
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**Cumberland County Landfill
Class 1
Phases I / II / III
2007 Life Calculations
W/ Annual 6% Increase**

2 of 2

Total Compaction Rate (Tons / Cubic Yard)	0.68	
Volume Remaining (Cubic Yards)	104,257	
Estimated Waste Capacity (Tons)	71,151.37	
Landfill Life Remaining		
	Estimated Waste Remaining (Tons)	Increase of 6% Annually Estimated Waste Received (Tons / Year)
January 2008 to December 2008	71,151.37	25,298.68
January 2009 to December 2009	45,852.69	26,816.60
January 2010 to August 2010	19,036.09	18,950.40

Note 1: The remaining life of the Class 1 Landfill is **2 Years 8 Months**.

Note 2: The landfill is estimated to be filled to capacity by the end of August 2010.

Note 3: The landfill life calculations are based on projected amounts of waste received and an estimated compaction rate. If any of these projected quantities change during the continued operation of the Class 1 Landfill facility, so will the life of the landfill.

ESTIMATE OF REMAINING LANDFILL LIFE

Registration No. SNL 18-107-202 Ext

Name of Site Cumberland County Sanitary Landfill - Class III/IV

Location Flynns Cove Road County Cumberland

Owner Cumberland County

Number of Usable Acres Originally 11.1 acres

Remaining Number of Usable Acres 2.0 acres

Estimated Remaining Life of Site in Years 2 Months 0

Average Daily Weight (in tons) or Volume (cubic yards) of Waste Received:

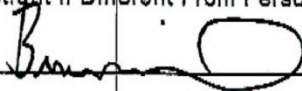
63.9 tons per day, or
 cubic yards per day

5 days/week days of operation

Report Prepared By Kyle E. Hazel, P.E.

Title Civil Engineer Date 3-14-2008

Signature of Registrant if Different From Person Preparing Form



Title Cumberland County Mayor

Date Signed: 3-26-2008

Spaces Below This Line For Office Use Only

Reviewed by Solid Waste Representative _____

Agree With Estimate Yes _____ No _____

If Disagree With Estimate Give Own Estimate _____ Years _____ Months

Date of Review _____

Sam/E60841 65/SWM 6.0

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1 of 2

**Cumberland County Landfill
Class 3/4
Phases I II
2007 Life Calculations
W/ Annual 6% Increase**

Waste Received

Time Period	Waste Received (Tons)	Average (Tons / Month)
July 2000 to December 2000	4,404.54	734.09
January 2001 to December 2001	11,120.68	926.72
January 2002 to December 2002	13,480.53	1,121.71
January 2003 to December 2003	15,150.94	1,262.58
January 2004 to December 2004	15,187.75	1,265.65
January 2005 to December 2005	16,128.63	1,344.05
January 2006 to December 2006	16,605.37	1,383.78
January 2007 & February 2007	2,136.70	1,068.35
March 2007 to December 2007	13,269.61	1,326.96
Total	107,464.75	1,194.05

Landfill Volume

Original Volume Available (Cubic Yards)	288,781		
Volume Consumed By Survey	Volume (Cubic Yards)	Annual Volume (Cubic Yards)	Compaction Rate (Tons / Cubic Yard)
July 2000 to December 2005	148,177		
January 2006 thru February 2007	177,681	29,504	0.64
March 2007 thru December 2007	220,368	42,687	0.31
Total Compaction Rate (Tons / Cubic Yard)	0.49		
Volume Remaining (Cubic Yards)	68,413		
Estimated Waste Capacity (Tons)	33,362.31		

PES Job No. 181301

Prepared by Professional Engineering Services, Inc.

Kyle E. Hazel, P.E.
Tn. License No. 108863

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2 of 2

**Cumberland County Landfill
Class 3/4
Phases I II
2007 Life Calculations
W/ Annual 6% Increase**

Landfill Life Remaining

	Estimated Waste Remaining (Tons)	Increase of 6% Annually Estimated Waste Received (Tons / Year)	
January 2008 to December 2008	33,362.31	16,330.89	
January 2009 to December 2009	17,031.62	17,310.53	Months 11.8

Note 1: The remaining life of the Class 1 Landfill is 2 Years.

Note 2: The landfill is estimated to be filled to capacity by the end of December 2009

Note 3: The landfill life calculations are based on projected amounts of waste received and an estimated compaction rate. If any of these projected quantities change during the continued operation of the Class 1 Landfill facility, so will the life of the landfill.

The Table below summarizes how the region’s total waste stream will be managed over the next five (5) years. Cumberland County and local businesses are listed separately to describe management methods and programs available for each sector.

TABLE 3.1 Cumberland County Regional Waste Stream Management

Jurisdiction or Sector	Solid Waste Stream Collection	Solid Waste Disposal Options	Present Problem Waste Handling	Future Problem Waste Handling 2007-2012	Other Problem Waste Types
Cumberland County	<p>Fifteen (15) County Convenience Centers and there are two (2) businesses permitted for transfer stations in Cumberland County, Cumberland Waste Disposal and Fay CWD operates a transfer station in Crossville on Stevens Street.</p> <p>All solid waste generated in the County is accepted at the convenience center collection sites. All center sites accept recyclable materials free of charge for residents and businesses.</p>	<p>Cumberland County maintains its own landfill to dispose of solid waste and demolition waste.</p>	<p>Waste tires: Waste tire “free” disposal is limited to residents with disposal limitation of (4) tires per resident per day (8) tires per resident annually, No whole tires are allowed.</p> <p>Used oil: Waste heater fuel.</p> <p>Other Automobile fluids: Enterprise Oil, Inc. contract.</p> <p>Latex paint: All paint cans must be empty, dried up prior to disposal.</p> <p>Electronics: Collected, marketed by County thru RMCT, Inc.</p>	<p>Waste tires: Waste tire contract negotiated.</p> <p>Used oil: Waste heater fuel.</p> <p>Used oil filters: Crushed light and heavy-duty, used oil drained for waste heater, scrap metal recycling of drained crushed filters.</p> <p>Other Automobile fluids: Enterprise Oil, Inc. contract.</p> <p>Latex paint: Sanitation Department in-house and public reuse.</p> <p>Electronics: Collected, marketed by County thru RMCT, Inc.</p>	<p>Road Side Dumps: Five (5) largest Roadside Dumps,</p> <p>Materials Dumped Includes Tires, Household garbage, brush, furniture, appliances.</p> <p>Shorty Barnes Road, 6,000 tons.</p> <p>Flynn’s Cove Road; 6,000 tons;</p> <p>Wallop Lane, 4,000 tons,</p> <p>Chestnut Hill Road, 4,000 tons;</p> <p>Taylor’s Chapel Road. 3,000 tons.</p>
Business	<p>Subscription service provided by several private haulers in the County for residents and businesses.</p> <p>Kmart and Wal-Mart reuse pallets.</p>	<p>Primary disposal options for local haulers is the local landfill, which operates as a class III.</p> <p>Meadow Branch Class I Landfill, which is located in McMinnville is also available for waste disposal.</p> <p>Other Class I Landfill sites operating in the region, accepting out-of-county waste, are viable sources for disposal also.</p>	<p>In-house business and contractor problem waste handling unknown and considered confidential.</p>	<p>In-house business and contractor problem waste handling unknown and considered confidential.</p>	<p>Hazardous waste generated from commercial and industrial businesses is regulated by TDEC, Division of Solid Waste Management, and Hazardous Waste.</p>

Source: Cumberland County 2006; TDEC SWM Remaining Life Survey, 2007; TDEC SW County of Origin Report, 2007.

SECTION 4:

REGIONAL COLLECTION SYSTEMS

Describe in detail the waste collection system of the region and every county and municipality. Provide a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material or an emission to air or water. Label all major steps in this cycle noting all locations where wastes are collected, stored or processed along with the name of operators and transporters for these sites.

Solid Waste and Recycling Collection Services

The Cumberland County Chapter grew out of the Cumberland Recycling Partners, a local group which worked for ten (10) years to get the Cumberland County Recycling Center established by the Cumberland County Board of Commissioners. This recycling center is now a “Model” operation and is saving the county a significant amount of money in its landfill operations. Cumberland County currently operates (15) convenience centers in the county. The convenience centers are operated by the county and trash is taken daily to the landfill. There are currently two businesses permitted for transfer stations in Cumberland County; Cumberland Waste Disposal and Fay. CWD operates a transfer station in Crossville on Stevens St.

In 2004/05, the County constructed a Recycling Center with funds provided through a TDEC Waste Reduction Grant award. The Recycling Center is located at the 1st District Convenience Center site. In addition, a TDEC Recycling Equipment Grant was awarded providing funds to purchase a skid steer loader, glass crusher and collection containers. In 2006, the County began collecting additional types of recyclables at the Recycling Center: cardboard, newspaper, mixed paper, magazines, office paper, books, plastic containers, aluminum and steel cans, glass containers, electronics, used oil, used oil filters, latex paint, waste tires, and white goods.

The amount and type of recyclable materials grows with each day of operations. The staff is dedicated and enthusiastic about waste reduction and the prospect of researching all potential end-use options and markets for any waste material generated. The energy amassed during the infancy of this program has been inspiring to anyone fortunate to tour the facilities, interview staff members and privileged to work with local leader’s soliciting input on any new options, technologies, etc.

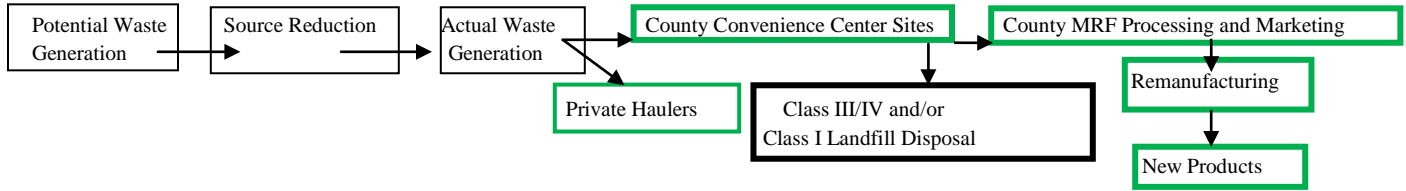
The used oil storage tanks, waste oil heater and light-duty used oil filter crusher have also been purchased with grant funds provided through the TDEC Used Oil Grant. A heavy-duty used oil filter crusher, used oil transfer pump and additional used oil containers were requested in the 2006/07 TDEC Used Grant Application with plans to provide a comprehensive approach for handling all used oil wastes and other automobile fluids.

Cumberland County Regional Solid Waste Life-Cycle

Theoretically, the life-cycle of Waste Generation in the Region follows the management options illustrated below. Potential waste generation can be reduced at the source through measures, such as residents reusing materials of remaining value. Manufacturers can also reduce residual waste by modifying internal operations to efficiently manage feedstock used for producing commodities. What remains is the Actual Waste Generation collected at the County Convenience Center Sites and/collected by any private haulers.

At the County Convenience Center sites, solid and demolition waste is collected in separate containers for disposal in the respective landfills provided in local County landfill. The County also provides recycling containers for recyclable material that will be processed, marketed and remanufactured into new products. The value of recyclables is expressed in marketing sales paid to the County. Lastly, brokers and markets sell recyclable products to manufacturers producing new products. (Adapted from Life-Cycle Study of Municipal Solid Waste Management, EPA, July 1995).

The waste management options of Class III/IV, and Class I disposal, and separation of recyclables are also available to any private haulers operating in the County.



Crossville and Cumberland County

The City of Crossville and Cumberland County and serving the surrounding communities which include Crab Orchard, Pleasant Hill and other unincorporated areas, currently operates a total of 15 convenience center sites and hours of operation as follows:

- Baker’s Convenience Center, 2089 West Creston Road, Crossville, TN 38571;
- Big Lick Convenience Center, 5199 Old Highway 28, Crossville, TN 38555;
- Airport Convenience Center, 12 Old Highway 70, Crossville, TN 38572;
- Lantana Road Convenience Center, 15720 Lantana Road, Crossville, TN 38572;
- Crab Orchard Convenience Center, 10223 Highway 70 East, Crab Orchard, TN 37723;
- Homesteads Convenience Center, 3586 Highway 127 South, Crossville, TN 38572;
- Industrial Parkway Convenience Center, 82 Cox Avenue, Crossville, TN 38555;
- Mayland Convenience Center, 464 Jim Garrett Road, Crossville, TN 38571;
- Peavine Road Convenience Center, 67 Bean Pot Campground, Crossville, TN 38571-7930;
- Pleasant Hill Convenience Center, 15 Old Claysville Road, Crossville, TN 38572;
- Rinnie Convenience Center, 12405 Highway 127 North, Crossville, TN 38571-0795;
- Vandever Convenience Center, 5102 Vandere Road, Crossville, TN 38572;
- Westel Convenience Center, 19161 Highway 70 East, Crossville, TN 37854-6625;
- Woody Convenience Center, 7464 Highway 127 North, Crossville, TN 38571;

Hours of operations are Monday, Tuesday, Thursday, Friday, and Saturday from 6:00 a.m. – 6:00 p.m. and Sunday 12:00 p.m. – 6:00 p.m.

Materials collected at each convenience center site are metals, paper, and auto fluids.

Cumberland County Recycling Center, 96 Maryetta Street, Crossville, TN 38555.

Hours of operation are Monday thru Saturday, 7:00 a.m. – 6:00 p.m. and Sunday 12:00 p.m. – 6:00 p.m.

Materials collected at this center are metals, paper, glass, plastic, tires, and auto fluid.

<u>Roadside Dumps:</u>	<u>Materials Dumps</u>	<u>Tons</u>
Shorty Barnes Road	Tires, household garbage, brush, furniture, appliances	6,000
Flynn’s Cove Road	Tires, household garbage, brush, furniture, appliances	6,000
Wallop Lane	Tires, household garbage, brush, furniture, appliances	4,000
Chestnut Hill Road	Tires, household garbage, brush, furniture, appliances	4,000
Taylor’s Chapel Road	Tires, household garbage, brush, furniture, appliances	3,000

SECTION 5:

REGIONAL SOLID WASTE REDUCTION GOAL

The Solid Waste Management Act of 1991 states that all regions must reduce the amount of waste going into Class I landfills by 25%. Amendments to the Act allow for consideration of economic growth, and a “qualitative” method in which the reduction rate is compared on a yearly basis with the amount of Class I disposal. Provide a table showing reduction rate by each goal calculation methodology. Discuss how the region made the goal by each methodology or why they did not. If the Region did not meet the 25% waste reduction goal, what steps or infrastructure improvements should be taken to attain the goal and to sustain this goal into the future.

TABLE 5.1 Measurement of Regional Waste Reduction Goal

County	Waste Reduction Goal Calculation Method			
	Compared to Base Year	Population Ratio	Economic-Population Ratio	Qualitative- Real Time
Cumberland	32%	32%	27%	37%
25% Waste Reduction Goal Achieved	Yes	Yes	Yes	Yes

Source: TDEC, Division of Solid Waste Management, Division of Solid Waste Assistance Program, 11/2007.

Variables Affecting Successful Regional Waste Reduction Efforts in Cumberland County

No significant setbacks have occurred. The County continues to encourage local businesses to participate in waste reduction activities and report figures to the Department. Annual outreach and encouragement directly with appropriate business contacts is initiated by the Department. Landfill operations and management costs are increasing. The County is researching existing funding mechanisms. Additional funds must be allocated to increase necessary revenues to continue the landfill business.

The County continues to encourage local businesses to participate in waste reduction activities. Several workshops and presentations are scheduled annually to promote in-house waste reduction, environmental stewardship and support of the County recycling programs. Additionally, some businesses are improving their operational costs through recycling income.

Future Regional Waste Reduction Program in Cumberland County

The fundamentals of public works infrastructure to supply water, sewer, electricity and natural gas as necessary utilities, for instance, must be incorporated into the foundation of collecting waste generated from the source, be it residential or business. Transportation, disposal and management costs to support other facets of the waste utility industry are legitimate comparisons with the cost of providing other utilities to a modern society. Water, sewer, gas, etc. are considered necessary creature comforts for human beings. Trash management, and even environmental protection, such as water pollution control, is not considered an immediate personal comfort when the freedom to eliminate the waste can be easily and creatively practiced in the form of illegal dumping, burning or throwing trash in your own backyard without consequence. The connection of properly containerizing waste, revering the long-term benefits of self-preservation and safeguarding necessary environmental resources for the continued existence of oneself have not been successfully internalized to produce significant behavioral changes. Conserving

any resource, whether it be water, electricity or landfill space, is not practiced concurrently. However, Cumberland County will continue to encourage waste reduction behavior for both resident and businesses.

SECTION 6:

SOLID WASTE DISPOSAL CAPACITY

Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum throughput. Provide this for both Class I and Class III/IV disposal and recycled materials. Identify and discuss any potential shortfalls in materials management capacity whether these are at the collection or processor level.

Table A 10-year Regional Disposal Assurance in Cumberland County in 2007

Site Name(s)	Annual Tons Disposed by Cumberland County Region	Current Landfill Capacity (daily throughput)	Maximum Capacity	Projected Life of Facility
Cumberland County Sanitary Landfill Class I SNL 180000212	23,224.3	63.63	Depends on compaction rate, and Landfill Design and Operations Plan.	December 2009
Meadow Branch Landfill Class I SNL 540000174	9,247.7	25.34	Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Rhea County Landfill Class I SNL 720000269	1,600	4.38	Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Cumberland County Sanitary Landfill Class III SNL180000212	15,360.7	42.08	Depends on compaction rate, and Landfill Design and Operations Plan.	December 2009
Total Tonnage	49,432.6	135.43		

Sources: SW County of Origin Report Remaining Life Survey, Class I Landfill Sites in Tennessee, TDEC, Division of Solid Waste Management, November 15, 2007.

Total Tons Generated, County of Cumberland, 1998 to 2007

Year	Residential Solid Waste (Tons)	Residential Recycling (Tons)	Residential Hazardous Waste (Tons)	Commercial Recycling (Tons)	TOTAL (Tons)
2000	44,496.0				44,496.0
2001	44,513.0				44,513.0
2002	34,456.0				34,456.0
2003	45,525.0				45,525.0
2004	48,656.0	6,873.0	10.3		55,539.3
2005	50,571.3	7,306.7	14.3	9,125.0	67,017.2
2006	62,172.0	6,896.0	16.3	12,450.0	81,534.3
2007	49,432.6	7,051.9	19.0		56,503.5

Individual Material per Capita Recovery vs. Year, County of Cumberland, Residential Recycling, 2003 to 2007

Materials	2003 (lbs/cap/yr)	2004 (lbs/cap/yr)	2005 (lbs/cap/yr)	2006 (lbs/cap/yr)	2007 (lbs/cap/yr)
Metal					
Ferrous				17.5	22.0
Non-Ferrous				0.2	0.3
Mixed Metals		0.2	27.0	11.7	
TOTAL METAL	0.0	0.2	27.0	29.5	22.3
Paper					
Corrugated		34.7	29.1	30.9	30.9
Newspaper		32.9	33.0	26.3	23.9
Office Paper		0.2			
Miscellaneous Paper		5.4			3.5
TOTAL PAPER	0.0	73.2	62.1	57.2	58.3
Glass					
Flint (Clear)		2.1			
Mixed Glass		2.1			
TOTAL GLASS	0.0	4.2	0.0	0.0	0.0
Plastic					
#1 PET		0.7	0.5	0.3	0.6
#2 HDPE		0.6	0.4	0.3	0.4
Mixed #1 and #2			0.3		
Other Plastics & Mixed Plastics				1.5	4.0
TOTAL PLASTIC	0.0	1.2	1.1	2.1	5.1
Other Recyclables					
Sewer Sludge		130.5			
Pallets			0.2		
Tires		26.7	36.1	27.5	28.0
TOTAL OTHER RECYCLABLES	0.0	157.2	36.3	27.5	28.0
Other Organic Recyclables					
Landscape and Agriculture				146.0	150.5
Compost			156.4		

Mulch		8.0			
TOTAL OTHER ORGANIC RECYCLABLES	0.0	8.0	156.4	146.0	150.5
Batteries					
Lead-Acid		0.8	0.7	0.5	0.3
Automotive Fluid					
Used Oil		0.9	0.9	0.8	1.4
Miscellaneous					
Other (1)		28.9			
TOTAL PER CAP RECOVERY	0.0	274.5	284.6	263.5	265.9

Cumberland County transfers solid waste generated from convenience center sites to the local Class I Landfill. Reported figures from the TDEC SW County of Origin Report CY 2007 show 265.9 tons of solid waste generated in Cumberland County is disposed at County Class III Landfill.

B. Provide a chart or other graphical representation showing public and private collection service provider area coverage within the county and municipalities. Include provider's name, area of service, population served by provider, frequency of collection, yearly tons collected, and the type of service provided.



TABLE B Population Served for City and County Convenience Center Site, Provider, Service Area, Population Service, Tons Collected

Year	Cumberland Co.	Crossville	Crab Orchard	Pleasant Hill	Unincorporated
2007	53,040	11,125	927	620	40,368
Provider of Service	Service Area	Available Service for 2007 Population Total	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Estimated Annual Tons Collected	Type Service (Curbside, Convenience Center, Green Box) or Door to Door
CCS Baker's Big Lick Airport Lantana Rd Crab Orchard Homesteads Industrial Pk Mayland Peavine Rd Pleasant Hill Rinnie Vandever Westel Woody	City and County-wide serving Cumberland Co. Crossville Crab Orchard Pleasant Hill And other Unincorporated Communities	53,040 11,125 927 620 40,368	6 days per week And Once weekly for some	1,354.30 (County CCC Sites- Class I, III/IV)	CCC and/or Door to Door Services with subscription
Private Haulers*	County-wide	NA	Weekly	NA	Subscription Service

*Several private haulers operate waste collection service for residents and businesses in Cumberland County. Information on customers and areas served and tonnages collected is not available and considered confidential by the private sector.

SECTION 7:

SOLID WASTE MANAGEMENT INFRASTRUCTURE

Complete the chart below and discuss unmet financial needs to maintain current level of service. Provide a cost summary for current year expenditures and projected increased costs for unmet needs.

Public Infrastructure Inventory Needs 2004-2009				
	Tennessee	Cumberland County	County Rank	Percent of State
Estimated Costs, 2004-2009 (In Thousands)				
Transportation	\$10,031,713	\$106,864	22 nd	1.1%
Water and Wastewater	3,112,716	10,700	55 th	0.3%
Existing School Improvements	2,06,190	2,639	46 th	0.1%
K-12 New School Improvements	1,497,198	0	40 th	0.0%

Non K-12 Education	1,455	0	5 th	0.0%
Recreation	1,020,694	2,200	43 rd	0.2%
Other Utilities	556,070	0	29 th	0.0%
Law Enforcement	641,235	0	62 nd	0.0%
Business District Development	393,059	0	22 nd	0.0%
Libraries and Museums	140,510	0	48 th	0.0%
Industrial Sites and Parks	245,137	3,700	26 th	1.5%
Community Development	374,519	5,100	11 th	1.4%
Storm-Water	257,680	0	40 th	0.0%
Navigation	300,200	0	3 rd	0.0%
Public Buildings	339,067	500	50 th	0.1%
Public Health Facilities	51,503	1,000	15 th	1.9%
Fire Protection	175,243	2,000	15 th	1.1%
Housing	100,461	0	14 th	0.0%
Solid Waste	68,971	3,170	5 th	4.6%
Other Facilities	10,640	0	3 rd	0.0%
School System-Wide Need	16,645	0	14 th	0.0%
Telecommunications	29,774	0	6 th	0.0%
Property Acquisition	4,420	0	5 th	0.0%
GRAND TOTAL	\$21,438,100	\$137,872	35th	0.6%

This analysis does not include indirect or depreciation costs or future annual costs associated with additional employees, salary increases, facility operations, landfill monitoring costs, etc. Indirect costs are usually calculated based on the support services for solid waste management within local government departments, such as the offices of the executive, budget director, trustee, etc. Depreciation is a method of allocating the costs of capital outlays over the useful life of the resource purchased, such as equipment or facility development. Local governments should recognize annually the cost of support services and depreciation for all assets until they are fully depreciated when utilizing full-cost accounting to plan for future revenue sources.

However, for purposes of this Needs Assessment, to project the future costs of equipment and facilities, Future Outlays of equipment and facility expansions to support potential program growth over the next five (5) years, will be calculated to anticipate expenditures of cash in the future by amortizing annual costs.

Cumberland County will evaluate alternative revenue sources, such as user fees and waste management services expand to meet the growing needs of residents and additional state and federal regulations. Performing a full-cost accounting study, Cumberland County can:

- Determine the cost of solid waste management services;
- Adopt a more business-like approach to solid waste management;
- Improve methods of evaluating privatization initiatives;
- Determine an appropriate mix of solid waste management services for the future;
- Establish rates and user charges to fund services for the future.

In an effort to manage and reduce the amount and types of waste generated in an industrialized, “throw-away society,” local governments plan to develop programs and construct collection and disposal facilities incrementally over time. The annual budget and the 4-year re-election process limit long-term planning to construct facilities to grow into and not out of over a longer time period than public officials are willing to risk.

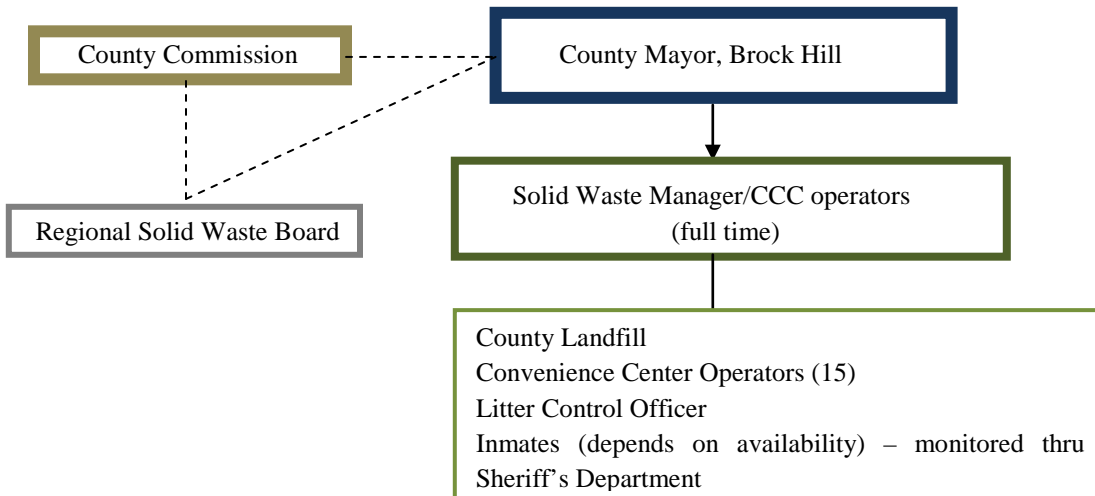
SECTION 8:

PUBLIC PARTICIPATION

Provide organizational charts of each county and municipality’s solid waste program and staff arrangement. Identify needed positions, facilities, and equipment that a fully integrated solid waste system would have to provide at a full level of service. Provide a scale county level map indicating location of all facilities including convenience centers, transfer stations, recycling centers, waste tire drop-off sites, used oil collection sites, paint recycling centers, all landfills, etc. Identify any short comings in service and note what might be needed to fill this need.

The Solid Waste Manager is responsible for all solid waste and recycling daily operations in the County and answers directly to the Cumberland County Mayor. The solid waste board, County Commission and the Cumberland County Mayor evaluate program planning, budgeting and implementation. The County Litter Control Officer supervises inmates during daily operations at the Recycling Center and roadside litter pick-up.

Regional Solid Waste Organizational Structure



Convenience Centers:

- Baker’s Convenience Center, 2089 West Creston Road, Crossville, TN 38571;
- Big Lick Convenience Center, 5199 Old Highway 28, Crossville, TN 38555;
- Airport Convenience Center, 12 Old Highway 70, Crossville, TN 38572;
- Lantana Road Convenience Center, 15720 Lantana Road, Crossville, TN 38572;
- Crab Orchard Convenience Center, 10223 Highway 70 East, Crab Orchard, TN 37723;
- Homesteads Convenience Center, 3586 Highway 127 South, Crossville, TN 38572;
- Industrial Parkway Convenience Center, 82 Cox Avenue, Crossville, TN 38555;
- Mayland Convenience Center, 464 Jim Garrett Road, Crossville, TN 38571;
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- Westel Convenience Center, 19161 Highway 70 East, Crossville, TN 37854-6625;
- Woody Convenience Center, 7464 Highway 127 North, Crossville, TN 38571;

Hours of operations are Monday, Tuesday, Thursday, Friday, and Saturday from 6:00 a.m. – 6:00 p.m. and Sunday 12:00 p.m. – 6:00 p.m.

Materials collected at each convenience center site are metals, paper, and auto fluids.
Cumberland County Recycling Center, 96 Maryetta Street, Crossville, TN 38555.

Hours of operation are Monday thru Saturday, 7:00 a.m. – 6:00 p.m. and Sunday 12:00 p.m. – 6:00 p.m.
Materials collected at this center are metals, paper, glass, plastic, tires, and auto fluid.

<u>Roadside Dumps:</u>	<u>Materials Dumps</u>	<u>Tons</u>
Shorty Barnes Road	Tires, household garbage, brush, furniture, appliances	6,000
Flynn’s Cove Road	Tires, household garbage, brush, furniture, appliances	6,000
Wallop Lane	Tires, household garbage, brush, furniture, appliances	4,000
Chestnut Hill Road	Tires, household garbage, brush, furniture, appliances	4,000
Taylor’s Chapel Road	Tires, household garbage, brush, furniture, appliances	3,000

SECTION 9:

Identify all current revenue sources by county and municipality that are used for materials and solid waste management. Project future revenue needs from these categories and discuss how this need will be met in the future. Use example in Chart 7 as an example to present data.

<u>Revenues</u>	
Fines, Forfeitures and Penalties	253.00
Tipping Fees	918,444.00
Sale of Recyclable Materials	216,113.00
Solid Waste Grants	43,612.00
Public Works Grants – Litter Prog.	35,279.00
Transfer from General Fun	<u>925,000.00</u>
	\$2,138,701.00

The Solid Waste Program of Cumberland County developed a 10-Year Plan for short and long-term solid waste services, as required by The Solid Waste Management of 1991. The Table below summarizes the existing programs, the 5-Year Update Program Plan, and the Tennessee Solid Waste Management Plan as required by the Act of 1991.

Equipment

The table below provides a list of the potential equipment for continued and expanded operations of an integrated solid waste management program provided by Cumberland County for the Region over the next five (5) years. Equipment is not listed in priority of need. Equipment costs are estimates only and should only be considered a baseline for future planning.

TABLE 9.1 Future Waste Management Equipment Needs

CUMBERLAND COUNTY			
Equipment	Operational Use	Estimated Cost (2007)	Potential Revenue Source
Roll-Off-Truck	Material containerization.	\$40,000	Grants/General Fund Appropriation
3 Billboards for Anti-Littering and Recycling	Material management.	\$15,000	Grants/General Fund Appropriation
3 Containers/Compactors	Material containerization.	\$15,500	Grants/General Fund Appropriation
Waste Transfer Station	Material Collection.	\$10,000	Grants/General Fund Appropriation
H.H.W.	Material Collection.	\$10,000	Grants/General Fund Appropriation
Waste Tire Collection Location	Material Collection.	\$6,000	Grants/General Fund Appropriation
Truck Weigh Scales / Software	Material Management.	\$10,000	Grants/General Fund Appropriation
Paint / Repair / Replace Collection Containers	Material containerization	\$12,000	Grants/General Fund Appropriation
Purchase of Land for Landfill Cover / Closure	Material Management.	\$1,500,000	Grants/General Fund Appropriation
3 Recycling Containers	Material containerization	\$17,700	Grants/General Fund Appropriation
Additional Convenience Center Sites	Material Collection.	\$11,000	Grants/General Fund Appropriation
Total		\$1,648,600	

Facilities

Some examples of planned improvements and expansions to the solid waste management systems over the next (5) years include: Recycling Center asphalt paving, interior push-walls, glass cullet and material storage bays, building retrofits, indoor/outdoor security system.

Depending upon the future development of water and sewer services in the southern section of Cumberland County in the next five (5) years, there may be potential to construct convenience center sites.

A Multi-Purpose Waste Management Facility may be constructed within the next five (5) to service equipment and collection vehicles and provide storage for non-hazardous problem wastes, such as latex paint and electronic waste.

The table on the following page provides a minimum list of the facilities for planned constructed and expanded, in no particular order. Cost estimates are only to be used as a baseline for planning purposes.

TABLE 9.2 Future Waste Management Facility Construction and Upgrades

CUMBERLAND COUNTY			
Facility	Facility Betterments	Estimated Cost (2007)	Potential Revenue Source
Convenience Center Collection Site Development			
Planned Convenience Center Collection Site Construction	Site preparation, paving, fencing, gates, attendant sundries, utilities, equipment pads, signage etc.	\$50,000	Grants/General Fund Appropriation
Recycling and Existing Convenience Center Sites			
Recycling and CCC Site Upgrades	Asphalt paving, push-walls, cullet and storage bays, indoor/outdoor security system, building retrofits.	\$50,000	Grants/General Fund Appropriation
Multi-Purpose Waste Management Facility: repairs/maintenance, problem waste storage, etc.	Facility construction for waste management material handling: collection vehicles, heavy equipment, repair tools, repair parts inventory.	\$30,000	Grants/General Fund Appropriation
Total		\$130,000	

TABLE 9.3 Planned Solid Waste Management System 2007 – 2012

Solid Waste Program	Existing Regional Solid Waste Programs	Future Regional Solid Waste Programs	Tennessee Mandated Plan
Residential Solid Waste Collection	<p>Cumberland County provides residential collection of solid waste at fifteen (15) CCC sites.</p> <p>Private haulers provide collection/disposal services for local residents and businesses.</p>	<p>Continue County residential drop-off service.</p> <p>Maintain efficient collection equipment and facilities.</p> <p>Continue private hauling services.</p>	<p>County to provide CCCs for residents according to population or service area, maintain required design and operational standards.</p>

<p>Recycling</p>	<p>Cardboard, newsprint, aluminum and steel cans, mixed paper, magazines, phonebooks, electronics, latex paint, used oil, scrap metal, plastic drink containers, waste tires, glass bottles, waste tires and batteries.</p> <p>As a means of waste diversion, Class III/IV waste collected separately at each center and transported to the County Class III/ Landfill for disposal.</p>	<p>Increase business and school recyclables collection.</p> <p>Expand types and amounts of materials collected at drop-off sites.</p> <p>Expand Recycling operations to collect, manage, process additional materials types and amounts.</p> <p>Continue material processing maximizing available market prices.</p>	<p>County to provide fifteen (15) CCCs and one (1) transfer station</p>
<p>Waste Reduction</p>	<p>Cumberland County collects recyclables from public and private sector, tracks business waste diversion activities.</p> <p>As a means of waste diversion, Class III waste collected separately at each center and transported to the County Class III Landfill for disposal.</p> <p>Exceeded 25% Regional Waste Reduction Goal.</p>	<p>Continue collecting recyclables from public and private sector, tracking business waste diversion activities to achieve 25% Regional Waste Reduction Goal.</p> <p>Continue waste disposal of Class III local County Landfill.</p>	<p>Continue achieving 25% waste reduction goal.</p>
<p>Problem Waste Management</p>	<p>Cumberland County provides collection at Convenience Center Sites for used oil and scrap metal.</p> <p>The County Recycling Center collects used oil, used oil filters, automobile fluids, e-waste, latex paint, waste tires.</p> <p>HHW TDEC mobile collection events to be scheduled.</p>	<p>Continue problem waste collection and expand service as needed.</p> <p>HHW TDEC mobile collection events to be scheduled.</p>	<p>County has restrictions related to disposal of tires, paint cans, refrigerators, freezer, fluids, batteries.</p> <p>County to provide HHW collection events, when state scheduling is provided.</p>
<p>Public Education and Information</p>	<p>Cumberland County provides education activities targeting government, business, media, public, schools, and civic groups.</p>	<p>Increase educational activities to target government, business, media, public, schools, and civic groups.</p>	<p>Region to develop and implement solid waste management action plan for adults and</p>

			children.
Disposal	Cumberland County transports waste collected at County convenience centers to the County Landfill for disposal in its Class III Landfill.	Continue to competitively negotiate long-term disposal contract.	Region to assure 10-year disposal capacity.
Planning	Monthly meetings with Regional Planning Board, County Executive, Sanitation Department and County Commission to maintain plan updates, annual reports, etc.	Continue monthly meetings, and reporting requirements. Forge partnerships between government, business, media, civic, and public.	Region to provide Annual Progress Reports, 5-Year Plan Updates, other reporting requirements as needed.

Sustainability of the Solid Waste Plan must include, at the minimum:

- Regional Planning Board Involvement;
- Expansions and Upgrades of Residential Collection Services and Facilities;
- Pursuing all Grant Funds for Equipment and Facilities;
- Utilize Technical Assistance Providers;
- Research Technologies and Other Program Options;
- Promote Other Waste Reduction Efforts;
- Expand Recycling Material Types and Amounts Collected;
- Garner Competitive Market Prices for Recyclable Materials;
- Provide Employee Work and Equipment Safety Training;
- Maintain Flexible Problem Waste Collection;
- Continue Aggressive Public Outreach, Education Program; and
- Expand Business and School Recycling Collection Program.

This list is neither conclusive nor listed in priority. Sustainability will depend on public, governmental and business sector response to produce desired outcomes for improving the infrastructure, as well as the health and welfare of all citizens in Cumberland County, including Crab Orchard, Crossville, Pleasant Hill. The list is meant to be a work in progress that is sensitive and flexible to an unpredictable future of local needs, changing environmental regulations, the means to continue encouraging enthusiastic efforts of the Sanitation Department staff, and expand local participation when possible. A partnership between the County and City government officials is necessary to share the investment of a comprehensive community waste reduction program.

SECTION 10:

Describe current attitudes of the region and its citizens towards recycling, waste diversion, and waste disposal in general. Where recycling is provided, discuss participation within the region. Indicate current and on going education measures to curb apathy or negative attitude towards waste reduction. Are additional measures needed to change citizen’s behaviors? If so, what specific behaviors need to be targeted and by what means?

Current and On-Going Education Measures to Increase Public Participation

Cumberland County continues to promote the recycling program through available venues: media advertisements, school environmental classes, community center local activities, governmental financial support and business organizational interests. With each day, there is increasing support for the increasing activities developing at the Recycling Center. Communities throughout the County are enthusiastic about the recycling services provided at the Center. Residents drive across the County to bring recyclable materials to the Center.

The County government administration is continuing to develop distinctive programs to target schools, businesses, civic organizations and the public.

- Schools are collecting cardboard and paper. Several teachers and their students bring the material to the Center each week. There are cooperative discussions between school board members, principals, teachers and local government officials to create an environmental education component for introduction to all local schools in the coming school years.
- The County Litter Officer directs the inmates to separate the roadside trash from the recyclables discarded on the road before bagging both materials. The roadside recyclables are brought to the Center for processing. And, the invaluable and contaminated litter or dumpsite material is placed in the roll-off trash containers.
- Household Hazardous Waste Event. Students from the local high school participated in the household hazardous waste collections. Students answered questions from the public, directed traffic, and completed surveys.

Cumberland County recognizes participation in yearly community events to demonstrate the reasoning to curb litter and illegal dumping and practice proper waste containerization as well as critical local activities to improve local resident and business participation. Attracting industry investments and tourism, and maintaining an educated resident population without the experience of the ‘brain drain’ of other rural communities, are significant features for intrinsic community development in Cumberland County.

SECTION 11:

Discuss this region’s plan for managing their solid waste management system for the next five (5) years. Identify any deficiencies and suggest recommendations to eliminate deficiencies and provide sustainability of the system for the next five (5) years. Show how the region’s plan supports the Statewide Solid Waste Management Plan.

The State requires that a county provide a minimum level of service of there if less than 90 percent collection coverage provided by the private and public sector. This involves the establishment of convenience centers that are adequate to serve all residents.

The County continues to encourage local businesses to participate in waste reduction activities. Several workshops and presentations are scheduled annually to promote in-house waste reduction, environmental stewardship and support of the County recycling program. Additionally, some businesses are improving their operational costs through recycling income.

Through implementation of this comprehensive, updated solid waste management plan, Cumberland County will continue to provide for the efficient and environmentally sound management of solid waste, including waste disposal and waste reduction, for the next five (5) years.

Future Waste Management Equipment Needs

CUMBERLAND COUNTY			
Equipment	Operational Use	Estimated Cost (2007)	Potential Revenue Source
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Truck Weigh Scales / Software	Material Management.	\$10,000	Grants/General Fund Appropriation
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Future Waste Management Facility Construction and Upgrades

CUMBERLAND COUNTY			
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Planned Convenience Center Collection Site Construction	Site preparation, paving, fencing, gates, attendant sundries, utilities, equipment pads, signage etc.	\$50,000	Grants/General Fund Appropriation
Recycling and Existing Convenience Center Sites			
Recycling and CCC Site	Asphalt paving, push-walls,	\$50,000	Grants/General Fund

Upgrades	cullet and storage bays, indoor/outdoor security system, building retrofits.		Appropriation
Multi-Purpose Waste Management Facility: repairs/maintenance, problem waste storage, etc.	Facility construction for waste management material handling: collection vehicles, heavy equipment, repair tools, repair parts inventory.	\$30,000	Grants/General Fund Appropriation
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Planned Solid Waste Management System 2007 – 2012

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Managem nt	<p>The County Recycling Center collects used oil, used oil filters, automobile fluids, e-waste, latex paint, waste tires.</p> <p>HHW TDEC mobile collection events to be scheduled.</p>	<p>HHW TDEC mobile collection events to be scheduled.</p>	<p>disposal of tires, paint cans, refrigerators, freezer, fluids, and batteries.</p> <p>County to provide HHW collection events, when state scheduling is provided.</p>
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