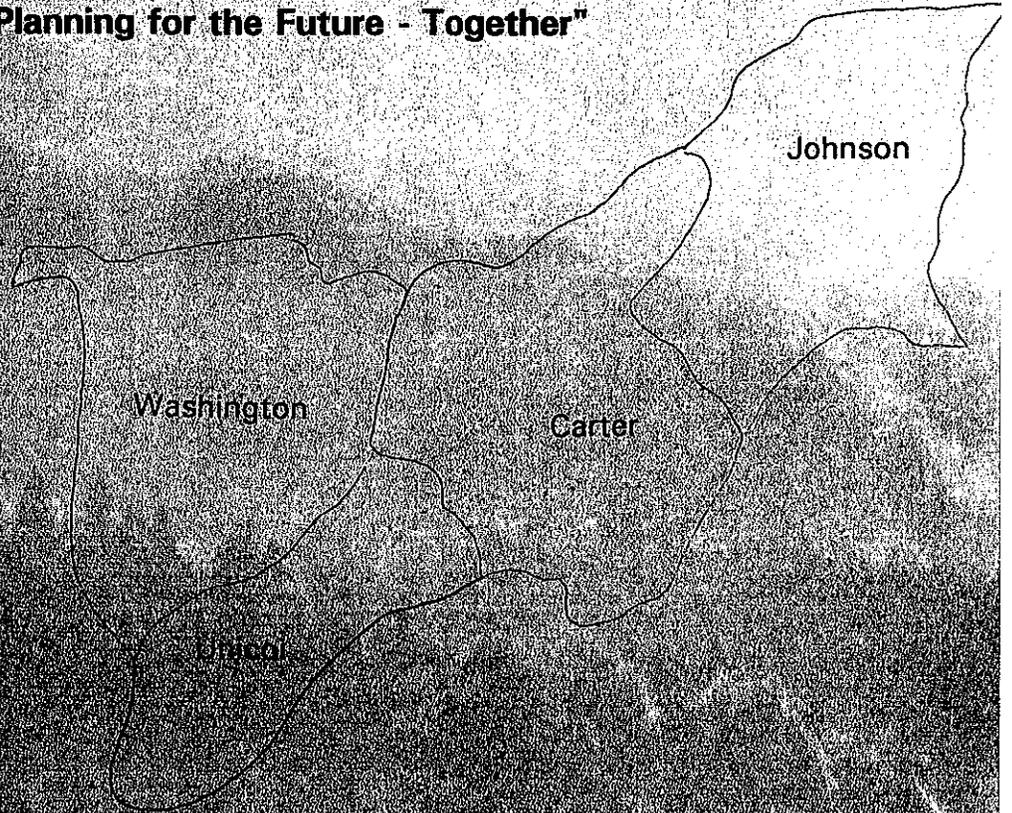


Northeast Tennessee Regional Solid Waste Management Plan

"Planning for the Future - Together"



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INTRODUCTION

The concept of multi-county, regional cooperation is often heralded, seldom achieved. The members of the Northeast Tennessee Regional Solid Waste Planning Board have succeeded in fostering a spirit of cooperation throughout the Region that has grown as work on the Solid Waste Plan has progressed. Board members, local government officials, solid waste staffs, and Development District personnel have shared almost daily communications on issues related to solid waste and recycling. For all involved, the contacts and friendships developed over these months of hard work have resulted in a detailed sharing of information. The Solid Waste Plan has evolved into a useful reference document for the Region's decision makers.

City and County leaders and their staffs now realize the similar challenges faced by neighboring local governments as all strive to comply with solid waste management regulations. The critical and complex issues of environmental protection facing Northeast Tennessee will be more effectively handled as a result of this increased regional cooperation.

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EXECUTIVE SUMMARY

NORTHEAST TENNESSEE REGIONAL SOLID WASTE MANAGEMENT PLAN

REGIONAL DESCRIPTION AND FORMATION

The Northeast Tennessee Solid Waste Planning Region is comprised of four counties and six municipalities:

COUNTIES	MAJOR CITIES
Carter	Elizabethton, Watauga
Johnson	Mountain City
Unicoi	Erwin
Washington	Johnson City, Jonesborough

The Northeast Tennessee Region encompasses an area of 1152 square miles and has a population of 174,135. The Region borders North Carolina and Virginia with the topography composed of rolling hills and mountainous rural areas. Most of the Region's land area is classified as agricultural and open spaces, with commercial and industrial activity clustered near the Region's six municipalities. The Region generates over 151,000 tons of solid waste per year.

Since the Solid Waste Management Act of 1991 states a preference for the formation of multi-county planning regions, the county and city governments of the Region joined to form the Northeast Tennessee Regional Solid Waste Planning Region. The counties decided that a regional planning effort would result in more effective planning decisions, less duplication of services, and increased communication between the neighboring counties. The counties wanted to investigate the possibility of working together to collect, process, and market recyclable materials, as well as for planning purposes to optimize the utilization of two, large regional facilities: the Iris Glen Regional Landfill in Johnson City, and the planned Northeast Tennessee/North American Rayon Waste-to-Energy Project in Elizabethton.

The main goal of the Northeast Tennessee Regional Solid Waste Planning Board is the development and implementation of a practical and flexible 10-year solid waste management plan in accordance with the mandates established by the State of Tennessee and in the interest of the citizens of the Region.

SUMMARY OF REGIONAL NEEDS

The most compelling regional need is the development of an integrated solid waste management plan that will enable the Region to achieve the 25% waste reduction goal. Planning for ten year disposal capacity is also a critical regional need. Additional regional needs include: new and increased residential recycling programs; new and increased commercial and industrial recycling programs; new and increased diversion to Class III/IV landfills; increased composting, mulching and incineration of brush, leaves, and yard wastes; and new and increased industrial waste reduction programs.

To increase public understanding of and support for these solid waste management needs, the Region must develop and implement comprehensive education programs for school children and for the public. In addition, new and increased programs for the management of household hazardous wastes and problem wastes, such as, waste tires, used oil, and batteries, will also be needed. The Solid Waste Planning Board required the use of professional engineering analysis of the current system and will need this same professional engineering analysis of future integrated solid waste management options.

REGIONAL GOALS AND OBJECTIVES

The Northeast Tennessee Regional Solid Waste Management Plan will use five strategies for meeting the 25% reduction goal and has assigned specific reduction percentages to each strategy.

	1995 Goal	Planned Goal
Residential Recycling	2.2%	2.2%
Commercial and Industrial Recycling	0.8%	6.1%
Diversion to Class III/IV Landfills	5.1%	5.1%
Composting, Mulching, and Incineration of Brush, Leaves, and Yard Wastes	8.7%	8.7%
Industrial Waste Reduction	<u>1.9%</u>	<u>2.9%</u>
Total Reduction Goal	18.7%	25.0%

The Solid Waste Management Plan also outlines options for 10-year disposal capacity. These options are divided into short-term, mid-term, and long-term programs.

Specific facilities for the collection and management of problem wastes will be implemented at the convenience centers. Household hazardous wastes will be collected and disposed of through the utilization of the State's Mobile Collection Service for the next three years and future programs are under study.

The Northeast Region's Public Information goals and objectives are: to develop a mechanism for disseminating solid waste and recycling information to the public; to increase programs for the education of business and industrial leaders on issues concerning solid waste, recycling, waste reduction, and reuse; to encourage increased media coverage of solid waste and recycling events and programs; to actively encourage and support the involvement of governmental, civic, and church groups with solid waste reduction, recycling, and purchasing recycled materials; to provide information and publicity to insure that all citizens are familiar with the locations of disposal facilities, convenience centers, and recycling facilities.

The Northeast Region's School Education goals and objectives are: to provide all regional school systems with the EPA, "Let's Reduce and Recycle", curriculum until the State's SWEEPS program is completed; to develop a resource center at every school library for solid waste and recycling materials; to insure that every school age child is aware of the location and proper usage of the solid waste and recycling facilities and programs that are closest to the child's home; to develop a field trip to the Iris Glen Education Center for all fifth grade students; and for the school system administrations to assign an employee at each school and at the central administration office to maintain records on solid waste education.

LIST OF SYSTEM ELEMENTS IN THE REGIONAL PLAN

- Professional Engineering Analysis by Draper Aden and Associates
- 25% Reduction in per capita solid waste
- Variances for Carter and Johnson County Base Year tonnages
- Residential Recycling
- Collection and Management of Problem Wastes: tires, used oil, and batteries
- Upgrading of County Convenience Centers
- Commercial and Industrial Recycling
- Diversion to Class III/IV Landfills
- Construction of Regional Class III/IV Landfill
- Composting, Mulching, and Incineration of brush, leaves and yard wastes
- Industrial Waste Reduction
- Collection and Management of Household Hazardous Wastes
- Public Education on Solid Waste and Recycling Issues
- School Education Programs on Solid Waste and Recycling Issues
- 10-Year Disposal Capacity: Short, Mid, and Long-Term Options
- Budget Projections for Solid Waste Management and Staffing

MID-TERM DISPOSAL OPTIONS: JANUARY 1, 1997 - DECEMBER 31, 1999

Washington and Unicoi Counties - Iris Glen Landfill
Carter and Johnson Counties - New Carter County Landfill
or Iris Glen Landfill

LONG-TERM DISPOSAL OPTIONS: JANUARY 1, 2000 - JANUARY 1, 2003

Washington and Unicoi Counties - Iris Glen Landfill; and North
American Rayon/ Northeast
Tennessee Waste-to-Energy
Carter and Johnson Counties - New Carter County Landfill,
Iris Glen Landfill, and
NAR/NET Waste-to-Energy

Collection needs will be met through the upgrading of the Region's eleven County Convenience centers to comply with the State regulations. The number of convenience centers per county is: Carter - 2; Johnson - 1 (Fall, 1994); Washington - 5; and Unicoi - 3. These facilities will also serve as collection stations for recyclable materials and problem wastes, such as oil, tires, and batteries. Two of the Region's municipalities currently provide door-to-door recycling collection - Johnson City and Jonesborough. The other municipalities have been encouraged to and have shown interest in increasing recycling programs. The Region will continue to use the State's mobile collection program for the management of Household Hazardous Wastes for the next few years and debris and construction wastes will be diverted to the proposed new Carter County Class III/IV Landfill. The Region is also studying the possibility of additional debris landfills.

Extensive education programs have been planned to support increased residential, commercial, and industrial recycling, and industrial waste reduction. Seminars for industry leaders, civic groups, and schools have been presented and will continue. A standard curriculum package, the EPA program, "Let's Reduce and Recycle", has been sent to every school system. The Planning Board has worked with the regional school administrations to develop programs to meet the educational requirements of the Solid Waste Act. Goals, such as, the establishment of a solid waste and recycling resource center at each school library have been formulated. The University of Tennessee Center for Industrial Services will continue to be utilized as a training resource. The Plan also calls for increased coordination with local civic and church groups on solid waste education and activities. Increased and continued focus by the media on solid waste issues will be coordinated through press releases and information from the local governments, the Planning Board, and the First Tennessee Development District.

IMPLEMENTATION SCHEDULE

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Upgrade Convenience Centers										
Recycling Facilities for Carter and Johnson Counties										
Household Hazardous Waste Collection										
Facilities for Problem Wastes										
Public Information Programs										
Solid Waste Curriculum in Schools										
Study Curbside Recycling for Cities										
Study Recycling Containers at each School										
Continue to identify waste sources										
Study recycling markets and Regional efforts										

ESTIMATED 10-YEAR SYSTEM COSTS

The Counties and Cities in the Northeast Tennessee Region will continue to follow established programs for the financial management of solid waste programs. Each county in the Region will apply for the various grants from the State of Tennessee Division of Solid Waste Assistance. Current expenditures and revenues are presented in Chapter II and the financial considerations of disposal options are presented in the Appendix.

1993 Total Solid Waste Management Expenditures

COUNTY	1993 TOTAL
CARTER	\$ 1,213,045
JOHNSON	\$ 256,931
WASHINGTON	\$ 5,193,189
UNICOI	\$ 384,826
REGIONAL TOTAL	\$ 7,047,991

10-YEAR BUDGET PROJECTIONS BY COUNTY (Municipalities included)

County Solid Waste Expenditures	1994	1995	1996	1997	1998
Carter	1,273,697	1,337,382	1,404,251	1,474,463	1,548,186
Johnson	269,776	283,265	297,428	312,299	327,914
Washington	5,452,848	5,725,490	6,011,764	6,312,352	6,628,382
Unicoi	404,067	424,270	445,484	467,758	491,146

County Solid Waste Expenditures	1999	2000	2001	2002	2003
Carter	1,625,595	1,706,874	1,792,218	1,882,485	1,976,609
Johnson	344,310	361,525	379,601	398,581	418,510
Washington	6,959,801	7,307,791	7,673,180	8,056,839	8,459,680
Unicoi	515,703	541,488	568,562	596,990	626,840

Note: A 5% inflation rate/consumer price index was used to calculate the 10-year budget.

PROPOSED ALLOCATION OF RESPONSIBILITIES AMONG LOCAL GOVERNMENTS

The County Commissions of Carter, Johnson, Unicoi, and Washington Counties will retain authority over solid waste decisions and regulatory compliance. The Northeast Tennessee Regional Solid Waste Planning Board will determine if new or proposed programs are consistent with the Solid Waste Plan and advise the County Commissions. The First Tennessee Development District will serve as a technical support resource for the Region. Municipal governments will manage their local solid waste programs and work closely with County officials to insure that progress is being made toward the goals of the Solid Waste Plan.

The Northeast Tennessee Regional Solid Waste Planning Board, in cooperation with the County Commissions, will review all applications for landfills and incinerators. The Board will advise the County Commissions as to the effect a proposed permit will have on the Region's plan. The County Commissions will then base approval of the permit on the consistency with the Solid Waste Plan. The Commissions' decisions will be reported to the Commissioner of the Tennessee Department of Environment and Conservation.

All permit applications will be addressed to the Solid Waste Planning Board and the County Commissions. Public information hearings will be conducted in accordance with the Tennessee Code Annotated with the Commissioner of the Tennessee Department of Environment and Conservation having the final authority for permit approval.

MAPS

Maps of the Regional system are located in Chapters 2 and 11 of the Solid Waste Plan.

Chapter 1: Description of the Municipal Solid Waste Region

A. General Description

The Northeast Tennessee Solid Waste Planning Region is comprised of 4 counties including 6 governmental entities as follows:

<u>COUNTIES</u>	<u>MAJOR CITIES</u>
Carter	Elizabethton, Watauga
Johnson	Mountain City
Unicoi	Erwin
Washington	Johnson City, Jonesborough

The Northeast Tennessee Solid Waste Planning Region is the largest solid waste planning region in Northeast Tennessee encompassing an area of 1152 square miles and has a population of 174,135. The Region borders North Carolina and Virginia with the topography composed of rolling hills and mountainous rural areas. The majority of the Region's land area is classified as agricultural and open spaces, with commercial and industrial activity is clustered near the Region's six municipalities. The region is located within the First Tennessee Development District, and has utilized the Development District in regional organization and planning efforts. The 4 counties and various municipalities which comprise the Northeast Tennessee Solid Waste Planning Region generate over 151,000 tons of solid waste per year.

B. Rationale for Regional Formation

Since the Solid Waste Management Act of 1991 states a preference for the formation of multi-county regions, the county and city governments of this region joined together to form the Northeast Tennessee Solid Waste Planning Region. The counties decided that a regional planning effort would result in more effective planning decisions, less duplication of services, and increased communication between the neighboring counties. The counties desired to investigate the possibility of working together to collect, process, and market recyclable materials, as well as, for planning purposes to optimize the utilization of two, large regional facilities, the Iris Glen Regional Landfill in Johnson City, and the planned Northeast Tennessee/North American Rayon Waste-to-Energy Project in Elizabethton.

The main goal of the Northeast Tennessee Regional Solid Waste Planning Board is the development and implementation of a practical and flexible 10-year solid waste management plan in accordance with the mandates established by the State of Tennessee and in the interest of the citizens of the region.

Members were appointed to represent counties and cities within the region:

Carter County	Two members
Johnson County	Two members
Unicoi County	Two members
Washington County	Two members
Johnson City	One member
Elizabethton	One member
Erwin	One member
Watauga	One member
Jonesborough	One member
Mountain City	One member
At Large	One member

The initial terms of office are: one (1) member from Carter, Johnson, Unicoi, and Washington Counties for a six year term; one (1) member from Watauga, Jonesborough and one (1) member from Carter, Johnson, Unicoi, and Washington Counties for a two year term; one (1) member from Johnson City, Elizabethton, Erwin, Mountain City, and the at large member for a four year term.

C. INSTITUTIONAL STRUCTURE

Members of the Northeast Tennessee Regional Solid Waste Planning Board include:

MEMBER	COUNTY/CITY	TERM
1. Mr. Ed Buckles	- Carter County	6 years
2. Mr. Chris Schuettler	- Carter County	2 years
3. Mr. J.R. Junior Stanley	- Elizabethton	4 years
4. Mr. Charles Hagy	- Watauga	2 years
5. Mr. Ullis Miller	- Unicoi County	2 years
6. Mr. Jack Hawkins	- Unicoi County	6 years
7. Ms. Doris Hensley	- Erwin	4 years
8. Mr. Tom Taylor	- Johnson County	2 years
9. Mr. Bob Stout	- Johnson County	6 years
10. Ms. Connie Sharp	- At Large	4 years
11. Mr. Stedman Greever	- Mountain City	4 years
12. Mr. Roby McBride	- Washington County	6 years
13. Mr. Roy Fleming	- Washington County	2 years
14. Mr. Bob Browning	- Jonesborough	2 years
15. Mr. John Campbell	- Johnson City	4 years

The first organizational meeting of the Northeast Tennessee Regional Solid Waste planning Board was held on February 17, 1993 and at the March 11, 1993 meeting officers were elected.

Chairman - John Campbell
 Vice-Chairman - Roby McBride
 Secretary - Doris Hensley

D. DEMOGRAPHICS

CHAPTER 1: FORMS

A. REGIONAL SUMMARY: DEMOGRAPHICS

1. NAME OF REGION: NORTHEAST TENNESSEE
(Carter, Johnson, Unicoi, and Washington)
2. REGIONAL POPULATION: 174,135
3. REGIONAL AREA: 1153.7 SQUARE MILES
4. POPULATION AND POPULATION DENSITY

Table I-1

County	Area (Sq. Miles)	Population	Avg. Density Population/sq. miles
Carter	347.9	51,505	148.05
Johnson	293.4	13,766	46.9
Unicoi	186.1	16,549	88.9
Washington	326.3	92,315	283.0
Regional Total	1153.7	174,135	150.94

Source: 1991 District Needs Assessment

5. DISTRIBUTION OF THE TOTAL REGIONAL POPULATION, BY URBAN AND RURAL AREAS:

TABLE I-2

COUNTY	URBAN		RURAL	
	POPULATION	%	POPULATION	%
Carter	26,128	50.7	25,377	49.3
Johnson	-	-	13,766	100.0
Unicoi	5,015	30.3	11,534	69.7
Washington	61,474	66.6	30,841	33.4
Regional Totals	92,617	53.2	81,518	46.8

Source: 1990 Census: Selected Social Characteristics

6. DISTRIBUTION OF THE TOTAL REGIONAL POPULATION BY SEX AND AGE

TABLE I-3

AGE	TOTAL	MALE	%	FEMALE	%
0-4	9,902	5,156	52.1	4,746	47.9
5-17	28,360	14,544	51.3	13,816	48.7
18-44	73,032	36,257	49.6	36,775	50.4
45-64	37,018	10,348	40.1	15,475	59.9
65+	25,823	10,348	40.1	15,475	59.9
Regional Total	174,135	84,274	48.4	89,861	51.6

Source: 1991 District Needs Assessment

7. DISTRIBUTION OF REGIONAL POPULATION BY EDUCATION (AGE \geq 25)

TABLE I-4

	NUMBER	%
Less than 9th Grade	22,392	22.7
9th - 12th, no diploma	20,956	21.2
High School Graduates	34,222	34.6
College Graduates (Associates and Bachelors Degrees)	15,767	16.0
Post Graduate/Professional	5,477	5.5
REGIONAL TOTAL	98,814	100.0

Source: 1990 U.S. Census: Selected Social Characteristics

8. TOTAL NUMBER OF HOUSEHOLDS IN REGION: 68,039

Source: 1990 Census

NUMBER OF HOUSEHOLDS IN MAJOR CITIES:

Johnson City - 19,675
 Jonesborough - 1,185
 Elizabethton - 4,936
 Watauga - 148
 Erwin - 2,144
 Mountain City - 956

9. DISTRIBUTION BY TYPE OF HOUSING AND OCCUPANCY

TABLE I-5

	Total Units	Occupied	Owner	Rented
<u>Single Family</u>	50,002	46,874	40,234	6,640
1, Detached				
1, Attached	856	777	508	269
<u>Multi-Family</u>	1,939	1,760	143	2,137
2				
3-4	2,510	7,280	143	2,137
5-9	3,556	3,419	162	3,257
10-19	1,925	1,719		1,719
20-49	959	854		854
50 or more	584	376		376
Institutional				
Mobile Home/ Trailer	10,254	9,376	7,443	1,933
Other	738	604	309	295
REGIONAL TOTAL	73,323	68,039	49,019	19,020

Source: 1990 Census

10. REGIONAL POPULATION PROJECTIONS 1994-2003

Regional population 1990: 174,135

TABLE I-6
PROJECTION YEAR

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Carter	51,647	51,702	51,713	51,753	51,790	51,820	51,855	51,786	51,715	51,650
Johnson	13,666	13,654	13,614	13,593	13,564	13,542	13,514	13,467	13,415	13,368
Unicoi	16,489	16,496	16,469	16,458	16,437	16,426	16,409	16,357	16,302	16,252
Washington	93,247	93,493	93,708	93,945	94,173	94,412	94,640	94,686	94,721	94,764
Regional Total	175,049	175,350	175,504	175,749	175,964	176,200	176,418	176,296	176,153	176,034

Population Estimates for the State of Tennessee
 Source: University of Tennessee
 Sociology Department
 Division of Information Resources
 Revised-November 17, 1992

B. ECONOMIC ACTIVITY

- Basic economic information, for each county, and the region in 1991.

Table I-7

County	Population	MSA County (yes/no)	Total Employment	Total Earnings \$	Per Capita Income	% Population Below the Poverty Line
Carter	51,505	Yes	22,520	491,472,269	9,809	18.0
Johnson	13,766	No	5,537	104,517,456	7,531	28.5
Unicoi	16,549	Yes	6,857	175,839,514	10,727	17.1
Washington	92,315	Yes	43,126	1,086,514,619	11,949	15.5
Regional Total	174,135		78,040	1,858,343,858	10,672	17.4

Source: District Needs Assessment

2. Non-Agricultural Employment by Sector in 1990 76,518.

Table I-8

% of Total Employment

County	Manufacturing	Construction	Trade	Finance	Service	Govt.	Transportation Public Utilities
Carter	31.1	7.9	19.7	2.9	29.0	3.6	5.6
Johnson	39.9	10.6	16.5	2.5	20.3	2.5	7.0
Unicoi	37.7	7.1	14.5	2.9	24.4	2.7	10.6
Washington	23.0	5.7	26.1	4.2	32.5	2.8	5.6
Regional %	27.8	6.8	22.6	3.6	30.0	3.0	6.1

Source: District Needs Assessment

3. Total Agricultural Employment in 1990 1,522.

Table I-9

Agricultural Employees

County	Employment
Carter	357
Johnson	204
Unicoi	174
Washington	787
Regional Total	1,522

Source: District Needs Assessment

4. Summary of Major Generators of Commercial and Non-hazardous Industrial Waste in 1991.

Table I-10

County	Screening Criteria Applied	Number of Generators	Estimated Total Quantity of Waste
Carter	> 50 Employees	11	10,000 TPY *
Johnson	> 25 Employees	12	2,000 TPY *
Unicoi	> 25 Employees	16	4,000 TPY *
Washington	> 50 Employees	48	30,000 TPY *
Regional Total		87	46,000 TPY *

Source: Industrial Survey and estimated.

5. Prepare a Regional summary of institutions housing more than 100 persons.

Table I-11

County	Total Number of Institutions	Total Number of Students Prisoners/Residents	Estimated Quantity of Waste Generated
Carter	3	1,280	1,280 TPY
Johnson	2	1,046	924 TPY
Unicoi	0	0	0 TPY
Washington	2	12,754	1,010 TPY
Regional Total	7	15,080	2,314 TPY

Source: 1990 U.S. Census - "In Group Quarters"
District Needs Assessment

6. Provide summary data on Major Health Care facilities (larger than 50 beds), (hospitals, nursing homes) in the region.

Table I-12

County	Number of Facilities	Number of Beds	Infectious Waste Management		Est. Quantity of Solid Waste Generated
			Onsite/Offsite	Type Treatment	
Carter	2	258	1 on / 1 off	Incinerated	Not available
Johnson	1	66	off		Not available
Unicoi	2	220	off		Not Available
Washington	6	1,376	2 on / 4 off	Incinerated and High Pressure/ Temperature disinfection	1,000 TPY
Regional Total	11	1,920			

Source: Business Journal of Upper East Tennessee and Southwest Virginia "Book of Lists" 1992 edition

7. Sources of local revenue utilized in the region.

Table I-13

County	Property Tax 1992	Local Sales tax 1992	Wheel Tax 1992	Local Waste Collection Fee	User Fee/ Tipping Fee	Other (Hotel/Motel) 1992
Carter	X	X	-		X	X
Johnson	X	X	X		X	X
Unicoi	X	X	-			X
Washington	X	X	-		X	-

Source: University of Tennessee County Technical Assistance Service; Tn. County Tax Statistics, November, 1992

8.

FINANCIAL DATA FOR FISCAL 1993

Table I-14

County	Total Assessed Property value	Total Property tax Revenue	Total Sales Subject to Sales Tax	Total Local Sales tax Revenue	# Registered Vehicles	Total Wheel Tax Revenue
Carter	241,555,377	5,456,920	87,448,667	1,967,595	41,132	-
Johnson	77,556,875	2,344,379	27,254,600	408,819	12,057	241,140
Unicoi	70,675,262	2,617,583	34,366,355	773,243	15,285	-
Washington	643,631,665	12,540,895	237,415,689	5,341,853	78,230	-
Regional Total	1,033,419,179	22,959,777	386,485,311	8,491,510	146,704	241,140

Source: County Tax Assessors

Chapter II - Analysis of the Current Solid Waste Management System for the Region

A. Waste Stream Characterization

The information collected for this chapter is found in the District Needs Assessment unless otherwise stated.

1. Quantity of Solid Waste Received for Disposal/Incineration: Adjusted Base Year.

Table II-1

County	Tons Disposed	Population (1989)	Waste Disposed Per Capita
Carter - 1993 Variance	39,280	51,613	.76
Carter U.T. Study	30,387	51,505	.59
Johnson - 1993 Variance)	8,766	13,694	.64
Johnson U.T. Study	6,470	13,766	.47
Unicoi U. T. Study	16,384	16,549	.99
Washington U.T. Study	110,778	92,315	1.20
Regional Total	175,208	174,171	1.01 tons

Source: UT Report: "Managing Our Waste: Solid Waste in Tennessee, 1989: and 1993 landfill data.

Note: Note: Carter County and Johnson County data is calculated using 1993 data per Variances. Regional totals based on the Variances for Carter and Johnson Counties. The Variance Requests for Carter and Johnson Counties are included in the Appendix.

2. Origin of Regional Solid Waste in Base Year

Table II-2 (Tons)

County	Residential	Non-Hazardous Industrial and Commercial	Special	TOTAL
Carter 1993	24,853	10,000	4,355	39,280
Johnson 1993	6,321	2,000	445	8,766
Unicoi	8,939	4,000	3,445	16,384
Washington	77,726	30,000	3,052	110,778
Regional Total	117,839	46,000	11,297	175,208

Source: DNA, UT Study, Surveys.

3. Acceptance of Certain Categories of Solid Waste for Disposal or Incineration

Table II-3

County/ Facility	Yard Waste Clippings		Sewage Sludge		Construction/ Demolition		Tires	White Goods
	- Leaves	- Grass	Y/N	Tons	Y/N	Tons	Y/N Tons	Y/N Tons
Carter Co.	Y 1,460		Y	10	Y	1,500	Y 221	Y Recyc.
Johnson Co.	N		N		Y	120	Y 70	Y Recyc.
Johnson City	Y 3,500		N		Y	5,000	Y 500	Y Recyc.
Regional Total	4,960			10		6,620	791	

White Goods - Discarded major appliances, such as refrigerators, ranges, etc.

Source: District Needs Assessment

4. Description of the Waste Stream by Materials

Table II-4

<u>Waste Category</u>	<u>National %</u>	<u>Calculated Regional Tons</u>
Paper & Cardboard	40.0	60,056
Glass	7.0	10,510
Ferrous Metals	6.5	9,759
Aluminum	1.4	2,102
Other Non-Ferrous Metals	0.6	901
Plastics	8.0	12,011
Rubber & Leather	2.5	3,753
Textiles	2.1	3,153
Wood	3.6	5,405
Food Waste	7.4	11,110
Yard Waste	17.6	26,425
Misc. Inorganic Waste	1.5	2,252
Other	1.7	2,552
TOTAL MUNICIPAL SOLID WASTE	100.0	150,141

For analysis of the specific percentages of waste categories for the Region, Table II-1, in the Appendix.

5. Unmanaged Waste *

Table II-5

County	Potential Waste Generation 1991 tpy	Actual Waste Disposed 1991 tpy	Unmanaged Waste 1991 (potential-actual) tpy	Percent of Potential Total
Carter	56,398	30,355	26,043	46%
Johnson	15,074	5,569	9,505	63%
Unicoi	18,121	21,000	-	-
Washington	119,205	101,737	17,468	15%
Regional Total	208,798	158,661	50,137	24%

Source: District Needs Assessment

* Wastes that are "outside the collection system, such as, materials in roadside dumps, litter, etc.

B. Waste Collection and Transportation Systems

The location of all facilities and service areas in the region are indicated on the regional system map found in Chapter XI.

1. The following table contains the number of households served by various means of collection. This table also indicates the number of unserved households within the region.

County/ Number of Households	Convenience Centers	House- to-House	Direct Commercial/ Contracted Service	No Service
Carter/ 20,500	3,500	7,500	4,647	4,853
Johnson/ 5,300		1,296	1,134	2,500
Unicoi/ 6,600	4,739	1,800	61	0
Washington/ 36,900	17,900	19,000	0	0
Regional Total/ 69,300	26,139	29,596	5,842	7,353

Source: DNA, Waste Hauler Survey, U.S. Census

2. List of private haulers in Carter, Washington, and Unicoi Counties contracted directly with householders.

County	Waste Mgt. of Tri-Cities	Carter County Trash	Lee's	Roll-It
Carter	1900	1500	175	1072
Unicoi	61			
Washington				

Source: FTDD Survey

List of private haulers in Johnson County contracted directly with householders.

County	Harold Crowder	Stanley	J. Dugger	D. Warren	W. Stanton	Potter	Stout
Johnson	508	140	200	175	66	25	20

Total Served = 1134

3. List of house-to-house collectors in the region whether private or public.

City of Elizabethton
 City of Johnson City
 Waste Management of Tri-Cities
 City of Mountain City
 Town of Jonesborough
 Town of Watauga
 City of Erwin
 Carter County Trash
 Roll-It
 Lee's
 Harold Crowder
 Stanley Enterprises
 James Dugger
 Debbie Warren
 Wayne Stanton
 Potter
 Stout

C. Source Reduction and Recycling Systems

The following table contains the location, service areas, and type of recycling of each public recycling facility in the Northeast Tennessee Region.

<u>Location</u>	<u>Service Area</u>	<u>Type</u>
City of Johnson City	J.C. Corporate Limits	curbside
City of Johnson City	Johnson City	2 drop-off centers
Washington County	Washington College area	drop-off
Carter County Landfill	Carter County	drop-off
City of Elizabethton	Downtown Merchants	6 cardboard containers
Unicoi County	Unicoi County	3 drop-off centers
City of Erwin	Erwin	1 drop-off center

The following table contains the location, service area, and type of recycling of each private for-profit recycling facility in the region.

<u>Location</u>	<u>Service Area</u>	<u>Type</u>
Elizabethton Herb and Metal	Regional	Private
Johnson City Iron and Metal	Regional	Private

There is 0 planned private for-profit recycling facility in the region.

D. Waste Processing, Composting, Waste-to-Energy/Incineration Systems.

1. Waste Processing - Landfills

<u>Landfill</u>	<u>Operated By</u>	<u>Life Remaining</u>	<u>Class</u>
Carter County	Carter County	2 years	1
Johnson County	Johnson County	7 months	1

2. Composting

Table II-6

Existing Facilities

Composted Materials

County	Facility Location	Tons of Waste Processed /Yr	Yard Waste	Sewage Sludge	Solid Waste
Carter	Elizabeth-ton	2,000 (trial)	X	X	
Johnson					
Unicoi					
Washington	Johnson City	4,000	X (Leaves)		

Planned Facilities

Composted Materials

County	Facility Location	Tons of Waste Processed /Yr	Yard Waste	Sewage Sludge	Solid Waste
Carter	Elizabethton	2,000	X	X	
Johnson					
Unicoi					
Washington	Johnson City (Household trial)				
Washington	Jonesborough		X	X	

Source: City Public Works Departments

3. Waste-to-Energy/Incineration

7. Municipal Solid Waste Incinerators or Waste-To-Energy Facilities in the Region.

There are no facilities in the Region.

Planned Facilities

County	Facility Location	Design Capacity Tons/yr	Current Use tons/yr	Anticipated Operating life of Facility
Carter	North American Rayon - Elizabethton	125,868	0	on-going

8. Existing Municipal Solid Waste Landfills in the Region.

Table II-8

County	Name of Landfill	Location	Permitted Capacity (Acres)	Current Rate of Waste Accepted tons/day	Remaining Capacity (tons)
Carter	Carter County Landfill	Elizabethton	35	175	298,000
Johnson	Johnson County Landfill	Johnson County	22	35	12,000

Source: Landfill Staffs

9. Existing Landfills Expected to Close Before 2003.

Table II-9

County	Location	Current Use tons/day	Current Annual Use tons/yr	Anticipated Date of Closure
Carter	Elizabethton	175	39,280	March 1996
Johnson	Johnson County	35	8,766	Nov. 1994
Regional Total		210	48,046	

Source: Landfill Staffs

10. Planned Expansions and Planned New Facilities Which Will Operate for Ten Years or More.

Table II-10

County	Expan.	New	Location	When Will Cap. be Avail.	Permit Capacity Sought (acre)	Design Rate Waste Disposed (tpd)	Potent. Expan. yes/no
Carter		X	Northwest Carter County	1996-97 (est.)	35	600	Y
Washington		X	Johnson City	Oct. 94	60	1,200	Y
Planned New Regional Capacity					95	1,800	

Source: Draper Aden Engineers, Johnson City Public Works Department

11. Total Existing and Planned Capacity in the Region at the Close of the Next Ten Years. (Included in Appendix)

E. Disposal Facilities - Landfills

CARTER COUNTY LANDFILL
SNL-10-104-0186

The Carter County Landfill is located on Campbell Hollow Road at Route 9 Carter County. The Class I landfill is owned by Carter County and Elizabethton and opened in 1983. The permitted capacity is 35 acres and the remaining capacity in tons is approximately 200,000. The current rate of waste accepted is 175-200 tons per day. The average tipping fee is \$15.00 per ton. The landfill has normally accepted waste from Carter County, Elizabethton, and from a few facilities in Erwin and Sullivan County. In March 1994, the Carter County landfill began accepting additional wastes from facilities in Washington and Unicoi Counties due to the closing of the Bowser Ridge Landfill. The landfill is scheduled to close October 7, 1996 due to Subtitle D regulations.

Carter County is investigating a site for a new landfill in the northwest part of the County. The County has performed preliminary sampling and has met with representatives from the State of Tennessee Department of Environment and Conservation and a private engineering firm. The new landfill will have approximately 35 acres of capacity and accept 600 tons per day.

**JOHNSON COUNTY LANDFILL
SNL-46-104-0061**

The Johnson County Landfill is located on Dooley Ridge Road at Route 1 Johnson County. The Class I landfill is owned by Johnson County and opened (was permitted) in 1973. The permitted capacity is 22 acres and the remaining capacity is approximately 12,000 tons. The tipping fee is \$25.00 per ton. The current rate of waste accepted is 35 tons per day. The landfill accepts wastes from Mountain City and Johnson County. The estimated date of closure is November/December 1994 due to capacity and Subtitle D regulations.

**IRIS GLEN ENVIRONMENTAL
SNL-90-104-0262**

The Iris Glen Environmental Center is currently under construction and is located at 1705 East Main Street in Johnson City. The City of Johnson City owns the Iris Glen Environmental Center and the City has contracted with Waste Management Incorporated for the operation of the facility. The service area is specified in section XXIX of the contract between Johnson City and Waste Management and consists of: Washington, Unicoi, Sullivan, Johnson, Hawkins, Hancock, Carter and Greene Counties in Tennessee, and Washington County, Virginia. The Class I landfill will meet all Subtitle D requirements and is scheduled to open in October 1994. The permitted capacity is approximately 60 acres. The proposed rate of waste acceptance is 1200 tons per day. The Iris Glen Environmental Center will include an 1100 square foot Education Center within the main office complex.

**Costs of the Current System
1993**

Carter County Total - \$1,213,045.00

Solid Waste Collection
(includes transportation,
processing, and disposal)

Carter County - \$614,500.00

City of Elizabethton - \$587,745.00

City of Watauga - \$ 10,800.00

Washington County Total - \$5,193,189.00

Solid Waste Collection
(includes transportation,
processing, and disposal)

Washington County - \$375,724.00

City of Johnson City - \$4,414,470.00

Recycling Costs - \$250,048.00

Town of Jonesborough - \$152,947.00

Johnson County Total - \$256,931.00

Solid Waste Collection
(includes transportation,
processing, and disposal)

Johnson County - \$122,628.00

Town of Mountain City - \$134,303.00

Unicoi County Total - \$384,826.00

Solid Waste Collection
(includes transportation,
processing, and disposal)

Unicoi County - \$202,348.00

City of Erwin - \$182,478.00

REGIONAL COSTS TOTAL - \$7,047,991.00

REVENUES FROM CURRENT SYSTEM

CARTER COUNTY REVENUES \$1,213,045.00

Carter County Total \$614,500.00

Tipping Fees - \$569,500.00

Transfer from General
Fund for Convenience Centers - \$ 45,000.00

City of Elizabethton Total - \$587,745.00

Commercial Container - \$ 68,552.00

Transfer from General Fund - \$420,214.00

Capital Outlay Note - \$ 95,500.00

Interest and Misc. - \$ 3,479.00

City of Watauga Total - \$ 10,800.00

Transfer from General Fund - \$ 10,800.00

WASHINGTON COUNTY REVENUES	-	\$ 5,835,186.00
Washington County Total	-	\$ 400,140.00
Transfer from General Fund	-	\$ 327,721.00
Litter Grant	-	\$ 51,206.00
Interest and Misc.	-	\$ 21,213.00
City of Johnson City Total	-	\$ 5,282,099.00
Landfill Charges	-	\$ 1,624,424.00
Sale of Recyclables	-	\$ 123,874.00
Commercial Collection	-	\$ 941,983.00
Residential Fees	-	\$ 852,688.00
Fees from WCUD	-	\$ 1,255,665.00
Dumpster Rentals	-	\$ 115,900.00
Dumpster Pulls	-	\$ 268,550.00
Misc. Fees and Interest	-	\$ 99,015.00
Town of Jonesborough Total	-	\$ 152,947.00
Transfer from General Fund	-	\$ 124,847.00
Recycling	-	\$ 5,000.00
Misc.	-	\$ 500.00
Dumpster Fees	-	\$ 22,600.00
JOHNSON COUNTY REVENUES	-	\$ 256,931.00
Johnson County Total	-	\$ 122,628.00
Tipping Fees	-	\$ 122,628.00
Town of Mountain City Total	-	\$ 134,303.00
Transfer from General Fund	-	\$ 134,303.00
UNICOI COUNTY REVENUES	-	\$ 384,826.00
Unicoi County Total	-	\$ 202,348.00
Transfer from General Fund	-	\$ 202,348.00
City of Erwin Total	-	\$ 182,478.00
Transfer from General Fund	-	\$ 182,478.00
<u>TOTAL REGIONAL REVENUES</u>		<u>\$ 7,689,998.00</u>

Budgets

The Counties and Cities in the Northeast Tennessee Region will continue to follow established programs for the financial management of solid waste programs. Each county in the Region will apply for the various grants from the State of Tennessee Division of Solid Waste Assistance. Current expenditures and revenues are presented in Chapter II. The financial considerations of disposal options are presented in the Appendix.

1993 Total Solid Waste Management Expenditures

COUNTY	TOTAL
CARTER	\$ 1,213,045
JOHNSON	\$ 256,931
WASHINGTON	\$ 5,193,189
UNICOI	\$ 384,826
REGIONAL TOTAL	\$ 7,047,991

10-YEAR BUDGET PROJECTIONS BY COUNTY (Municipalities included)

County Solid Waste Expenditures	1994	1995	1996	1997	1998
Carter	1,273,697	1,337,382	1,404,251	1,474,463	1,548,186
Johnson	269,776	283,265	297,428	312,299	327,914
Washington	5,452,848	5,725,490	6,011,764	6,312,352	6,628,382
Unicoi	404,067	424,270	445,484	467,758	491,146

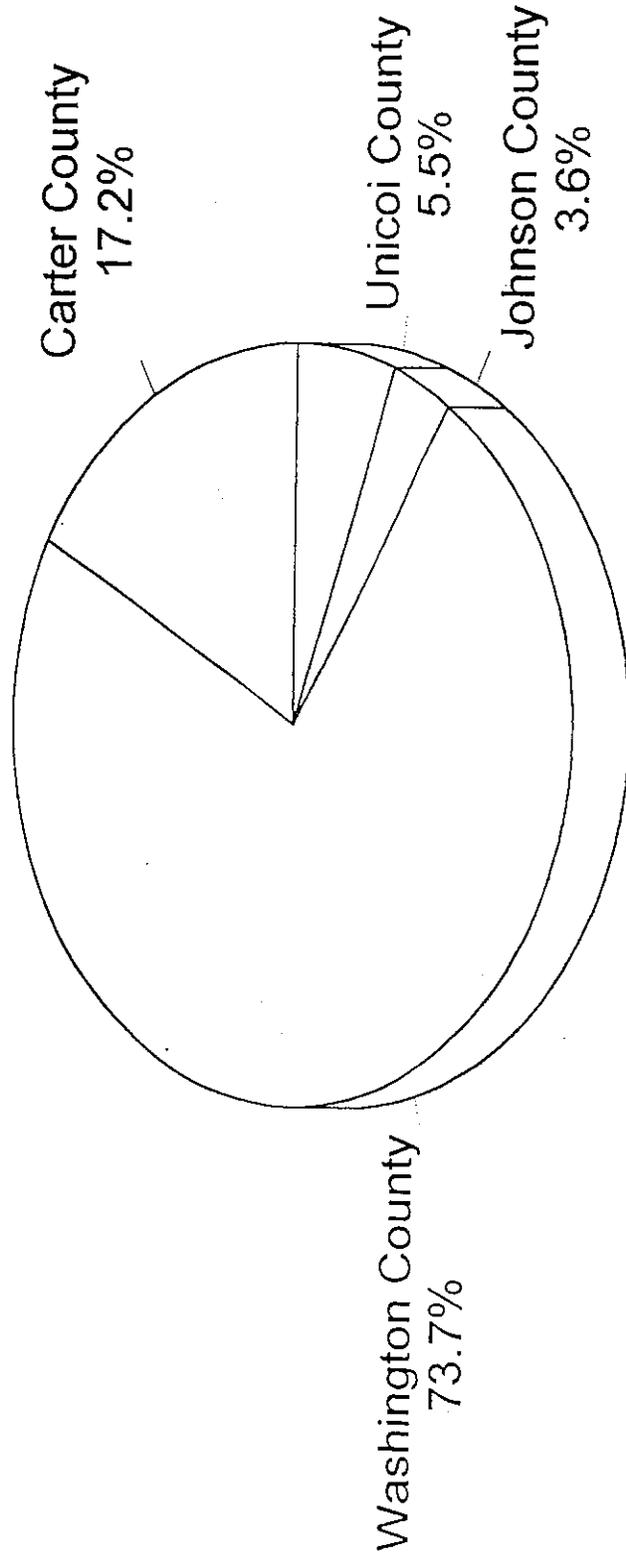
County Solid Waste Expenditures	1999	2000	2001	2002	2003
Carter	1,625,595	1,706,874	1,792,218	1,882,485	1,976,609
Johnson	344,310	361,525	379,601	398,581	418,510
Washington	6,959,801	7,307,791	7,673,180	8,056,839	8,459,680
Unicoi	515,703	541,488	568,562	596,990	626,840

Note: A 5% inflation rate/consumer price index was used to calculate the 10 year budget.

Costs of the Current System

1993 Costs per County

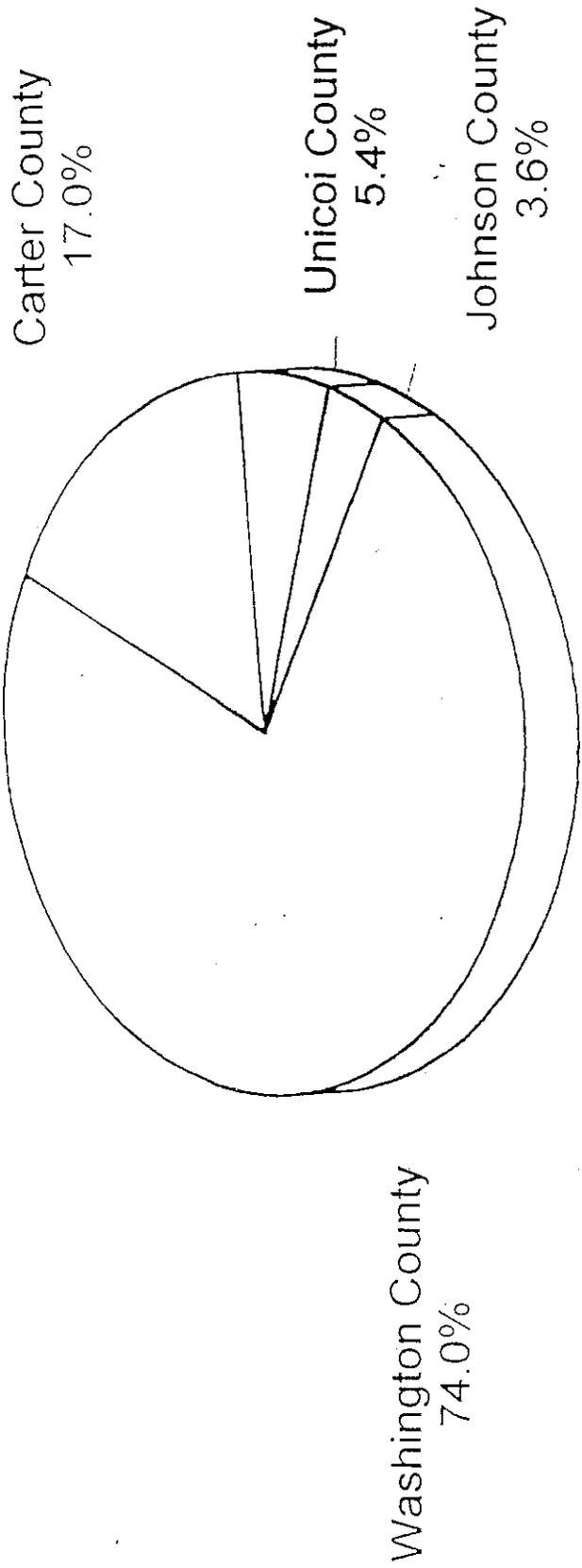
Total Regional Costs = \$ 7,047,991



Revenues From Current System

1993 Revenues per County

Total Regional Revenues = \$7,689,998



Chapter III - Growth Trends, Waste Projections and Preliminary System Design

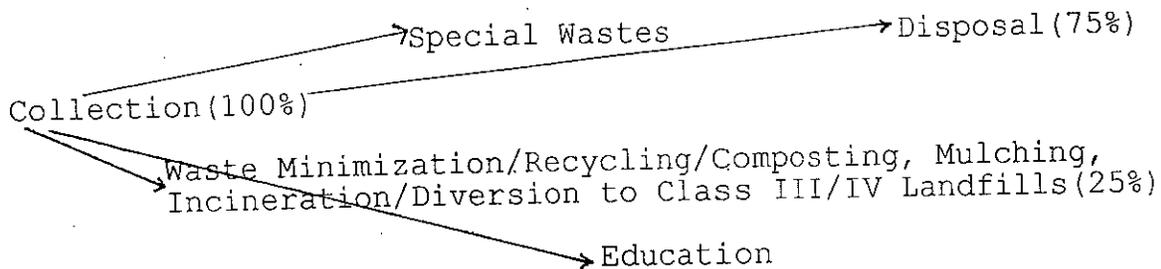
A. Projections of the Solid Waste Stream Quantity Through the year 2003 are found in Tables III-1 through III-3 and in the Appendix.

C. Preliminary System Design

There will be five major components in the integrated solid waste management plan established by the region. These five components are consistent with those outlined in the Solid Waste Management Plan Guidelines distributed by the State of Tennessee. The five components of the plan will be:

1. Collection
2. Special Wastes
3. Waste Minimization/Recycling/Composting, Mulching, Incineration/Diversion to Class III/IV Landfills
4. Disposal
5. Public Education

The preliminary system design is based on achieving the goal of 25% waste reduction by December 31, 1995. The following diagram illustrates how each component will be used to handle respective quantities of waste disposed of in the region. Percentages given for waste minimization/recycling/composting, mulching, incineration/ and diversion to Class III/IV landfills are the targeted reduction percentages from the initial waste stream. Thus, 75% of the initial 100% of solid waste collected will be landfilled.



The special waste component contains several different categories of waste. Among these categories are tires, waste oil, household hazardous waste, wet cell batteries, and certain industrial wastes. Of the special wastes mentioned, waste tires will be shredded, landfilled and possibly burned. However, many of the other problem wastes can be recycled or reused. Programs for the segregated collection of Household Hazardous Wastes are also planned. In order to reach the 25% reduction goal the region has identified five major methods to reach the goal.

1. Diversion to a Class III or IV Landfill
2. Residential Recycling
3. Composting, Mulching, and Incineration of Brush, Leaves, and Yard Waste
4. Commercial/Industrial Recycling
5. Industrial Waste Reduction

The Northeast Tennessee Region has many varied recycling programs. The Region has markets available for every component of the recycling stream. Many of the markets are located within the First Tennessee Development District which makes transportation costs to the counties very minimal. Given the ability of the counties to successfully operate a recycling program, and the probability of expanding the remaining four components, this system should fit well with existing collection and reduction efforts in the region.

D. Evaluation Criteria

Specific options of the solid waste management plan will be evaluated in the upcoming chapters with an emphasis on integration with the current system. Evaluation criteria for the plan will include:

1. Capital and Operating Costs of New Facilities and Programs
2. Success or Failure of Proposed State Programs
3. Implementation of the Proposed Plan
4. Environmental Impacts
5. Public Acceptance of the Plan

CHAPTER III: FORMS

1. Complete the following Table, summarizing calculations of annual per capita solid waste generation rates, for each county in the region.

Table III-1

County	Total Waste Disposed in FY 1993 in Tons	Projected Population 1993	Annual Per Capita Generation Tons/Person/Yr
Carter	39,280	51,613	.76
Johnson	8,766	13,694	.64
Unicoi	13,261	16,508	.80
Washington	90,250	93,017	.97
REGIONAL TOTAL	151,557	174,832	.87

Source: 1993 Landfill Data; UT Population Projections

2. Summarize the projected quantity of solid waste requiring disposal (generation) in the region in each projected year, adjusted for population changes.

Table III-2*

Quantity of Solid Waste Requiring Disposal (tons)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Carter	39,252	39,294	39,302	39,332	39,361	39,383	39,410	39,357	39,303	39,254
Johnson	8,746	8,742	8,713	8,700	8,681	8,667	8,649	8,619	8,586	8,555
Unicoi	13,191	13,197	13,175	13,166	13,151	13,141	13,127	13,086	13,042	13,002
Washington	90,450	90,688	90,897	91,127	91,343	91,580	91,801	91,845	91,879	91,921
REGIONAL TOTAL	150,273	150,555	150,726	152,325	152,539	152,771	152,987	152,907	152,810	152,732

Sources and Methodology: The per capita generation rates were obtained from Table III-1, 1993 Landfill data. The projected populations were obtained from the UT Department of Sociology Study, "Population Estimates For The State of Tennessee". For example, Carter County's per capita generation rate for 1993, 0.76, was multiplied by the projected 1994 population, 51,647, for a projected quantity of solid waste requiring disposal of 39,252 tons per year.

3. Summarize the projected quantity of solid waste requiring disposal in the region for each projection year, adjusted for population growth and economic growth.

Table III-3*

Quantity of Solid Waste Requiring Disposal (in tons) Adjusted for Population and Economic Growth

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Carter	40,508	40,551	40,560	40,591	40,620	40,643	40,671	40,616	40,561	40,510
Johnson	9,026	9,022	8,992	8,978	8,959	8,944	8,926	8,895	8,861	8,829
Unicoi	13,613	13,619	13,597	13,587	13,571	13,562	13,547	13,505	13,459	13,418
Washington	93,344	93,590	93,806	94,043	94,271	94,511	94,739	94,784	94,819	94,862
REGIONAL TOTAL	156,491	156,782	156,955	157,199	157,421	157,660	157,883	157,800	157,700	157,619

Sources and Methodology: Waste quantity projections obtained from Table III-2. These quantities were multiplied an economic growth factor of 3.2% as referenced in the District Needs Assessment instructions. The 3.2% growth rate was added to the original quantity. For example, Carter County's projected 1994 solid waste generation (Table III-2) is 39,252 tons/yr. This quantity was multiplied by the economic growth factor of 3.2%, and this amount was added to 1994 quantity for a projected total of 40,508 tons/yr.

4. Summarize the projected quantities of solid waste requiring disposal (= generation) for each projection year, adjusted for population growth, economic growth, and source reduction, recycling, and industrial process change. (See Appendix)

8. Prepare a Summary Table indicating projected quantities of solid waste which will require collection and disposal in each projection year, after adjustment for all applicable factors. (See Appendix)

Chapter IV - Waste Reduction

The Northeast Tennessee Regional Solid Waste Planning Board is committed to meeting the 25% waste reduction goal as mandated by the State of Tennessee Solid Waste Management Act of 1991. The Region will analyze the reduction goals of the individual counties and the reduction goals of the entire region to evaluate our current status and our progress toward the 25% goal by 1995.

A study was conducted by the University of Tennessee Waste Management Research and Education Institute in 1989. Per the State Planning Office guidelines, this study shall be referenced for 1989 baseline data for Washington and Unicoi Counties. Carter County and Johnson County base tonnages will be calculated from 1993 landfill data, per the Variance submitted to the State of Tennessee Department of Solid Waste Assistance.

Table IV -1a

Per Capita Waste Generation Rates

COUNTY	PER CAPITA WASTE IN TONS
CARTER (1993 Variance)	.76
JOHNSON (1993 Variance)	.64
UNICOI (1989 U.T. Study)	.99
WASHINGTON (1989 U.T. Study)	1.20
REGIONAL AVERAGE	1.01

Source: Managing Our Waste: Solid Waste Planning for Tennessee.
The University of Tennessee, Knoxville: and, 1993
landfill data.

Note: Carter County and Johnson County Requests for Variance and supporting documentation are included in the Appendix.

Table IV-1b

Population and Quantities of Waste Disposed of at Municipal Solid Waste Disposal Facilities and Incineration: Base Year Calculations

County	Population	Total Waste Disposed (tons)
CARTER (1993)	51,613	39,280
JOHNSON (1993)	13,694	8,766
UNICOI (1989)	16,549	16,384
WASHINGTON (1989)	92,315	110,778
REGIONAL TOTAL	174,171	175,208

Source: Managing Our Waste: Solid Waste Planning for Tennessee.
The University of Tennessee, Knoxville: and, 1993
landfill data.

The adjusted base year average per capita waste generation for the Northeast Tennessee Region was 1.01 tons/year. To meet the 25% waste reduction goal by December 1995, the Region must reduce the per capita generation rate to 0.76 tons/year.

The waste reduction goal of 25% will be achieved through several methods including: composting, diversion, recycling, waste reduction, and segregation of problem wastes and household hazardous wastes.

STRATEGIES FOR MEETING THE WASTE REDUCTION GOAL

Several successful waste reduction programs are currently being implemented by the various counties and municipalities within the Northeast Tennessee Region. The diverse nature of these programs reveals the problems associated with the coordination of urban and rural waste management techniques and the potential increased service efficiency that can be realized through regional planning. These current programs will be reviewed by county and then reaggregated for the regional planning required to meet the 25% reduction goal.

Composting: Composting of yard wastes and brush should be one of the first strategies considered in waste reduction planning. While all efforts at composting and the reuse of mulch are beneficial, the only programs that can be applied to the 25% reduction goal are those which are marketed, given away, or used by the Cities and Counties on public lands. The City of Elizabethton is currently completing a pilot study of the composting of brush and wastewater treatment sludge. The Carter County landfill accepts brush and burns it in their air current destructor burner. Unicoi County does not collect or treat leaves and brush. However, the City of Erwin does collect and chip brush and offers free mulch to the community. Johnson County's landfill does not accept brush. In Johnson City and most of Washington County brush is collected and taken to the burner at the Cash Hollow landfill. The City of Johnson City also places leaves on vacant City lots and allows them to naturally decay. The City of Johnson City is planning a Home Composting pilot program to evaluate household composting. The Town of Jonesborough has purchased a tub grinder and other equipment and is actively developing their trial composting program. All four counties in the region are investigating more aggressive programs for composting brush, yard wastes, and leaves.

Diversion: The region is considering developing from one to four demolition landfills to increase the amount of construction and demolition waste placed in Class IV facilities. Diverting this waste would aid the region in achieving their waste reduction goal. Carter County diverts such waste to a separate area within their landfill. Johnson County also diverts demolition and construction wastes.

Recycling: Increasing the volume of wastes recycled is one of the main components of the Northeast Tennessee Regional waste reduction plan. There are no official County sponsored recycling programs in Johnson County at this time. However, several small initiatives have been implemented. The 4-H clubs for grades 4-12 have a project to collect aluminum cans for recycling. The cans are collected by the 4-H coordinator and recycled through Elizabethton Herb and Metal. The County Highway Department recycles aluminum cans collected along the roadside. These are taken to Silverlake Mercantile and later recycled through Elizabethton Herb and Metal. The County Highway Department also recycles scrap metal and junk collected at its maintenance facilities through Elizabethton Herb and Metal. The Johnson County Landfill currently diverts white appliances and scrap metal from landfilling. A new state-of-the art transfer station has been planned for Johnson County. This facility will include facilities for the collection and recycling of waste oil, batteries, newspaper, aluminum, glass, and plastics.

The City of Elizabethton has a corrugated cardboard recycling program. Six bins are located in the downtown area for use by the general public and particularly by downtown merchants. Appliances and scrap metal can be picked up within the City limits by Elizabethton Herb and Metal. Carter County currently accepts some recyclables at the landfill but does not have an official county sponsored recycling program. White goods and scrap metal are diverted and recycled through Elizabethton Herb and Metal.

In the Fall of 1993, Unicoi County implemented a recycling program at the three County convenience centers. Recycling bins for the drop-off collection of mixed recyclables are located at the convenience centers and transported by Waste Management. The collected recyclables are processed at the Recycle America Center in Kingsport. The City of Erwin has placed a recycling bin to be placed in the downtown area. This bin has separate sections for different recyclable materials and is also be transported by Waste Management to Recycle America in Kingsport.

The City of Johnson City began curbside recycling in February, 1989. Two drop-off sites are located at the Kroger Supermarkets. The transfer station on New Street also takes recyclables. 260 businesses use the Johnson City/Jonesborough office paper recycling program. Dumpsters are supplied to area industries and commercial businesses for cardboard recycling. The Washington College Convenience Center has an active recycling program and some recycling is also performed at the other four Washington County convenience centers.

More detailed information on these recycling programs is presented in Chapter 6. However, the region is currently developing programs for increasing its recycling programs. Many markets for the collected recyclable material are located in or near the Northeast Tennessee region.

Management of Special Wastes:

Several programs are underway in the 4-county region for the separation and management of special wastes. Washington County has an approved waste tire collection site near the former Bowser Ridge Landfill. The waste tires are held for shredding. Waste tires are also accepted and held for shredding at the Carter County and Johnson County landfills. Waste oil is collected at the Washington College convenience center and by the City of Johnson City. Batteries are collected at all Washington County convenience centers and by the City of Johnson City. Carter, Johnson, and Unicoi Counties are not currently managing special wastes. The planned Johnson County transfer station will handle waste oil and batteries. The City of Erwin's recycling bin has separate stations for used oil and batteries.

The Northeast Region arranged with the State of Tennessee for Household Hazardous Waste collection events for all four counties during the month of April 1994. These initial events added to the region's knowledge of effectively managing household hazardous wastes.

Waste Reduction

The Northeast Region will be able to make the greatest strides toward the 25% reduction goal through, residential, commercial, and industrial recycling and the increased diversion of construction and demolition wastes to Class IV landfills. The Region has coordinated with the U.T. Center for Industrial Services for training seminars on manufacturing, commercial, and institutional waste reduction. An Industrial Waste Reduction seminar was held in each county in March 1994. Continued monitoring of current commercial and industrial waste management and improved recordkeeping of waste tonnages will assist the Region in its planning for compliance with the 25% reduction goal. The Region will utilize five strategies for meeting the reduction goal:

	1995 Goal	Planned Goal
Residential Recycling	2.2	2.2
Commercial and Industrial Recycling	0.8	6.1
Diversion to Class III/IV Landfills	5.1	5.1
Composting, Mulching, and Incineration of Brush, Leaves, and Yard Wastes	8.7	8.7
Industrial Waste Reduction	1.9	2.9
	<u>18.7%</u>	<u>25.0%</u>

Economic Incentives or Disincentives, and Regulatory Bans

The City of Johnson City offers a cardboard recycling program for businesses that results in economic incentives. For \$10.00 per month, businesses can rent a separate dumpster for cardboard wastes. This cardboard dumpster is picked up free of charge as often as necessary. This program saves businesses the costs of additional pickups of regular garbage dumpsters.

The remaining municipalities and counties in the Region do not have programs of economic incentives or disincentives at this time. Implementation of such programs remains an option for the Region if necessary to meet the 25% reduction required by the Solid Waste Act.

Regulatory bans govern special wastes and hazardous wastes. The State of Tennessee Department of Solid Waste Management oversees these regulations and the landfill operators in the Region must abide by the State's rules as a condition of their permit.

Projected Waste Reduction by Materials (See Appendix)

Projected Waste Reduction by Economic Sector (See Appendix)

Projected Waste Reduction by Year (See Appendix)

Implementation, Data Collection, Progress Reports

An implementation schedule for waste reduction is presented in Chapters 6 and 7.

The data collection will be managed by the individual cities and counties in the Region. Washington County has hired a Recycling and Solid Waste Coordinator for program management and record-keeping. The City of Johnson City Solid Waste Department will maintain data records. Carter County's Landfill Manager will maintain the records and report to the County Executive. The City of Elizabethton will collect and manage records through the Public Works Department. The Johnson County Landfill Manager currently maintains solid waste records and reports to the County Executive. The Town of Mountain City Recorder's office maintains the Town's records. The City Recorder for the City of Erwin maintains the solid waste records. The Unicoi County Executive's office manages records for Unicoi County.

The recordkeeping and preparation of annual and five-year Solid Waste Plan updates will be the responsibility of the Northeast Tennessee Regional Solid Waste Planning Board. The Board will be assisted by the First Tennessee Development District.

Estimated Quantities of Waste Removed From the Waste Stream (See Appendix)

Chapter V - Waste Collection and Transportation

Existing Conditions

The Solid Waste Management Act of 1991 specifies that the minimum type of collection service to be provided by the counties is a network of manned convenience centers. The Northeast Tennessee Region is comprised of four counties: Carter, Johnson, Washington, and Unicoi. There are two formulas used to calculate the appropriate number of convenience centers for these Counties.

The first formula is based on the area of the county:

$$\text{square miles of county} / 180 = \# \text{ of Convenience Centers.}$$

The second formula is based on the population of the county:

$$\text{population of county} / 12,000 = \# \text{ of Convenience Centers.}$$

Based on these methods the following data was compiled for the Northeast Tennessee Region.

COUNTY	# REQUIRED BASED ON POPULATION	# REQUIRED BASED ON SQUARE MILES
CARTER	4	2
JOHNSON	1	2
WASHINGTON	4	2
UNICOI	1	1

The counties are allowed to chose the lower number based on either method of calculation. However, the State of Tennessee Department of Environment and Conservation may determine that a minimum level of service is not available to all county citizens and that additional convenience centers are necessary.

The current number of convenience centers is summarized in the following table:

COUNTY	CURRENT NUMBER OF CONVENIENCE CENTERS	BASED ON LOWEST ALLOWABLE NUMBER OF CENTERS	BOARD TO RECOMMEND ADDITIONAL CONVENIENCE CENTERS
CARTER	2	yes	no
JOHNSON	0	no	yes
WASHINGTON	5	no	no
UNICOI	3	no	no

The municipalities in the Region also provide house-to-house collection services for their residents. The number of households served by each municipality is summarized in the following table:

City of Mountain City	1,050 households
City of Johnson City	14,500 households
Segment of Washington County	4,700 households
Town of Watauga	152 households
City of Erwin	2,200 households
City of Elizabethton	4,714 households
Town of Jonesborough	550 households

In addition to the services provided by municipalities, private haulers also collect house-to-house in the Region. The number of households served by private haulers are listed by county in the following table:

COUNTY	NUMBER OF HOUSEHOLDS SERVED BY PRIVATE HAULERS
CARTER	4647
JOHNSON	1134
WASHINGTON	0
UNICOI	61
REGIONAL TOTAL	5842

Meeting Collection and Transportation Needs

Carter, Washington, and Unicoi Counties currently meet the minimum level of service as required by the Solid Waste Management Act of 1991. Johnson County currently does not have a convenience center and does not meet the mandated minimum level of service. However, Johnson County has completed engineering plans for the construction of a state-of-the-art solid waste transfer station which will also serve as a county-wide convenience center. Additionally, each municipality in the Region provides or contracts for door-to-door pick up. Segments of Washington County also receive door-to-door service.

Private haulers service approximately 5,842 households in the Region. Several of these private haulers are actively seeking to expand their residential business in the Region and these private services complement the existing collection by the counties and municipalities.

The Northeast Tennessee Region, with the exception of the planned Johnson County transfer/convenience station, does not plan to increase the current level of service offered to residents. The Board will continue to assess that the level of collection services is adequately meeting the needs of the four counties.

The Region is currently using two local landfills for solid waste disposal: the Carter County Landfill; and the Johnson County Landfill. Additionally, wastes from Washington and Unicoi Counties are currently being transported to the Chestnut Ridge Landfill near Knoxville, Tennessee. By mid-July, the BFI Carter's Valley Landfill in Hawkins County will be available to accept this waste. The Iris Glen Landfill in Johnson City is scheduled to open in October 1994.

To evaluate collection and disposal options the Region has developed short-term, mid-term, and long-term plans. The short-term plans, for the period from January 1, 1994 through December 31, 1996, project that all Carter County and Johnson County solid waste will be disposed of at the Carter County Landfill. All Washington County and Unicoi County solid waste will be disposed of at the Iris Glen Landfill.

Mid-term plans, for the period January 1, 1997 through December 31, 1999, projects that all Carter County and Johnson County solid waste will be disposed of at the proposed new Carter County Landfill. All Washington County and Unicoi County solid waste will continue to be disposed of at the Iris Glen Landfill.

Long-term plans, for the period January 1, 2000 through January 1, 2003, will still utilize the Carter County and Iris Glen Landfills. However, the Region expects the Northeast Tennessee Waste-to-Energy project at North American Rayon in Elizabethton to be on-line. This new disposal facility will serve as a disposal alternative for the Region.

Staffing and Training

The Northeast Tennessee Regional Solid Waste Planning Board recommends that each county and municipality within the Region consider staffing a full or part-time position for solid waste and recycling management. Currently, Washington County has hired a full-time Solid Waste and Recycling Coordinator. The result of this staff support has greatly aided the County's solid waste programs.

For the short term, the Region will utilize the existing staff in place within the county and city governments for this function. Chapter XI presents future staffing needs. Employee training is continual and provided by several organizations, such as, the State of Tennessee's training seminars and written materials, and the First Tennessee Development District. The Region will continue to upgrade its training opportunities to ensure that each employee involved in waste collection, transportation, and processing is informed and knowledgeable as to the duties and environmental requirements of his/her job.

Convenience Center attendants and managers will be certified when the State's training program is in place.

10 Year Budget

The 1993 costs for collection of solid waste is presented in the table below. For 10-year budget projections based on the various collection options for the Region, please see the Appendix.

TOTAL 1993 COLLECTION COSTS PER COUNTY

COUNTY	COLLECTION COSTS
CARTER	\$ 472,780
JOHNSON	\$ 105,695
WASHINGTON	\$ 2,440,785
UNICOI	\$ 168,066
REGIONAL TOTAL	\$ 3,187,326

1993 COSTS OF CITY AND COUNTY COLLECTION

COUNTY/CITY	COLLECTIONS COSTS
CARTER COUNTY	\$ 45,000
ELIZABETHTON	419,320
WATAUGA	8,460
JOHNSON COUNTY	0
MOUNTAIN CITY	105,695
WASHINGTON COUNTY	42,817
JOHNSON CITY	2,304,829
JONESBOROUGH	93,139
UNICOI COUNTY	84,091
ERWIN	83,975
REGIONAL TOTAL	\$ 3,187,326

Collection of Data and Plan Updates

The county and municipal governments within the Region will be responsible for the collection of data concerning solid waste transportation and collection. This responsibility will begin immediately after approval of the plan. This data is currently collected by: In Carter County - the City of Elizabethton Public Works Department, the City of Watauga, and the Carter County Landfill Manager. In Washington County the County Solid Waste and Recycling Coordinator, the Town of Jonesborough Public Works Department, and the City of Johnson City Solid Waste Manager; In Johnson County- the Johnson County Landfill Manager; In Unicoi County - the City of Erwin Recorder and the County Executive's office. Additionally, the County Executives in each county manage county solid waste issues.

Data analysis will be the responsibility of each county and city government within the Region. The Northeast Tennessee Regional Solid Waste Planning Board will review the data and present comments and recommendations to the county and city governments. The First Tennessee Development District staff will assist the Region with this data analysis and will also assist in the preparation of the annual and five-year plan updates to the State.

Collection and Transportation Locations

The location of collection facilities and transportation routes to the landfills within the Region are indicated on the Regional map in Chapter XI. The areas serviced by private haulers overlap and will not be included on the Regional map.

Implementation Schedule

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Design, financing, construction and opening of Johnson County Transfer Station										
Design, financing, and upgrading of Convenience Centers in Carter, Unicoi, and Washington Counties										
Future staffing needs (see Chapter XI)										
Funding Sources										
Data Collection and Annual Reports										
Plan Updates										

Chapter VI - Recycling

A coordinated increase in residential, commercial, and industrial recycling efforts is necessary for the Northeast Tennessee Regional Solid Waste Region to meet the 25% reduction goal. The goal of the Northeast Region is to increase residential recycling volumes to 2.2%, and commercial/industrial recycling to 6.1%, of the wastestream generated during the 10-year planning period. The level of recycling processes vary from county to county within the Region. However, community and business interest in recycling has increased in recent years.

Existing Conditions

Johnson County: Johnson County does not have an official county sponsored recycling program at this time. However, several small initiatives have been implemented. The 4-H clubs for grades 4-12 have a project to collect aluminum cans for recycling. The cans are collected by the 4-H coordinator and recycled through Elizabethton Herb and Metal. The County Highway Department recycles aluminum cans collected along the roadside. These are taken to Silverlake Mercantile and later recycled through Elizabethton Herb and Metal. The County Highway Department also recycles scrap metal and junk collected at its maintenance facilities through Elizabethton Herb and Metal.

The Johnson County Landfill currently diverts white goods and scrap metal from landfilling. These wastes are recycled through Elizabethton Herb and Metal.

A new state-of-the art transfer station has been planned for Johnson County. This facility will include facilities for the collection and recycling of waste oil, batteries, newspaper, aluminum, glass, appliances, and plastics.

The Town of Mountain City has no official Town sponsored recycling program at this time.

Carter County: The City of Elizabethton has began a corrugated cardboard recycling program. Six bins are located in the downtown area for use by the general public and particularly by downtown merchants. The City of Elizabethton has also completed a pilot study on composting a blend of brush and sewer treatment sludge. The City expects to divert all brush to this composting program. Appliances and scrap metal are picked up upon request within the City limits by Elizabethton Herb and Metal. The City of Watauga does not have an official recycling program at this time.

Carter County currently has no official county sponsored recycling program. White appliances and scrap metal brought to the Carter County Landfill are placed in an open-top container and recycled through Elizabethton Herb and Metal.

Unicoi County: Unicoi County and the City of Erwin are currently implementing the early stages of their recycling program. The County has placed a bin for mixed recyclables at each of the three convenience centers. Through their contract with the County, the convenience center attendants are allowed to collect and recycle any metal and white appliances brought to the centers. Waste Management transports the bins to the Recycle America facility in Kingsport.

The City of Erwin has placed one multi-compartment container in the downtown area for recycling. The recycling program accepts newspaper, cardboard, aluminum, and plastic. Waste Management transports these dumpsters to the Recycle America facility.

Washington County: Washington County collects and recycles white goods, batteries, and newspapers at each of the five convenience centers. Recycling records are currently kept only at the Washington College convenience center which also recycles waste oil, used pallets, used clothing, and gaylord boxes. The County has hired a full-time Solid Waste and Recycling Coordinator to develop and manage a comprehensive recycling program. Plans are underway to recycle mixed paper, corrugated/cardboard, glass, plastic bottles (PET and HDPE), auto batteries, all metals separated by materials (iron, steel, white goods, tin cans, copper, brass, stainless, aluminum cans and other aluminum, and waste oils.

The Town of Jonesborough collects recyclables door-to-door at 550 households within the Town limits. The program accepts mixed paper, mixed glass, plastic, used tires, aluminum, steel cans and scrap metal, and white goods. The mixed paper, glass, and plastic is taken to and given free of charge to the City of Johnson City Recycling Center. The metals recycled are sold to Johnson City Herb and Metal.

The City of Johnson City began curbside recycling for all single-family households in Johnson City in February 1989. Materials collected are: clothing, white goods, aluminum cans, tin cans, glass (all), newspaper, magazines, PET, HDPE, used oil and batteries. Two drop-off sites are located at the downtown Kroger supermarkets. The transfer station on New Street also takes recyclables. 260 businesses use the Johnson City/Jonesborough office paper recycling program. Dumpsters are supplied to area industries and commercial businesses for cardboard recycling.

The markets utilized by the City of Johnson City Recycling program are:

Newspaper, Mixed Paper	Tennessee Cellulose, Inc - Limestone
PET/HDPE	WMI Recycle America - Kingsport
Glass	Owens Glass - Winston-Salem, N.C.
Tin Cans, White Goods	Johnson City Iron & Metal
Aluminum	Elizabethton Herb & Metal
Auto Batteries	Tri-City Battery - Johnson City
Cardboard	Asheville Waste Paper - Asheville, N.C.
Office Paper	Asheville Waste Paper - Asheville, N.C.

Regional Needs

The Region will need to increase participation in the recycling programs in Washington and Unicoi Counties. Carter and Johnson Counties will need to implement county recycling programs available to all citizens. Increased public education on recycling is critical for the success of the programs and education plans are presented in Chapter 9. The Region will continue to study the potential benefits of joining a multi-county cooperatives, such as RMCET, for the marketing of recyclables.

Goals and Objectives

The Northeast Tennessee Region has set a goal for waste reduction of 25% by December 31, 1995. Two important components of this strategy are a reduction through residential recycling of 2.2% and through commercial/industrial recycling of 6.1%. Carter and Johnson Counties will have recycling facilities in operation by January 1996. Additionally, The Board recommends that each County study the feasibility of locating recycling containers at each public school. There are 68 public schools in the Region. The Board has also presented information on the recycling program costs of County drop-off and City Curbside options. This analysis is presented in the Appendix. The Region plans to provide industrial waste reduction and recycling information to businesses by sponsoring the UT-CIS or similar seminars every three years.

This total 8.3% reduction will require extensive education programs for school children, adults, and business and industry. Chapter IX will present detailed plans for the education programs.

Allocation of Responsibility

The Region will allocate responsibility for recycling planning to the Northeast Tennessee Regional Solid Waste Planning Board. The Planning Board will recommend methods for increasing recycling participation. Each municipal and county government within the Region will be responsible for recycling efforts within their jurisdictions.

The First Tennessee Development District will provide technical assistance on recycling to the Region. The Region may also utilize the State of Tennessee Office of Cooperative Marketing and RMCET for market information.

Recycling Facilities within the Region

Washington County Convenience Centers (5) {Only one convenience center has maintained records.}

City of Johnson City Transfer Station (1)

Johnson City Kroger Supermarkets (2)

Unicoi County Convenience Centers (3)

Town of Erwin Collection Bin (1)

City of Elizabethton Cardboard Dumpsters (6)

Carter County Landfill (1) {No records Available}

Implementation and Budget

Table VI-1

10-Year Implementation Schedule

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Establish Recycling Facilities in Carter and Johnson Counties										
All Counties to consider recycling facilities at schools										
Provide Cities and Counties with Recycling Cost Analysis										
Continue to research recycling markets and possible Regional programs										
Continue to identify waste sources										
Educational Programs										
Regional Maintenance										

The current and projected budgets of the Region's current and proposed recycling programs are presented in the Appendix.

Chapter VII - Composting, Solid Waste Processing, Waste-to-Energy and Incineration Capacity

Existing Conditions

There are currently no established programs for composting or incineration in the Northeast Region. None of the four counties collect leaves, yard waste, or brush. The City of Elizabethton picks up residential brush and leaves and is currently completing a pilot study of the composting of chipped brush and wastewater treatment sludge. Elizabethton will deliver loads of collected leaves to the citizens upon request. The City disposes of the remaining brush and leaves at the Carter County landfill. The Carter County Landfill currently accepts brush and leaves and burns it in their air current destructor burner. The City of Erwin collects and chips brush and offers the mulch free of charge to the community. The City of Johnson City collects brush and burns it near the Cash Hollow convenience center. Johnson City collects leaves and places them on two City-owned vacant lots to decay naturally. Johnson City is currently studying implementation of a pilot program for backyard composting. The Town of Jonesborough is developing a pilot program for composting ground brush, leaves, yard wastes, and other organic wastes with municipal wastewater treatment sludge. The compost will be processed in windrows. A tub grinder and other equipment were ordered in May 1994. The Town of Mountain City collects limited amounts of leaves and brush and this is burned on City-owned property.

In addition to the Carter County and Johnson County landfills, there is currently one waste processing facility in the Region. The City of Johnson City operates a 25,000 square foot solid waste transfer station and recycling processing center. Recyclable materials are processed, baled and marketed from this facility.

Each county within the Region has actively supported the Northeast Tennessee Regional Integrated Energy and Waste Management Program. This program will consist, in part, of waste-to-energy capabilities. A major industry in the Region, North American Rayon Corporation, has lead the effort to secure approval and funding for the project. This program would provide an invaluable alternative for managing the Region's solid waste. Additional information on the status of the Project is presented in the Appendix.

Regional Needs

The Northeast Tennessee Regional Solid Waste Planning Board has identified the need for increased composting of yard wastes, leaves, and brush. Public education efforts will be directed toward this need. The Board has also identified the need for disposal and recycling alternatives and supports the Northeast Tennessee Regional Integrated Energy and Waste management Program.

Goals and Strategies

The Region has set a waste reduction goal through composting at 8.7% by December 31, 1995. This 8.7% reduction through composting is an important component of the total 25% waste reduction plan. A large portion of the Region is rural and it is unlikely that the volumes of yard waste going to the landfill are as high as the national average of 17.6%.

Implementation Schedule

The Region will request that all counties and municipalities begin to maintain accurate records of brush, yard waste, and leaf volumes by the Fall of 1994.

Location of Composting and Waste Processing Facilities

The locations of current composting, planned pilot programs, and the proposed waste-to-energy facility are presented on the map in Chapter XI.

Chapter VIII - Disposal Capacity

EXISTING CONDITIONS

The Northeast Tennessee Region is utilizing three disposal facilities as of April 1994. Due to the closing of the Bowser Ridge Landfill in Washington County, short term disposal arrangements have been necessary for the City of Johnson City, Washington County, the Town of Jonesborough, Unicoi County, and the City of Erwin. Washington County, Johnson City, Unicoi County, and Erwin solid wastes are being transported to the Waste Management Chestnut Ridge Landfill near Knoxville, Tennessee. The Town of Jonesborough solid waste is being transported to the Carter County Landfill. These or similar arrangements will remain necessary until the opening of the Iris Glen Regional Landfill in October 1994. Carter County and Elizabethton also utilize the Carter County Landfill. Johnson County and Mountain City dispose of solid waste at the Johnson County Landfill.

PROJECTED SITUATION AS OF OCTOBER 1994

Washington and Unicoi Counties	-	Iris Glen Landfill
Carter County	-	Carter County Landfill
Johnson County	-	Johnson County Landfill

SHORT-TERM DISPOSAL OPTIONS: JANUARY 1, 1994 - DECEMBER 31, 1996

Washington and Unicoi Counties	-	Iris Glen Landfill
Carter and Johnson Counties	-	Carter County Landfill

MID-TERM DISPOSAL OPTIONS: JANUARY 1, 1997 - DECEMBER 31, 1999

Washington and Unicoi Counties	-	Iris Glen Landfill
Carter and Johnson Counties	-	New Carter County Landfill or Iris Glen Landfill

LONG-TERM DISPOSAL OPTIONS: JANUARY 1, 2000 - JANUARY 1, 2003

Washington and Unicoi Counties	-	Iris Glen Landfill and North American Rayon/ Northeast Tennessee Waste-to-Energy
Carter and Johnson Counties	-	New Carter County Landfill, Iris Glen Landfill, and NAR/NET Waste-to-Energy

1. Projected Capacity and Supply, and Identification of Potential Shortfalls or Surplus in Disposal Capacity (See Appendix).

Regional Needs

Transportation considerations for the projected disposal options are presented in detail in the Appendix.

Mileage to Regional Facilities

LOCALITY	DISPOSAL FACILITY	APPROXIMATE MILEAGE PER ROUND TRIP
CARTER COUNTY	CARTER COUNTY LANDFILL	10
	IRIS GLEN LANDFILL	20
	NET/NAR	10
JOHNSON COUNTY	CARTER COUNTY LANDFILL	60
	IRIS GLEN LANDFILL	80
	NET/NAR	60
UNICOI COUNTY	IRIS GLEN LANDFILL	30
	NET/NAR	40
WASHINGTON COUNTY	IRIS GLEN LANDFILL	10
	NET/NAR	20

Budget for Disposal

The budgets for the Region's proposed disposal options are presented in the Appendix.

1993 Disposal Costs

COUNTY/CITY	1993 DISPOSAL COSTS
CARTER COUNTY TOTAL	\$ 740,265
Carter County	\$ 569,500
Elizabethton	\$ 168,425
JOHNSON COUNTY TOTAL	\$ 151,236
Johnson County	\$ 122,628
Mountain City	\$ 28,608
WASHINGTON COUNTY TOTAL	\$ 2,732,404
Washington County	\$ 332,907
Johnson City	\$ 2,109,641
Jonesborough	\$ 59,808
UNICOI COUNTY TOTAL	\$ 216,760
Unicoi County	\$ 118,257
Erwin	\$ 98,503
REGIONAL TOTAL	\$3,840,665

Staffing and Training

The staffing requirements of the Region have been affected by the closing and projected opening of disposal facilities. The Bowser Ridge Landfill closed in March 1994 and the former employees have been transferred to other positions within the Johnson City Solid Waste Department. The new Iris Glen Landfill will be staffed by Waste Management personnel as outlined in the Johnson City/WMI Iris Glen contract. The Johnson County Landfill is scheduled to close in approximately December 1994. The three employees will be used for closure activities and for operation at the new Transfer Station. The Carter County Landfill is

staffed with seven employees. Four additional employees are planned for the new proposed Carter County Landfill. Landfill managers and attendants will be trained and certified in accordance with the State of Tennessee Solid Waste Division's certification program.

Implementation Schedule

The Iris Glen Landfill is currently under construction and is scheduled to open in October 1994. The Johnson County Landfill is scheduled to close in approximately December 1994 and the County plans to dispose of its solid waste at the Carter County Landfill. Engineering analysis and testing of the proposed new Carter County Landfill site is underway. Assuming no complications with permitting, the site could be open for operation by October, 1996.

Location of Facilities

All existing and proposed disposal facilities are indicated on the system map in Chapter XI.

Chapter IX - Public Information and Education

Existing Conditions

PUBLIC INFORMATION PROGRAMS

The Northeast Tennessee Regional Solid Waste Planning Board has promoted public information on solid waste issues since its formation in 1993. Public Kickoff information meetings were held in conjunction with presentations to the County Commissions in the Fall of 1993. The Board sponsored Industrial Waste Reduction seminars presented by the University of Tennessee Center of Industrial Services in each of the Region's four counties in March 1994. The Board actively participated in the planning and promotion of the April 1994 Household Hazardous Waste Collection events. Press releases have been issued on solid waste topics and the media have attended several of the Board meetings. Presentations were made in April 1994 before each County Commission and draft copies of the plan were distributed to the County Commissioners. Public hearings were held in May 1994 for review of the Plan. The Planning Board felt that an extra effort should be made to keep the municipal governments involved in the planning process and presentations were made before the City Councils in Erwin, Elizabethton, Mountain City, Johnson City, Jonesborough, and Watauga in May 1994. Current programs for public information are presented below:

CARTER COUNTY: The Carter County Landfill Manager presents several programs to civic organizations each year on solid waste issues. The Chamber of Commerce coordinates the County "Adopt-a-Highway" program. The City of Elizabethton Department of Public Works provides solid waste information to the public. The Carter County Sheriff's Department manages an anti-litter campaign. A major employer in the County, North American Rayon Corporation, sponsors an annual River Clean-Up Day for litter control. North American Rayon's Director of Energy Recovery and Recycling, also makes presentations to school and civic groups. The City of Watauga sponsors an annual clean-up day. Citizens in Roan Mountain also organize and sponsor an annual clean-up day. Speakers for the Roan Mountain State Park's two annual public seminars, the Naturalist Rally and the Wildflower Rally, often address solid waste/recycling issues in their programs. The Carter County Executive and the County Soil Conservationists are members of the Appalachian-Northeast Tennessee Resource and Conservation Development Council. The RC&D Council develops and promotes several programs dealing with solid waste and recycling issues. The Tennessee Conservation League has representation from Carter County.

JOHNSON COUNTY: The Johnson County University of Tennessee Agricultural Extension Service provides educational programs, information, and literature to the public on Solid Waste and Recycling issues. The Johnson County Executive and the County Soil Conservationists are members of the Appalachian-Northeast Tennessee Resource and Conservation Development Council. The County government and other organizations sponsored a County Recycling Logo Contest. The official logo includes the slogan, "Recycle to Restore - Preserve Johnson County's Beauty", and an artwork design. The logo will be used throughout the County and on the sign of the new Transfer, Convenience, and Recycling Station. The local newspaper, The Tomahawk, and radio station, WMCT, have actively provided solid waste news and information to citizens. The County Highway Department operates a litter clean-up program with funding from the State Litter Grant. The County Highway Department also sponsors the "Adopt-a-Highway" litter clean-up program.

WASHINGTON COUNTY: Current public information programs in the Washington County, Johnson City, and Jonesborough area include programs presented by the City of Johnson City Solid Waste/Recycling staff. The Solid Waste staff publishes handouts, issues news releases, and presents programs on solid waste issues for business, school, and industrial meetings. The City's "Week at a Glance" newsletter contains a section on solid waste issues and a monthly newsletter on the Iris Glen Landfill is distributed to residents within a 3000 foot radius of the landfill site. Johnson City/Washington County is a Keep America Beautiful affiliate, and the local "Clean Team" is very active in solid waste education and litter prevention and promotes such activities as the annual "Chipping of the Greens" to encourage recycling of Christmas trees and save landfill space and the Glad Bag-a-thon. The 1993 Year-End Review of the KAB sponsored Clean Team in Washington County has been included as Appendix A to this chapter as an information resource for the other counties. The Chamber of Commerce sponsors an "Adopt-a-Highway" program for public participation in litter clean-up. The Town of Jonesborough Solid Waste Department promotes curbside recycling through handouts and various information programs.

The Washington County Sheriff's Department has an on-going anti-litter campaign and clean-up program funded through the State Litter Grant. The County has staffed a full-time position of Solid Waste and Recycling Coordinator. The duties of this position include public education and information and the Coordinator addresses several school and civic groups. The Washington College Ruritan Club operates the Washington College Convenience Center. Ruritan Club members have an active education campaign and issue handouts and news releases and present programs on recycling at schools and civic meetings. The

Washington County Executive and the County Soil Conservationists are members of the Appalachian-Northeast Tennessee Resource and Conservation Development Council. Civic organizations, such as, the Sierra Club and Trout Unlimited, have programs which focus on solid waste, litter, and recycling. The state-wide organization, the Tennessee Conservation League also has representatives from Washington County.

UNICOI COUNTY: The Unicoi County/Erwin Chamber of Commerce sponsors an annual "Downtown Clean-up Day" to promote litter and solid waste awareness. The City and County governments, in conjunction with the local newspaper, The Erwin Record, have extensively promoted the use and location of the recycling facilities in downtown Erwin and at the three County convenience centers. County Commissioner Jack Hawkins, a Solid Waste Planning Board member, presents solid waste and recycling information to civic groups. The Tennessee Conservation League also has representation in Unicoi County. The County Executive, the Soil Conservationist, and other interested citizens are active members of the Appalachian-Northeast RC&D Council. The Unicoi County Sheriff's Department operates a litter clean-up program utilizing State litter grant funds. The Kiwanis, Ruritan, and other civic groups participate in the "Adopt-a-Highway" litter clean-up program.

Existing Conditions

SOLID WASTE EDUCATION PROGRAMS FOR SCHOOL-AGE CHILDREN

The Board has surveyed each school system within the Region for current solid waste/recycling education programs and has informed each school system Superintendent of the educational requirements of the Solid Waste Act of 1991. Sample solid waste curriculum plans from other Tennessee counties were presented to each school system for review. All of the school systems within the Region requested additional curriculum guidance from the State of Tennessee. The K-12 State of Tennessee Science Curriculum includes some solid waste and recycling information. The results of the school system survey indicate that while many teachers have incorporated solid waste and recycling education into their classroom work, most school systems have not formulated coordinated solid waste education programs. A copy of the Johnson County Solid Waste/Recycling School Education Plan has been distributed to all school systems in the Region as a model for curriculum development. The current programs are summarized by county.

JOHNSON COUNTY: Representatives of the Johnson County School System and the U.T. Agricultural Extension Service formed a Solid Waste Education Team in early 1994. The team developed a comprehensive Solid Waste/Recycling School Education plan which serves as the Regional model. A copy of the complete Plan is included as an appendix to this chapter. The Plan specifies: the current situation and present implementation of solid waste/recycling education; the objectives of the Plan; plans for grade-specific (target audience) programs; mechanism for evaluation and reporting; and a funding plan.

CARTER COUNTY: The City of Elizabethton schools are fortunate to have an East Tennessee Environmental Teacher of the Year, Mr. Gary Barrigar, at the High School. This award was presented by the Tennessee Environmental Education Association. The City School System has an on-going recycling program at the schools. The High School also has an Ecology Club. T. A. Dugger Junior High also has a Science Club which focuses on environmental activities. All fifth grade students are included in the Cedar Creek residential environmental camp held annually in Greene County. The system also offers an Ecology Day Camp during the summer. The County School System has an active 4-H program which presents special programs on solid waste and recycling.

WASHINGTON COUNTY: The City of Johnson City School System's survey results indicate that most teachers integrate solid waste anti-litter, recycling education and discussion on the issues of personal responsibility into the science and social studies curriculum. The Washington County System has an active 4-H program which presents special programs on solid waste and recycling. There are also several student environmental clubs at the middle and high schools.

UNICOI COUNTY: The Unicoi County System has several programs implemented by individual teachers which address solid waste and recycling education. The County has an active 4-H program which presents special programs on solid waste and recycling.

REGIONAL NEEDS - GOALS AND OBJECTIVES

PUBLIC INFORMATION NEEDS AND TARGET AUDIENCES

The Solid Waste Planning Board has identified several public information needs for the Region:

1. Each County in the Region needs a mechanism for disseminating solid waste and recycling information to the public. Target audience: General adult public.
2. The Region needs additional programs for the education of business and industrial leaders on issues concerning solid waste, recycling, waste reduction and reuse. Industrial waste reduction has been targeted for an important percentage of the 25% reduction goal. Target audience: Initially the highest 10% waste generators by volume; expanding to all businesses with over 25 employees.
3. The Region needs to encourage increased media coverage of solid waste and recycling events, programs, and news releases. Target audience: General adult and youth populations.
4. The Region needs to actively encourage and support the involvement of governmental, civic and church groups with solid waste reduction, recycling, and purchasing recycled materials. Target audience: City and County offices, civic club members and the area ministerial associations.
5. The Region needs to provide information and publicity to insure that all citizens know the locations of disposal facilities, convenience centers and recycling facilities in their area, at local fairs and festivals and the proper use of these facilities. Target audience: General adult and youth populations.

MEETING REGIONAL NEEDS

PUBLIC INFORMATION PLANS

1. The Board will suggest to each County government in the Region that consideration be given to appointing a full-time or part-time Solid Waste Coordinator to assimilate solid waste and recycling information to the public and to track the success of the various County programs. Washington County has employed a Solid Waste and Recycling Coordinator since January 1994 and the benefits of this full-time position to the County solid waste and recycling programs are significant.
2. The Board sponsored an Industrial Waste Reduction Seminar in March 1994 in each of the four counties. The University of Tennessee Center for Industrial Services presented the workshop and the program was well received by area industrial and commercial representatives. The Board will suggest that each County in the Region require the highest 10% waste generators by volume to submit annual reports to the County on waste disposal, recycling and reduction. The Board will also sponsor additional seminars directed to industrial/commercial waste reduction every three years.
3. The Board will recommend that each County in the Region actively involve the area media in all solid waste and recycling programs. News releases should accompany the opening of all new facilities. The Board will direct the staff of the First Tennessee Development District to assist with additional news releases. The aforementioned Solid Waste Coordinators will oversee the media involvement.
4. The Board will recommend that all local government offices investigate waste reduction, recycling and buying recycled materials. Notices will be mailed to all area civic groups asking for their support for current solid waste, recycling, and litter programs and suggest that these groups develop new programs to promote solid waste awareness. The ministerial association in each of the four counties will also be contacted with similar requests from the Board.
5. The Board will recommend that each County in the Region develop an annual publicity program to re-educate the public on the location and proper use of disposal facilities, convenience centers, and recycling facilities. The Board will recommend that a news release with a corresponding map showing the exact locations of these facilities be developed and submitted annually by the Counties to the local newspapers.

REGIONAL NEEDS - GOALS AND OBJECTIVES

SCHOOL EDUCATION NEEDS AND TARGET AUDIENCES

1. The Region needs to provide all school systems with a standard solid waste and recycling curriculum for use until the State's SWEEPS program is completed. The curriculum should closely match the objectives of the EPA "Let's Reduce and Recycle" curriculum which addresses questions, such as: What is waste? Where does waste go? How does waste affect our resources? How can we produce less waste? What can we do about waste? Target audience: K-12 administrations and teachers.
2. The Regions's school system administrations need to develop a resource center at every school library for solid waste and recycling materials, such as, books, videos, etc. Target Audience: K-12 teachers and students.
3. The Region's school system administrations need to insure that the location and proper usage of the solid waste and recycling facilities in the various areas of the Region be clearly communicated to each school age child. For example, "Where is the convenience center closest to your home?". Target audience: K-12 students.
4. The Region needs to develop a field trip program which will allow the older elementary age students to tour and observe the operation of solid waste disposal facilities, specifically a Class I landfill. The program should be developed by the school systems' administration in order that every fifth grade child will learn first-hand how the majority of solid waste in the Region is handled. The programs at the Iris Glen Environmental Education Center will be available for all school systems and should be utilized. Target audience: All 5th graders.
5. The Region needs to suggest to all Regional school system administrations that responsibility for the implementation of and record-keeping on the solid waste and recycling education programs be assigned to an employee at each school and compiled by the central administration. Target audience: All Regional School System Superintendents.

MEETING REGIONAL NEEDS

SCHOOL EDUCATION PLANS

1. The Board will recommend that each school system in the Region adopt the EPA "Let's Reduce and Recycle" curriculum as a grade-specific guide for increasing solid waste and recycling awareness. The Board will send copies of the EPA curriculum to each school system administration in April 1994. The Board will recommend that the school systems implement the State of Tennessee SWEEPS curriculum as it becomes available.
2. The Board will recommend to each school system in the Region that every school library develop a solid waste and recycling resource center. The Board will send copies of the Solid Waste Public Education and Outreach Resource Directory to each school system in the Region. The EPA "Let's Reduce and Recycle" curriculum guidebook also lists available resource materials.
3. The Board will recommend to the Regional school systems that specific and practical information be presented to all students on the location and proper usage of the disposal facilities, convenience centers, and recycling facilities in their areas. The Board will supply the school systems with a copy of the final Solid Waste Plan which includes maps and other information.
4. The Board will recommend that every fifth grade student in the Region tour the Iris Glen Environmental Education Center. An important component of the Education Plan is the utilization of the Solid Waste Education Center at the Iris Glen Landfill in Johnson City. This 1100 square foot education center is located at the main Iris Glen office at 1705 East Main Street in Johnson City. The facility will include audio-visual equipment, a kitchen/food service room, and restrooms. The Iris Glen Education Center will be open to all civic and school groups for tours and meetings. The tour program will commence with a 15-20 minute narrated documentary video of the actual step-by-step construction of the Iris Glen Landfill. A 7'x7' scaled table model of the landfill will be used for specific site questions. An actual sample of the liner material will be displayed. The tour concludes with an escorted trip to the observation platform overlooking the landfill. This observation platform is accessed via paved roads and from its vantage point the working face and the construction of cells two and three will be visible. The Board will contact each school system in the Region and recommend that a field trip to the Iris Glen Educational Center be included in the solid waste curriculum for all fifth grade students.

5. The Board will recommend to each school system in the Region that the Superintendent's Office appoint a staff person to oversee the solid waste education curriculum and compile reports on the program's implementation. Also, the Superintendent will be asked to assign the responsibility for the implementation of and record-keeping on the solid waste and recycling education programs to an employee at each school.

FUNDING AND STAFFING

The Board will advise each County in the Region to apply for the State's Solid Waste Educational Grants as soon as the Solid Waste Plan's approval is received. Each County will receive approximately \$6300.00 for 1994-95 and \$7500.00 should be available annually thereafter from the State of Tennessee. The Board will assign oversight of these funds to the County Executives and instruct them to divide the funds between the County and City school systems based on number of students. The Board recommends that the grant funds be used for the materials and activities outlined in Chapter IX of the Solid Waste Plan. The Region foresees no additional staffing requirements for the Public Information and School Education Plan. However, the recommended Solid Waste and Recycling Coordinator positions in each County will be a valuable resource for the success of the Plan.

IMPLEMENTATION SCHEDULE

10-Year Implementation Schedule

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Provide Schools with EPA Curriculum	■									
UT-CIS Industrial Seminars	■			■			■			■
Implement State SWEEP's Curriculum		■	■	■	■	■	■	■	■	■
Annual Publicity Project by Counties	■	■	■	■	■	■	■	■	■	■
Field Trips for Fifth Graders	■	■	■	■	■	■	■	■	■	■



APPENDIX A

TO

CHAPTER IX

THE WASHINGTON COUNTY

KEEP AMERICA BEAUTIFUL CLEAN TEAM

1993 YEAR-END REVIEW

Note: Included as a resource for Public Information
Activities.

THE CLEAN TEAM - 1993 YEAR-END REVIEW

CHIPPING OF THE GREEN

- 5,000 Christmas trees were recycled and chipped into mulch for the public.
- 75 volunteers put in 530 hours planning and working the event.

1993 KAB MONTH ACTIVITIES

MULCH MANIA/KAB MONTH KICKOFF

- 100 people attended the Compost Education Event held in conjunction with local KAB Month kickoff.
- \$625 worth of compost units for door prizes, refreshments, tent, sound system were donated.
- Press conference attended by Johnson City Mayor, City Manager and Chamber of Commerce officers.

1993 GLAD BAG-A-THON

- TOTAL PARTICIPATION - 1,750 volunteers from 26 groups. (1,594.5 hours)
- LITTER ROUNDUP - 7 tons of litter/recyclables collected. ETSU Clean Up for Hunger held in conjunction.
- KLOTHES KOLLECTION - 105 bags of used clothing collected for Jonesborough Rescue Squad, Center For Hope (Women's Shelter), and the Salvation Army.
- BONUS FUND - 250 local business employees collected \$65,250.00 in receipts.

EARTH DAY '93 CELEBRATION

- 500 volunteers and attendees. (125 planning hours)
- \$1,200 in sponsorships from 3 businesses for entertainment, exhibits.
- \$3,320 in-kind donations from city, county, Chamber.
- Entertainment from environmental advocate Judy Leonard.
- Tours of the Coca-Cola Mobile Recycling Exhibit.
- Demonstrations of Frisbee Golf - attendees encouraged to participate.

CLEAN TEAM AWARDS

- 23 volunteers judged 58 businesses (94 hours) for the Business & Industry Awards which recognize companies that acknowledge the importance of proper waste-handling practices and act as role models in litter prevention and education to employees and students.
- 6 students and 2 chaperones judged 10 businesses kids frequent most (48 hours), based on survey by 6 classes (180 students, 90 hours) for the Kids' Clean Team Award.
- 8 volunteers judged 9 schools (24 hours) on cleanliness, student participation, environmental education for the Schools Clean Team Awards.

TAKE PRIDE IN JONESBOROUGH WEEK

- \$5,000 worth of equipment use, in-kind services.
- Workers hauled additional 30 tons of solid waste for 5 days.

RECYCLING REALITIES VIDEOCONFERENCE

- 20 people attended broadcast at East Tennessee State University. (\$100 in-kind donation of facility and equipment.)
- No indicator for number who viewed local cable broadcast. (\$1,000 in-kind donation for videoconference broadcast.)

APPRECIATION BREAKFASTS FOR CITY/COUNTY SANITATION WORKERS

- Two breakfasts thanked 75 sanitation employees for their hard work.
- 5 sponsors donated \$800 worth of food, beverages, T-shirts, hats.

NATIONAL LITTER BAG WEEK

- 25 businesses distributed 3,000 litter bags.

ADOPT A CLEANER ATTITUDE MEETING

- 30 people (representing 15 groups) attended public meeting to get more information on Adopt-A-Spot and Street programs.

BEAUTY TRAILS

- Signs marking 3 scenic trails followed by car erected by city workers (\$400 in-kind donation).
- 85 people toured trails on transportation provided by The Clean Team. No indicator for number who toured trails on their own. Media awareness made to 50,000 residents.

R.J. REYNOLDS' "NO BUTTS ABOUT IT. KEEP TENN. CLEAN!" CAMPAIGN

- 800 portable ash trays, 130 tent cards, 75 bumper stickers were distributed from Mall information booth and food court, and during six Chamber of Commerce events.

K.L.U.E. (Kids Learn to Understand the Environment) CLUB

- 25 children met for 6 weeks of environmental activities. (6 volunteer speakers, 3 chaperones, 174 hours)

COMMUNICATIONS/MEDIA EFFORT

- JOHNSON CITY PRESS - circulation 32,686
6 articles; 2 editorials; 2 photos with cutlines; 4 ads
- THE LOAFER - circulation 10,000
2 articles; cover featuring Earth Day
- JONESBOROUGH HERALD & TRIBUNE - circulation 4,292
4 articles; 1 photo with outline
- ELIZABETHTON STAR - circulation 10,000
1 article
- WCYB-TV (NBC)
3 spots
- WJHL-TV (CBS)
2 spots
- WKPT-TV (ABC)
1 spot
- Market Saturation: 500,000 +

LITTER CRITTER MASCOT SELECTION

- 4 first-grade students were selected by principals/teachers (8 hours) to serve as 1993-94 mascots. Critters attended three Clean Team events (40 hours) and distributed approximately 500 litter bags.

PUBLIC LANDS DAY CELEBRATION

- 12 Packs, Cubs, and Troops (approximately 250 Scouts) from the Sequoyah Council of the Boy Scouts of America took part in cleanups at 14 sites throughout the city and county

CLEAN TEAM WINS AWARD

- The Clean Team won a second-place 1993 Keep America Beautiful National Award for its activities during April, and was named a finalist in the KAB Systems Category.

APPENDIX B

TO

CHAPTER IX

THE JOHNSON COUNTY

SOLID WASTE/RECYCLING SCHOOL EDUCATION PLAN

Note: Included as a model for Curriculum development.

JOHNSON COUNTY SOLID WASTE/RECYCLING SCHOOL EDUCATION PLAN

March 15, 1994

SITUATION: The Johnson County Solid Waste Education Team (SWET) identified the following through a Needs Assessment:

1. There is a total net enrollment of 2,532 school age children (5-18 plus) in grades K-12.
2. There are 70 Head Start preschool age children participating in school programs.
3. The school system does not employ an educational-public works information staff person.
4. There is no "Clean Tennessee" program in the County of the school system.

PRESENT IMPLEMENTATION: The Johnson County School System during the past three years has conducted the following activities to educate students concerning Environmental/Solid Waste issues:

1. Two elementary schools have held special EARTH DAY activities for their students and their communities.
2. 4-H Clubs in grades 4-6, under the guidance of the University of Tennessee Extension Agents, have been targeting the environmental/solid waste issues in their programs and the individual club members. Target areas addressed include: The Solid Waste Management Act of 1991, Recycling, Composting, Source Reduction, Household Hazardous Waste, and Care of the Environment.
3. The 4-H Clubs have also sponsored a recycling essay contest during April for the past three years. Target audience: 4-12 grade.
4. Johnson County's University of Tennessee Extension Agents have been working as consultants and as guest speakers for the Middle School Science Classes.
5. Johnson County Middle School and Johnson County High School have sponsored a community clean up and collection day.
6. Environmental stewardship awareness is targeted on Arbor Day. Trees have been made available to our schools and all 4th

grade students. Trees are provided by the University of Tennessee Extension Office and the Tennessee Forestry Division.

7. In 1993, recycling activities have been conducted in the schools. All schools have at least one recycling container. Ninety-seven (97) percent of the 4, 5, and 6 grade classes have recycling bins in the classrooms. These were provided by funds from the University of Tennessee Extension Service Program Enhancement Grant.

8. 4-H Extension Agents conducted in-service sessions with Johnson County teachers in the system-wide in-service day.

9. 4-H students "GHOST WRITERS" were involved in a letter writing project in which 42 letters voicing their environmental concerns were mailed to President Clinton. Selected letters were published in the local newspaper.

10. Future Farmers of America (FFA) members participate in the adopt-a-highway and community beautification programs.

OBJECTIVES: The overall objective of the Johnson County Solid Waste School Education Plan is for students to understand the environmental and economic costs of solid waste management and alternatives including source reduction, recycling, composting, incineration, and landfilling. Other Objectives are:

1. To define waste, its costs, and discuss from where it comes. (Target litter prevention).

2. To illustrate the importance of clean air, water, and land.

3. To learn about sanitary landfills, open dumps, and waste combustion, thus exploring current methods of waste disposal.

4. To introduce natural resources and the care and conservation of them through informed decision making.

5. To increase students' awareness of recycling in their community and get them involved in school and community recycling efforts.

6. To become familiar with the components of the Solid Waste management Act of 1991.

7. To allow students an opportunity to educate families, communities, businesses and government about solid waste issue

JOHNSON COUNTY SCHOOL SYSTEM
SOLID WASTE MANAGEMENT EDUCATION PLAN
EFFECTIVE FY 94-95 UNTIL AMENDED

Johnson County will continue to offer the present implementation goals outlined above. Johnson County will also continue to implement the "EPA Garbage Gremlin" curriculum. The County will also implement the forthcoming State of Tennessee Division of Solid Waste "SWEEPS" curriculum as it becomes available. The County will request guidance from the State on solid waste curriculum issues. Also, the following plan will be adopted. The plan identifies target audiences, amount and kind of information to be provided to students, and methods to be utilized.

K-12 Students: Schedule as available the "Partners for Recycling" mobile unit provided by TVA/Tennessee Soft Drink Association, and the State of Tennessee.

K-12 Students: Educate the students on how to use Johnson County's recycling unit at the new Transfer Station when it becomes operational.

K-12 Students: Cedar Creek in Greeneville will be utilized as a resource for information, guest speakers, and workshops.

K-12 Students/Parents: Provide updates regarding local environmental projects such as hazardous waste. Students will be given flyers and/or brochures.

K-12 Students/Community: Involve local businesses/industries to enhance our solid waste management program. Will encourage businesses to sponsor students to attend an environmental camp.

K-12 Teachers: In-service/workshops will be made available yearly.

K-12 Teachers/Students: A video library will be set up at the media center on Solid Waste issues. These audiovisual materials will be made available to target audiences.

4-12 Teachers: Involve local businesses to sponsor environmental trunks/teaching kits.

K-3 Students: Each student will be given a coloring book concerning Solid Waste Management.

K-6 Students: An EARTH DAY will be held yearly at each elementary school.

4-6 Students: University of Tennessee Agricultural Extension

Agents will provide educational programs on solid waste issues during 4-H Club meetings.

4-6 Students: University of Tennessee Agricultural Extension Service will continue to sponsor Recycling Essay Contests.

4-6 Students: Integrate solid waste management education into the English classes where students will write to their representatives in the legislature voicing their concerns. This will be done instead of the existing "GHOST WRITER" 4-H Program.

K-6 Students: A presentation on solid waste management will be done at a P.T.A. (Parent Teacher Association) meeting during the school year at each elementary school. (University of Tennessee Extension Agents will be utilized as consultants and/or speakers).

7-8 Students: Videos/guest speakers and "hands-on" lab activities will be purchased and made available for the science teachers.

7-8 Students: Johnson County Middle School Radio Club will do "educational spots" on a regular basis on waste reduction.

6-8 Students: On even years, the Science Fair will target solid waste management education projects.

4-12 Students: Field trips will be scheduled to visit our landfill and the convenience/recycling center transfer station.

9-12 Students: Art Students will be provided trash cans to paint/decorate. These cans will be placed on school grounds.

9-12 Students: On a regular basis students in the science classes will sponsor a school-wide cleanup.

EVALUATION AND REPORTING

Each school will have a designated Solid Waste Environmental Coordinator. This coordinator will have the responsibility of compiling data regarding the number of activities conducted, number of students participating, recycling practices adopted, number of students participating in essay contests, science fairs, radio spots, and programs outlined above. Quantitative tools of evaluation will be used where appropriate. Case studies and testimonials will be documented.

FUNDING PLAN

It is not possible to do a funding plan or implementation schedule until the Northeast Tennessee Regional Solid Waste Planning Board and the State of Tennessee Division of Solid Waste review this preliminary plan. However, after the solid waste plan is approved, the County will be eligible to receive an annual

grant up to \$7,900 to implement its educational plan. Also, funds will be available from the Litter Grant provided from the State. These funds will be allocated to school and public education sectors to share.

APPENDIX C

TO

CHAPTER IX

DRAFT COPY OF THE

JOHNSON COUNTY

PUBLIC EDUCATION PROGRAM

MARCH 1994

Note: Included as a resource for Public Information Activities.

JOHNSON COUNTY PUBLIC EDUCATION PROGRAM

March 1994

SITUATION: The Johnson County Landfill Committee identified the following:

1. Total population is 13,766.
2. There are 5,406 households.
3. The County (City) does not employ a Solid Waste Coordinator.
4. There is no "CLEAN TENNESSEE" or "KEEP AMERICA BEAUTIFUL" program in the county.
5. The county (city) has not developed any educational materials or literature regarding Solid Waste Management.
6. Local businesses/industry are not involved in public information, educational efforts for Solid Waste Management or Environmental Education.
7. The only solid waste inservice for teachers are conducted by the University of Tennessee Agricultural Extension Service, grades 4-12.

PRESENT IMPLEMENTATION:

1. The local newspaper, THE TOMAHAWK, and radio station, WMCT, provides solid waste news and information to citizens.
2. The University of Tennessee Agricultural Extension Service is the only organization providing educational programs, information, or literature to the public on Solid Waste or Environmental Issues.

Programs have been presented to the Garden Club, Ruritan, and Family and Community Education Clubs on Recycling, Composting, and Solid Waste management Act of 1991 by The University of Tennessee Agricultural Extension Service.

3. Solid Waste or Recycling options presently available include:
 - Grocery store receptacles for recycling plastic grocery bags.
 - 4-H Aluminum Can Service Project.
 - Private Agent purchasing aluminum (rock store).
 - Landfill tire storage and shredding project.
4. The University of Tennessee Agricultural Extension, George Lowe, County Executive, Johnson County Government (via county litter grant), Johnson County Highway Department, Soil Conservation Service and the following businesses: Tri-State Vinyl and Bob Stout's Construction provided sponsorship for County Recycling Logo Contest.

The Logo Contest which was held the fall of 1993 was open to youth and adults. There were 450 entries. There was a tie for first place and these 2 designs were combined by the University of Tennessee Agricultural Extension Service Communications Graphic Art Department.

The official LOGO is "Recycle to Restore - Preserve Johnson County's Beauty."

TABLE 1



This educational effort was to increase community awareness and knowledge about recycling and solid waste management issues. The Logo will be printed on T-shirts, bumper stickers, the rest room area of Ralph Stout Park, and on the sign for the Johnson County Recycling, Convenience and Transfer Station.

Other impacts of this project include: Levi Strauss and Company beginning a recycling project and Timberland recycling aluminum cans.

5. Many citizens, businesses, organizations, and the community lack awareness and knowledge regarding solid waste management, recycling, composting, and other environmental issues coupled with the requirements of the Solid Waste Management Act of 1991. This indicates a need for public educational information and programming to help citizens make more responsible Solid Waste Management and environmental stewardship decisions.

GOALS AND OBJECTIVES

1. Provide public information and educational opportunities to support the Solid Waste Management Plan for all Johnson County citizens to create an awareness of Solid Waste issues.
2. Provide educational programs for adults and youth to help them understand solid waste issues and the reasons waste management, recycling, and reduction are necessary.
3. Assist individuals and groups to make responsible behavior choices (and/or changes) to help reduce, recycle or compost solid waste and to manage hazardous waste.
4. Provide a Household Hazardous Waste collection day yearly from 1994 through 1996.
5. Improve and increase cooperation/collaboration with all agencies and organizations to combine our resources to reduce the waste stream to landfills by 25 percent. Target year 1995.

TARGET AUDIENCE

- Youth/adult
- Local officials
- Social, civic, and educational groups, organizations or clubs
- Convenience center, transfer custodians and customers
- Farmers
- Homemakers
- Business/Industry (especially with recycling potential)
- General Public

JOHNSON COUNTY Solid Waste Management PUBLIC EDUCATION PLAN EFFECTIVE FY-95 UNTIL AMENDED.

- The University of Tennessee Extension Service will serve in an advisory capacity and assist with educational programming.
- Adopt a mascot to encourage recycling and address Solid Waste issues. (Person responsible, Landfill Committee).
- Encourage businesses to utilize the University of Tennessee Center for Industrial Services for waste reduction ideas.

- Provide the Johnson County Library with audiovisual materials, books, and publications.
- Prepare, at least, 12 mass media articles and radio spots annually.
- Provide handouts for convenience center custodians, Welcome Center, and the University of Tennessee Agricultural Extension Service to give to the public.
- Provide educational programs, workshops and/or conferences to families, farmers, clubs, businesses, and industries on Solid Waste Management, Household Hazardous Waste and environmental issues.
- Extend the "Earth Day" concept to include school and community. Activities will be conducted in each school.
- Schedule "Partners for Recycling" mobile unit for adults, businesses, and industries to tour.
- Establish a county convenience/transfer station with recycling bins.
- Establish an outdoor recycling bin in the Shady Valley Community.
- Provide recycling receptacles for aluminum cans at Ralph Stout and City Park.
- Work with individuals and families to establish composting units in their homes. (U.T. Extension Service to provide composting literature).
- Involve clubs in adopt-a-highway and/or beautification projects.
- Local businesses (Main Street area) will plant trees/flowers outside their business.
- Conduct an "enviro-shopping" and Household Hazardous Waste program with local grocery stores.
- Conduct interagencies or board member workshops thus networking with agencies, organizations, and stakeholders to reduce waste stream going to the landfill/ convenience center by 25% by 1995 and increase resources, money and grants to assist with public educational efforts.
- Establish a solid waste/recycling portable display to be exhibited in the library, welcome center, courthouse, and public events.
- Local churches to provide Solid Waste Awareness information during the week of Earth Day.

- Provide public tours of landfill, convenience center and illegal dumps.

EVALUATION

1. Reduction of solid waste reaching the landfill (tons and/or pounds).
2. Pounds and types of material recycled.
3. Number of composting units established.
4. Number of educational programs and people reached at programs, workshops, conference, and meetings.
5. Number of Solid Waste Management programs presented to clubs, businesses, elected officials/policy makers.
6. Number of mass media articles and radio spots.
7. Number of educational handouts made for distribution at convince center, welcome center and the University of Tennessee Extension Service.
8. Number of Solid Waste Management, Landfill and/or advisory board meetings held.

FUNDING PLAN

It is not possible to do a funding plan or implementation schedule until the State of Tennessee Division of Solid Waste Board reviews this preliminary plan. However, after the solid waste plan is approved, the county will be eligible to receive an annual grant up to \$7,900 to implement its education plan. Also, funds will be available from the County Litter Grant provided by the state. These funds will be allocated to school and public education sectors to share.

Chapter X - Problem Wastes

Household Hazardous Wastes (HHW)

The Northeast Tennessee Regional Solid Waste Planning Board recognizes the need to properly manage household hazardous wastes. The Board and each County in the Region are currently involved in a Region-wide program for household hazardous waste management.

Carter, Johnson, Washington, and Unicoi Counties are members of the Appalachian-Northeast Tennessee Resource Conservation and Development Council. The RC&D Council coordinated the scheduling for the household hazardous waste collection events in seven counties in Northeast Tennessee, including the four counties in the planning Region. Each county applied for and received approval for collection events during the month of April 1994. The State of Tennessee Department of Solid Waste Management has contracted with Laidlaw Environmental Services to conduct the collection events utilizing a mobile collection unit.

Carter County's Household Hazardous Waste Collection event was held on Saturday, April 23, 1994, from 9:00 a.m. to 3:00 p.m. in the parking lot behind the Carter County Sheriff's Department. Mr. Ed Buckles and Mrs. Linda Vaughn served as the County Environmental Coordinators for the event. 165 households participated in the event.

Johnson County's Household Hazardous Waste Collection event was held in the City/County parking lot behind the County Courthouse. The event was held on Saturday, April 16, 1994, from 9:00 a.m. to 3:00 p.m. Mr. Cliff Dunn served as the County Environmental Coordinator for the collection event. 83 households participated in the event.

Unicoi County's Household Hazardous Waste Collection event was held Saturday, April 30, 1994, from 9:00 a.m. to 3:00 p.m. in the City/County parking lot at the corner of Church Street and Union Street in downtown Erwin. Mr. Kenneth Garland was the County Environmental Coordinator for the event. 107 households participated in the event.

Washington County's Household Hazardous Waste Collection event was held Saturday, April 30, 1994, from 9:00 a.m. to 3:00 p.m. at the City of Johnson City Waste Transfer Station on New Street. Mr. Roby McBride was the County Environmental Coordinator for the event. 176 households participated in the event.

Radio, television, and newspaper coverage was coordinated through the Appalachian-Northeast Tennessee RC&D Council. Billboard advertising, posters, and pamphlets were also prepared and distributed. Sprint/United Telephone, the major Regional telephone service, agreed to establish toll-free hotline numbers for citizens to call for information on the Regional collection events, such as, location, date, time, materials to be collected, etc. Volunteers representing several Regional environmental groups staffed the hotlines.

In each of the four counties within the Northeast Region, the individual Counties were responsible for the necessary fire and police protection, traffic control devices, emergency medical response teams, and any needed extra personnel at the collection events to insure that the collection operates efficiently. The professional safety personnel used were compensated by the Counties as part of their regular duties. The County Coordinators and several members of the Regional Solid Waste Planning Board were also present to assist with public information at the events.

The Region will continue to assist the Counties in scheduling a collection event. The Region will also continue to work with the RC&D Council to coordinate and promote the future events. The dates and times of each future collection event are subject to the approval and availability of the State's mobile collection unit. After the 1996 collection events, the Region will request guidance from the State of Tennessee's Solid Waste Assistance Division for future collection events. The Region will study the costs of County-sponsored collection events.

Implementation Schedule

- 1993 - County Executives applied for Household Hazardous Waste Collection events through the State of Tennessee Department of Solid Waste Management.
- March 1994 - Media campaign began about collection events.
- April 1994 - First Regional Household Hazardous Waste Collection events:
 - Johnson County - April 16th
 - Carter County - April 23rd
 - Washington County - April 30th
 - Unicoi County - April 30th

1995 - Collection event - State's Mobile Collection Unit

1996 - Collection event - State's Mobile Collection Unit

1997 - 2003 Collection events will be planned in accordance to the recommendations of the Division of Solid Waste Assistance.

Waste Tires

The Northeast Tennessee Region currently has programs in place for the collection and storage of waste tires in three of the four Counties. Carter County currently accepts waste tires at the Carter County Landfill and stores them for shredding. The number of tires shredded in 1993 at the Carter County Landfill was approximately 34,000. The Johnson County Landfill also collects and stores waste tires for shredding. The number of tires shredded in 1993 at the Johnson County Landfill was approximately 12,500. Washington County accepts waste tires at the County collection area at the former Bowser Ridge Landfill, the City of Johnson City Transfer Station, and the Washington College Convenience Center. The number of tires in 1993 at the Bowser Ridge Landfill was approximately 50,000. Unicoi County currently does not collect used tires. The estimated Regional total for 1993 was 96,500 waste tires. (Note: Carter and Johnson waste tire data was taken from the State of Tennessee Waste Tire Shredding Report, dated February 3, 1994. Washington County data estimated by the City of Johnson City Solid Waste staff.)

The Region has identified the need for additional facilities for waste tire collection and storage. Carter County will install waste tire collection facilities when the two Convenience Centers are updated. Johnson County's new Transfer Station will provide facilities for waste tire collection. Washington County will accept waste tires at additional Convenience Centers as they are remodeled. Unicoi County will also install waste tire collection facilities at the three Convenience Centers when they are updated.

Waste Oil

Waste oil is currently collected in Washington County by the City of Johnson City's residential door-to-door recycling program and at the Washington College Convenience Center. Unicoi County citizens may dispose of used oil at the City of Erwin's recycling station. Carter and Johnson Counties currently have no facilities in place for used oil collection. In Johnson City, used oil is accepted from do-it-yourselfers at the two Advance Auto stores. In Elizabethton, the Advance Auto store also accepts used oil from do-it-yourselfers. In Erwin, Erwin Lube and Auto Electric accepts used oil from do-it-yourselfers. In Mountain City, 3-Way Exxon accepts used oil from do-it-yourselfers.

The Region has identified the need for additional facilities for used oil collection. The Planning Board encourages all counties to apply for the State's used oil program grants. The State has also provided a toll-free number for information on used oil collection, 1-800-287-9013. The planned Johnson County Transfer Station will have facilities for used oil collection. Carter County will add used oil collection facilities at its two Convenience Centers and at the Carter County Landfill. Washington County will add used oil collection at additional Convenience Centers. Unicoi County will add used oil collection facilities at its three Convenience Centers.

Lead Acid Batteries

Lead Acid batteries are collected at each of the Washington County Convenience Centers, curbside by the City of Johnson City's recycling program, and at the Transfer Station on New Street. The City of Erwin in Unicoi County accepts lead-acid batteries at the recycling center. Carter and Johnson Counties currently have no facilities for lead-acid batteries. However, several private service stations in the Region accept used lead-acid batteries.

The Region has identified the need for additional facilities for lead-acid battery collection. The Household Hazardous Waste collection events in April 1994 accepted lead-acid batteries. The new Johnson County Transfer Station will accept lead-acid batteries. Carter and Unicoi Counties will add lead-acid battery collection at their Convenience Centers. Carter County will also collect lead-acid batteries at the Carter County Landfill.

Litter

Each of the four Counties in the Northeast Region receives grants through the State Litter Grant fund. The litter grant programs are administered through the sheriff's departments in Carter, Washington and Unicoi Counties. In Johnson County, the litter grant program is administered through the County Highway Department. As an evaluation of the success of the Region's solid waste management plan, periodic studies of unmanaged waste will serve as one evaluation criterium. The education programs of the Region's school systems will also address litter prevention. A portion of the litter grant funds must be used for educational programs.

Chapter XI - Implementation: Schedule, Staffing, and Funding

System Definition

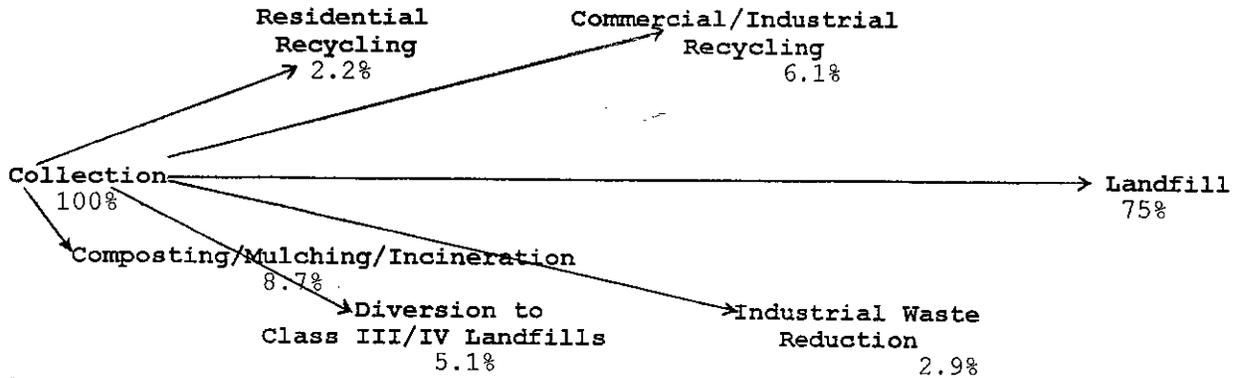
To adequately meet the solid waste management needs of the Northeast Tennessee Region over the next ten years, the Planning Board has developed a Solid Waste Plan which includes the integration of several waste management strategies. The strategies are residential, commercial, and industrial recycling, diversion to Class III/IV landfills, composting of brush, leaves, and yard wastes, and industrial waste reduction. Education objectives have been developed which will assimilate information on these strategies to schoolchildren and the general public.

The Planning Board has established Regional goals to meet the 25% waste reduction goal. Carter and Johnson Counties will add recycling facilities and Washington and Unicoi Counties will study additional facilities. One goal is to increase residential recycling to 2.2% of the waste stream. A goal of 6.1% reduction in the total waste stream has been assigned to commercial and industrial recycling. Diversion to Class III/IV landfills will reduce the total waste stream by 5.1%. A goal of reducing the total waste stream by 8.7% has been set for the composting, mulching, and incineration of brush, leaves, and yard wastes. Industrial waste reduction will reduce the total waste stream by 2.9%.

Strategy	1995 Reduction	Planned Goal
Residential Recycling	2.2	2.2
Commercial/Industrial Recycling	0.8	6.1
Diversion to Class III/IV Landfills	5.1	5.1
Composting, Mulching, and Incineration of Brush, Leaves, and Yard Wastes	8.7	8.7
Industrial Waste Reduction	1.9	2.9
	18.7%	25.0%

The Planning Board has sponsored Industrial Waste Reduction seminars in each county in the Region. Plans have been made to hold this type of training every three years. The Region will continue to utilize the programs of the U.T. Center for Industrial Services.

The following is a flow diagram of the proposed integrated solid waste management system.



Staffing and Training

The Region will implement the Solid Waste Plan through the current county and city waste management personnel. Carter County projects a future need for four additional landfill employees. The City of Elizabethton projects that 6 additional employees will be added during the next ten years. Washington County projects an increase of six employees during the next ten years. The City of Johnson City has plans to add 4 additional employees over the next ten years. However, if the City of Johnson City chooses to expand its Transfer Station to accommodate processing waste for the proposed NET/NAR Waste-to-Energy Project, an additional 17 employees will be added. For Carter, Johnson, and Unicoi Counties, the accelerated recycling will probably require at least 2-3 additional staff for each county: One (1) recycling coordinator; and, one to two (1-2) recycling laborers. Elizabethton, Erwin, and Mountain City will also probably require at least 2-3 additional recycling employees for each municipality to manage increased recycling.

The Planning Board has recommended that each city and county in the Region consider staffing a full or part-time Solid Waste and Recycling Coordinator. The Counties and Cities will be responsible for insuring that all personnel are trained in accordance with standards to be established by the State of Tennessee Division of Solid Waste Assistance.

1993 Solid Waste Operations and Management Employees

COUNTY/CITY	NUMBER OF SOLID WASTE EMPLOYEES
CARTER COUNTY TOTAL	18.5
Carter County	8.5
Elizabethton	10
JOHNSON COUNTY TOTAL	6
Johnson County	3
Mountain City	3
WASHINGTON COUNTY TOTAL	74.5
Washington County	4.5
Johnson City	66
Jonesborough	4
UNICOI COUNTY TOTAL	3
Unicoi County	3
Erwin	0
REGIONAL TOTAL	102

Implementation Schedule

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Upgrade Convenience Centers										
Recycling Facilities for Carter and Johnson Counties										
Household Hazardous Waste Collection										
Facilities for Problem Wastes										
Public Information Programs										
Solid Waste Curriculum in Schools										
Study Curbside Recycling for Cities										
Study Recycling Containers at each School										
Continue to identify waste sources										
Study recycling markets and Regional efforts										

Budgets

The Counties and Cities in the Northeast Tennessee Region will continue to follow established programs for the financial management of solid waste programs. Each county in the Region will apply for the various grants from the State of Tennessee Division of Solid Waste Assistance. Current expenditures and revenues are presented in Chapter II. The financial considerations of disposal options are presented in the Appendix.

1993 Total Solid Waste Management Expenditures

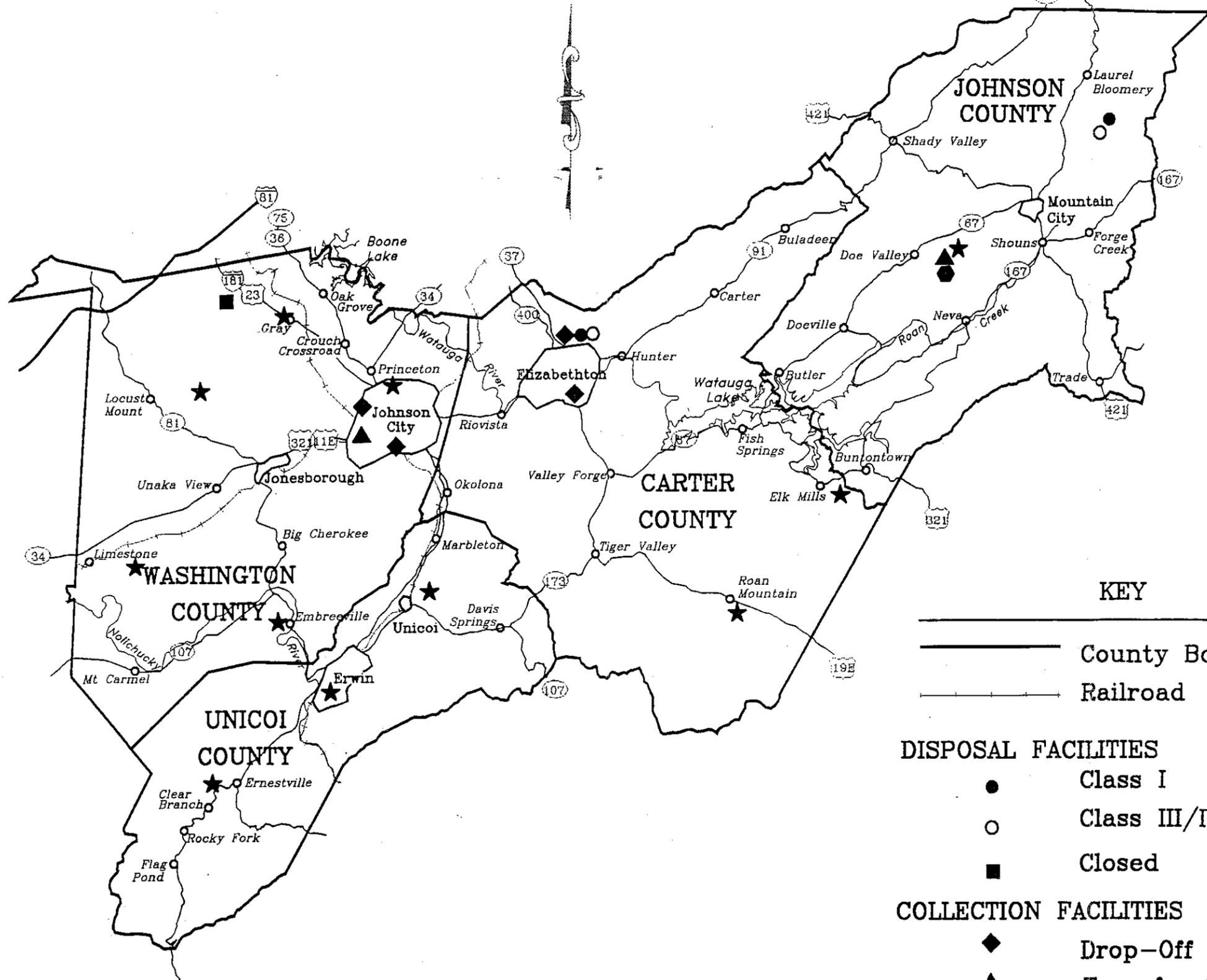
COUNTY	TOTAL
CARTER	\$ 1,213,045
JOHNSON	\$ 256,931
WASHINGTON	\$ 5,193,189
UNICOI	\$ 384,826
REGIONAL TOTAL	\$ 7,047,991

10-YEAR BUDGET PROJECTIONS BY COUNTY (Municipalities included)

County Solid Waste Expenditures	1994	1995	1996	1997	1998
Carter	1,273,697	1,337,382	1,404,251	1,474,463	1,548,186
Johnson	269,776	283,265	297,428	312,299	327,914
Washington	5,452,848	5,725,490	6,011,764	6,312,352	6,628,382
Unicoi	404,067	424,270	445,484	467,758	491,146

County Solid Waste Expenditures	1999	2000	2001	2002	2003
Carter	1,625,595	1,706,874	1,792,218	1,882,485	1,976,609
Johnson	344,310	361,525	379,601	398,581	418,510
Washington	6,959,801	7,307,791	7,673,180	8,056,839	8,459,680
Unicoi	515,703	541,488	568,562	596,990	626,840

Note: A 5% inflation rate/consumer price index was used to calculate the 10 year budget.



KEY

- County Boundary
- Railroad

DISPOSAL FACILITIES

- Class I
- Class III/IV
- Closed

COLLECTION FACILITIES

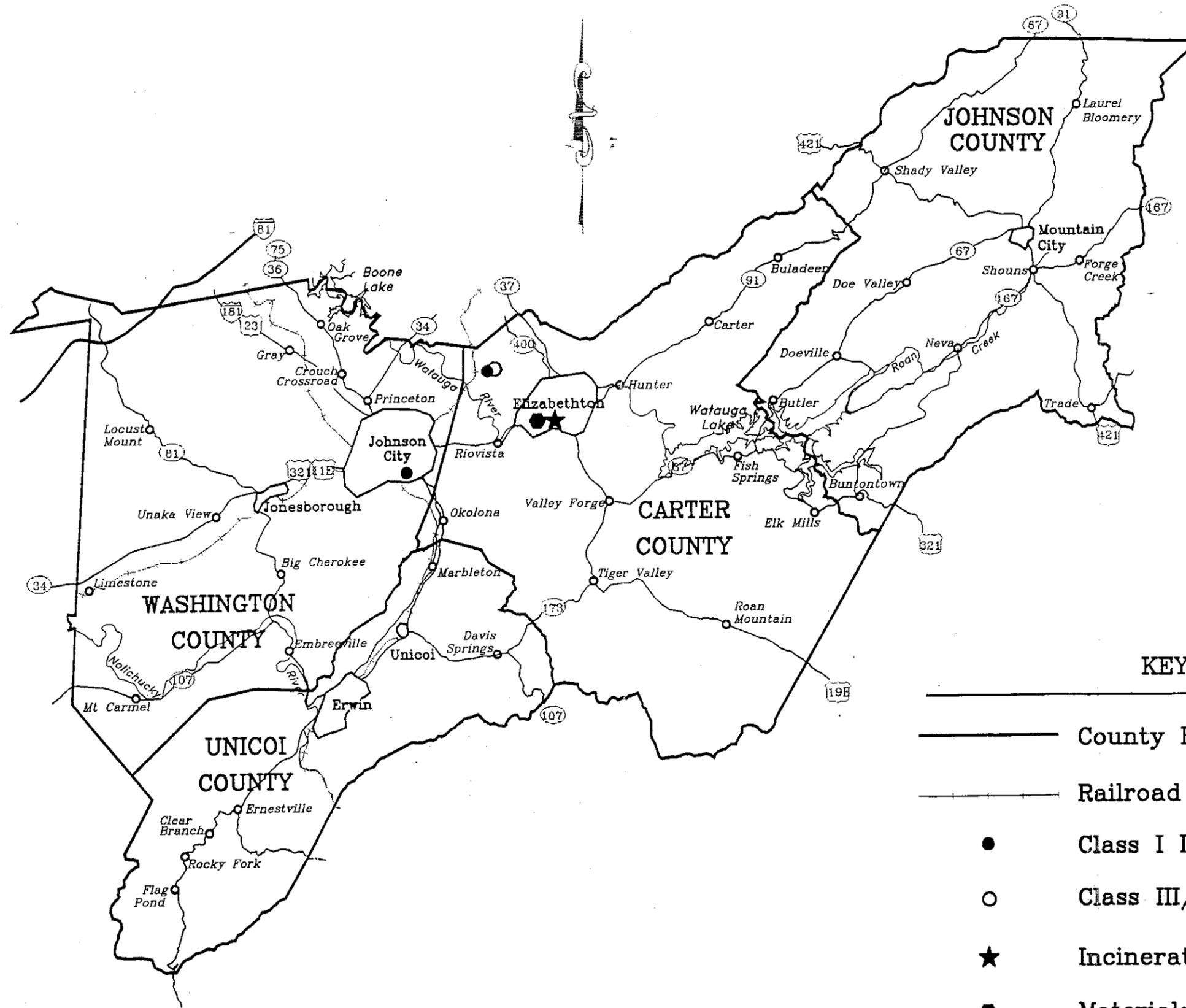
- ◆ Drop-Off Facilities
- ▲ Transfer Station
- ★ Convenience Center
- Materials Recovery Facility

JOB NO.: 6900
 SCALE: 1"=30,000'
 DATE: 5-12-94

NORTHEAST TENNESSEE
 SOLID WASTE PLANNING REGION
 EXISTING COLLECTION & DISPOSAL FACILITIES

Draper Aden Associates
 CONSULTING ENGINEERS
 Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.

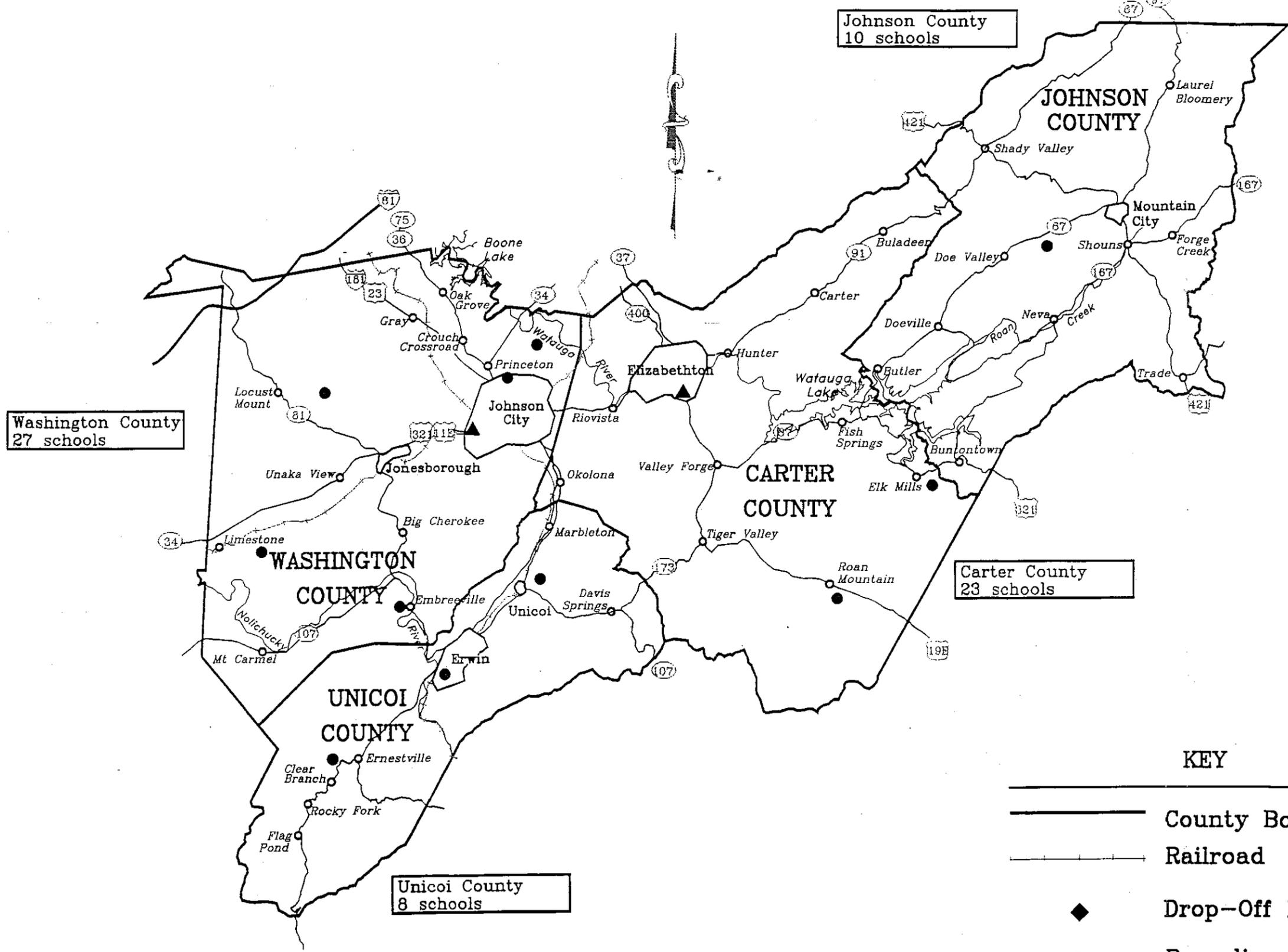




KEY

- County Boundary
- Railroad
- Class I Landfills
- Class III/IV Landfills
- ★ Incinerator
- Materials Recovery Facility





Washington County
27 schools

Johnson County
10 schools

Carter County
23 schools

Unicoi County
8 schools

KEY

-  County Boundary
-  Railroad
-  Drop-Off Facilities
-  Recycling Center

Note: All schools in the Region may be used as Recycling Centers.

FIGURE 4

JOB NO.: 6900

SCALE: 1"=30,000'

DATE: 5-12-94

NORTHEAST TENNESSEE
SOLID WASTE PLANNING REGION
PROPOSED COLLECTION/RECYCLING FACILITIES

Draper Aden Associates
CONSULTING ENGINEERS
Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.



Chapter XII - Allocation of Implementation Responsibilities: Plan Adoption and Submission

Plan Adoption

The Plan will be submitted to the County Commissions in each of the four Counties in the Region prior to being submitted to the Division of Solid Waste. County Commission approval is not required by the Solid Waste Management Act of 1991, or by the Counties' resolutions establishing the Planning Board. However, the Planning Board feels that approval of the Plan by the County Commissions is necessary to facilitate its success.

Plan Submission

Ten copies of the Plan will be submitted to the Tennessee Department of Environment and Conservation, Division of Solid Waste Assistance, before the July 1, 1994 deadline.

Chapter XIII - Flow Control and Permit Application Review

Flow Control

The Northeast Tennessee Regional Solid Waste Planning Board will review all issues of Regional solid waste flow control. The Board will advise the flow control authorities as to the effect of the proposed solid waste flow on the Region's Plan.

The Carter County Landfill Committee has been given authority to regulate flow control within Carter County by the Carter County Commission except in cases of unusual circumstances and/or very large volumes of solid waste. In these circumstances the Landfill Committee will defer to the Carter County Commission. The Johnson County Commission has authority over flow control within Johnson County. Unicoi and Washington Counties do not operate disposal facilities. However, the Washington and Unicoi County Commissions, respectively, have authority over all major solid waste issues within the counties. The City of Johnson City Commission has authority over solid waste flow into the Iris Glen Landfill from any entity other than those counties expressly listed in the landfill contract with Waste Management, section XXIX. Those counties are: Washington, Unicoi, Sullivan, Johnson, Hawkins, Hancock, Carter, Greene counties in Tennessee; and Washington County, Virginia.

Permit Application

The Northeast Tennessee Regional Solid Waste Planning Board, in cooperation with the County Commissions, will review all applications for landfills and incinerators. The Board will advise the County Commissions as to the effect a proposed permit will have on the Region's plan. The County Commissions will then base approval of the permit on the consistency with the Solid Waste Management Plan. The Commissions' decisions will be reported to the Commissioner of the Tennessee Department of Environment and Conservation.

All permit applications will be addressed to the Solid Waste Planning Board and the County Commission. Public information hearings will be conducted in accordance with the Tennessee Code Annotated with the Commissioner of the Tennessee Department of Environment and Conservation having the final authority for permit approval.



APPENDIX A

**SUPPLEMENTAL TECHNICAL
GUIDANCE DOCUMENT**

**NORTHEAST TENNESSEE REGIONAL
SOLID WASTE MANAGEMENT PLAN**

Prepared for

First Tennessee Development District

Prepared by

Draper Aden Associates
Consulting Engineers

May 13, 1994
DAA JN 6900

Revision 1
June 22, 1994

INTRODUCTION

The following Supplemental Technical Guidance document was developed in support of the Northeast Tennessee Regional Solid Waste Management Plan developed by the First Tennessee Development District. As such, it presents various tonnage projections and costs for the available and proposed regional disposal system. These calculations were based on data developed by First Tennessee Development District for population and waste generation over the planning period and incorporates information provided by the localities.

The document should be utilized as a framework for continued discussions on planning in the region. Several alternatives are still in the developmental stages and costs provided are conceptual only. As more detailed and precise costs are made available, they should be incorporated into the plan.

Of key importance to implementation of the plan and continued development of the region's alternatives will be detailed record keeping. It is critical that localities begin to keep accurate records on recycling and diversion programs, waste types generated within the locality, etc. This data must be available for accurate planning and is most important for weighing the effectiveness of various recycling programs. All of the diversion programs except industrial source reduction will require new expenditures by the localities. Thus a balance will be needed between materials collected and cost and hence the need to understand the waste stream.

It should be noted that for those chapters for which technical support was not required from Draper Aden Associates, the chapter has simply referenced the appropriate section of the plan and the information provided by First Tennessee Development District. Tables and Figures have been placed in appendices at the end of the document.

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CHAPTER I

Description of the Municipal Solid Waste Region

For information relative to this chapter, see the Regional Solid Waste Management Plan developed by First Tennessee Development District.

CHAPTER II ANALYSIS OF THE CURRENT SOLID WASTE MANAGEMENT SYSTEM FOR THE REGION

Chapter II will evaluate the existing solid waste management systems in the Region and includes the following sections:

- Waste stream Characterization
- Collection and Transportation Systems
- Disposal Systems

The discussion will seek to compare those estimates made during the 1989 UT study and 1991 District Needs Assessment against the more recently detailed 1993 evaluations. The discussion will show the Region's information and data base are gaining in sophistication as the localities learn the value of accurate data collection. This will aid in more detailed evaluations of alternatives in the future.

Throughout this document a distinction is made between Class I and Class III/IV disposal facilities. Both are landfills and under current Tennessee solid waste regulations are defined as follows:

Class I Disposal Facility refers to a sanitary landfill which serves a municipal, institutional, and/or rural population and is used or to be used for disposal of domestic wastes, commercial wastes, institutional wastes, municipal wastes, bulky wastes, landscaping and land clearing wastes, industrial wastes, construction/demolition wastes, farming wastes, discarded automotive tires, and dead animals.

Class III Disposal Facility refers to a landfill which is used or to be used for the disposal of farming wastes, landscaping and land clearing wastes, and/or certain special wastes having similar characteristics.

Class IV Disposal Facility refers to a landfill which is used or to be used for the disposal of demolition/construction wastes, certain special wastes having similar characteristics and waste tires.

The facilities differ not only on what materials can be accepted but also on liner, closure and monitoring requirements. Hence the cost of development and operation are also different. Tonnages of materials diverted from Class I to Class III/IV landfills can be counted towards the diversion goal.

In addition, several abbreviations are utilized throughout the report as follows:

DNA	- District Needs Assessment
FTDD	- First Tennessee Development District
MRF	- Materials Recovery Facility (Mechanized recycling facility with sort lines etc.)
MSW	- Municipal Solid Waste
NAR	- North American Rayon
TPD	- Tons Per Day

A. Waste Stream Analysis

During the 1989 and 1991 evaluations, of the solid waste composition in the Region the national average for waste stream composition was utilized to evaluate the potential materials generated in various waste categories. However, for the Tennessee region, several major studies have been completed evaluating the waste stream composition. These include:

- Southeast Tennessee Regional Study
(10 County Region, S.E. Tennessee Development District)
- Central Tennessee Regional Study
(Cannon, Coffee, Rutherford and Warren Counties)
- Johnson City Study

The results of these studies along with the national average are summarized in Table II-1 included in Appendix I. For many categories the projected percentages were similar between the National average and the various regions. The greatest variability appeared in the wood waste/yard waste categories which is expected. For this study, an average of the national average and regional studies was utilized to project the waste quantities by categories in annual tons. The Johnson City study was not used directly as it represents a more urban area, the study had combined several categories and the miscellaneous inorganic waste column was significantly greater than the other studies suggesting that separation criteria may have been different from that used by other studies.

B. Waste Generation Rates

At this time, all localities within the region have instituted weighing programs to determine the quantity of waste delivered to their respective Class I facilities for disposal. Prior to this period (i.e. in 1989 and 1991) waste generation was estimated at the landfill or calculated from multi-source waste streams. Tonnages for the 1989, 1991 and 1993 periods can be summarized in the following Table:

**TABLE II-2
COMPARISON OF TONNAGES**

County	1989 (UT)	1991 (DNA)	1993 (Weighed)
Carter County	30,387	30,355	39,280
Johnson County	6,470	5,569	8,766
Unicoi County	16,384	21,000	13,261
Washington County	110,778	101,737	90,250
Regional Total	164,019	158,661	151,557

(all values reported in tons/year)
(DNA - District Needs Assessment)

As review of this table shows, there has been a wide discrepancy in the reporting of waste streams at the Class I landfills in the region. Because of these discrepancies, Carter County and Johnson County will file variances with Tennessee to ask that they be allowed to utilize the 1993 "weighed" values.

To meet the State mandate, each locality and the region must calculate the per capita generation rates for the base year of 1989 and then reduce their waste stream by 25% of this value. Below are the calculations for the per capita rates for the years 1989 and 1993.

**TABLE II-3
PER CAPITA GENERATION RATES
(tons/person/year)**

County	Tonnage	Population	Per Capita
<i>1989</i>			
Carter County	30,387	51,505	.59
Johnson County	6,470	13,766	.47
Unicoi County	16,384	16,549	.99
Washington County	110,78	92,315	1.20

CONTINUED

County	Tonnage	Population	Per Capita
<i>1993</i>			
Carter County	39,280	51,613	.76
Johnson County	8,766	13,694	.64
Unicoi County	13,261	16,508	.81
Washington County	90,250	93,017	.97

Except for Carter and Johnson Counties, which will file variances to utilize the 1993 per capita rate, other members of the region have accepted the 1989 values and these values have been utilized throughout the report. As the variance is not yet approved, Carter and Johnson Counties, where possible, are presented utilizing both 1989 and 1993 values.

C. Waste Generators

The types of wastes generated within the region and delivered to the Class I facility for disposal are as important to the solid waste plan as the waste generation rates. To begin the process of identifying the major waste generators by types of waste, the FTDD undertook an industrial waste survey. As would be expected the localities had varying levels of information available. Overall it was found that the industrial tonnage generated in the localities may be summarized as follows:

TABLE II-4
SUMMARY INDUSTRIAL WASTE GENERATION (1993)
COMPARED WITH TOTAL TONNAGE AND AS %

LOCALITY	TONNAGE	% COUNTY TOTAL
Carter County	10,000 tn/yr	25.4%
Johnson County	2,000 tn/yr	23.0%
Unicoi County	4,000 tn/yr	30.2%
Washington County	30,000 tn/yr	33.2%

Tables II-4a through II-4d contained in Appendix 1 summarize the major industrial generators. A key component of future studies in the region will be to identify the types of materials contained in these reported tonnages and their recyclability or diversion potential. As will be discussed later, diversion of the industrial fraction of the waste stream will be important in meeting the diversion goals.

In addition, it will be critical to identify components by quantity of the commercial waste stream that are recyclable or easily diverted. Such materials include cardboard, office paper, mixed papers etc. Figures are not yet available relative to this and will require significant survey and follow up time by the localities. This type of data collection is often completed by recycling coordinators, a new staff position often developed in response to State diversion mandates.

D. Existing Disposal Activities

Currently all localities dispose of the majority of their waste at Class I facilities. At this time the following landfills are utilized:

**TABLE II-5
EXISTING DISPOSAL FACILITIES**

Facility	Permit No.	Materials
Carter County	SNL #10-104-0186	MSW from Carter Co., Sullivan Co., Debris from Carter Co., Spec. Waste from Johnson City and others.
Johnson County	SNL #46-104-0061	MSW/Debris from Johnson County.
BFI - Chestnut Ridge		Short term disposal for Unicoi and Washington Counties until Iris Glen on line.
WMI-Tri Cities (Iris Glen) (Johnson City)	SNL #90-104-0262	Private facility that will accept 1,200 TPD of MSW/Debris/Approved Special Waste. From nearby region and Washington County, VA.

In the near future, the Johnson County Landfill will close and waste will be transported to the existing Carter County Landfill. Johnson County has received an ARC grant to obtain funding for a transfer station which will serve their needs for a variety of alternatives. The Carter County Landfill will be closed in October, 1996 and waste will then be transported to an out of County private facility or to a newly permitted and constructed Carter County facility. Chapter VIII more fully discusses future disposal options.

E. Existing Diversion Activities

Table II-6 contained in Appendix I summarizes the existing disposal and diversion activities for the various localities in the Region. In many instances the values reported are estimates only as accurate records were unavailable. The intent of this table is to allow the reviewer to understand quickly existing activities currently in place. The discussion below briefly describes each localities' existing activities.

1. CARTER COUNTY: Carter County currently diverts approximately 4.8% of the total waste stream through the use of a Class III/IV debris area and the use of a pit burner for brush. In addition, white goods are diverted through scavenging but no records are available on the number that are recycled each year.

Elizabethton is also initiating recycling activities. There are two primary efforts underway: the Downtown Merchant cardboard program and the sludge/yard waste composting program. Contamination of the cardboard initially collected created some startup problems with recycling but these should be corrected. The compost program which utilized chipped brush as a bulking agent can handle up to 1,839 tons of materials in 1994 (1,474 tons/yr brush plus 365 tons/yr sludge).

2. JOHNSON COUNTY: Only minor amounts of waste are currently diverted from the Johnson County Class I facility. White goods and scrap metal are given away at the landfill and historically no records have been kept. In addition the 4-H programs at various schools collect aluminum. Since October, 1993, 714 lb. of aluminum have been collected averaging 0.13 tons/year. During 1990-1991, the County banned yard waste and hence initiated diversion of these materials. Based on regional averages, approximately 550 tons/yr have been diverted.
3. UNICOI COUNTY: Unicoi County only recently started a recycling program at its three convenience centers. Therefore in 1993, zero diversion was occurring. However since January 1, 1994 the following materials have been collected from the County's 2 convenience centers:

Newspaper	16 tons
CoMix (Plastic, Glass, Aluminum, Steel Cans)	9.15 tons

In addition Erwin has one collection box downtown which has received the following materials since January 1, 1994:

Newspaper	3.58 tons
Co Mix	0.90 tons

(all values provided by the localities through FTDD)

The average of these materials over the 4 month period is 7.37 tons/month of material diverted or an annual average of 88 tons/year. Projecting these figures, the annual diversion rate would be 0.66%. This value was utilized for 1994 reporting identified later in this report. The material is transported by Waste Management to the Waste Management Recycle America facility in Kingsport, Tennessee.

4. WASHINGTON COUNTY/JOHNSON CITY: Because of the urban nature of the Johnson City area, extensive diversion activities are currently being implemented. At this time approximately 15% of the total waste generated has been diverted from Class I facilities. These include:

Yardwaste composting	3,318 tons/year
Residential Waste Recycled (Curbside/Dropoff)	3,560 tons/year
Mulch	100 tons/year
Pit Burning	8,782 tons/year

This includes significant quantities of materials collected from the recycling programs as follows:

Johnson City Curbside (1993) (clothing, W.G., aluminum, steel cans, glass, newspaper, magazines, PET, HDPE, Used oil, auto batteries) (13,500 households/week)	1,701 tons/year
Johnson City Dropoff (1993)	302 tons/year
Miscellaneous Commercial (1993)	406 tons/year
Office Paper (1993)	603 tons/year
Cardboard (1993)	130 tons/year
Jonesborough (1st Quarter, 1994)	
Curbside	12.65 tons/qtr
Scrap metal	2.45 tons/qtr
Washington College Convenience Center (1993)	
Newspaper	38 tons/yr
Cardboard	24 tons/yr

Washington College Convenience Center (Cont.)

Glass	24 tons/yr
Steel	102 tons/yr
Aluminum	8.5 tons/yr
Oil	1 ton/yr
Pallets	19 tons/yr
Miscellaneous	35 tons/yr

(all values provided by the localities through the FTDD).

As the above summary has shown all the localities in the Region have initiated some type of diversion program. For those localities which have initiated recycling for diversion a foundation has been built which can be expanded for future programs. Other localities such as Johnson County must develop recycling. All localities will need to expand into commercial recycling to meet their diversion goals. Chapter IV addresses proposed diversion activities.

F. DISPOSAL COSTS

Localities in the region have a variety of expenditures for solid waste management. Some localities still operate their own landfill and have personnel and other operational expenses (and will continue to do so even after closure). Other localities pay a gate fee or tipping fee. All localities must pay an \$0.85/ton surcharge to the state to fund state based solid waste programs.

Disposal costs exclusive of collection for the localities may be summarized as follows (1993):

TABLE II-7
SUMMARY ANNUAL DISPOSAL COSTS (1993)

COUNTY	ANNUAL COST	COST/TON
Carter County	\$740,265	\$18.84/ton
Johnson County	\$151,236	\$17.25/ton
Unicoi County	\$216,760	\$ 16.34/ton
Washington County	\$2,732,404	\$30.28/ton
TOTAL REGIONAL COST	\$3,840,665	\$25.57/ton

(Tonnage taken from Table II-2 (1993))

The above costs were provided by the Counties as a component of their solid waste budgets. The cost per ton is not meant to reflect tipping fees or revenue but is simply the annual cost divided by the annual tonnage.

In later chapters the existing costs will be contrasted against future costs.

G. EXISTING COLLECTION SYSTEMS

Currently, the localities' waste is collected by a variety of mechanisms including not only public and private operations but also door to door, convenience centers and directly contracted services. The following section discusses each locality and the currently provided services. The information was provided by the First Tennessee Development District.

1. CARTER COUNTY: According to the 1990 census, Carter County contains 20,500 households. Waste collection services are provided to these households as follows:

Convenience Centers	3,500 households
House to House	7,500 households
Directly Contracted	4,647 households
No Services	4,853 households

There are two convenience centers in Carter County located at Roan Mountain and Elk Mills. The convenience centers are staffed by the County and are serviced by Waste Management Incorporated. House to house service is provided primarily by the City of Elizabethton for its residents (4,717 households), by the City of Watauga for its residents (152 households), and by Waste Management of Tri-Cities (1900 households) for the County residents. In addition, Carter County Trash, Lee's and Roll-It service 1,500, 175, and 1,072 households respectively.

The primary commercial and industrial waste generators contract with the City of Elizabethton for collection or provide their own services.

2. JOHNSON COUNTY: According to the 1990 census, Johnson City contains 5,300 households. At this time, Johnson County does not have any convenience centers for waste collection. Waste is either collected door to door, contracted directly or transported directly to the landfill by the citizens. Waste collection services are provided as follows:

House to House	1,296 households
Directly Contracted	1,134 households
No Service	2,500 households

Private services are provided by the following haulers:

Harold Crowder	508 households
Stanley	140 households
J. Dugger	200 households
D. Warren	175 households
W. Stanton	66 households
Potter	25 households
Stout	20 households

In addition, the City of Mountain City provides collection for 1,050 households and provides services in the County.

3. UNICOI COUNTY: The 1990 census lists 6,600 households in Unicoi County. As all waste is transported out of the County for disposal, all waste within the County must be collected by some mechanism. These mechanisms may be summarized as follows:

Convenience Centers	4,739 households
House to House	1,800 households
Directly Contracted	61 households

There are 3 convenience centers located at Limestone Cove, Higgins Community and in Erwin. They are staffed by the County and serviced by Waste Management. House to house collection is provided primarily by the following:

- Waste Management of Tri Cities
- City of Erwin (2,200 households)

4. WASHINGTON COUNTY: The 1990 census lists 36,900 households for Washington County, including Johnson City. The households are serviced either by convenience centers or by house to house collection. These services may be broken out as follows:

Convenience Centers	17,900 households
House to House	19,000 households

There are 5 convenience centers, utilized by both City and County residents. In addition, public collection is provided as follows:

City of Johnson City	14,500 households
Town of Jonesborough	550 households

The remaining households utilizing house to house collection are privately contracted. Note public collection may be provided by private services contracted through the local government.

Johnson City has established itself as an exclusive franchise utility district, for which they have exclusive right of collection. This would also include commercial accounts. However, at this time WMI is still collecting from 20-25 sites in the City and Roll-It from one.

Industries and commercial businesses outside the City are free to privately contract or to collect and transport their own waste to their disposal facility of choice.

H. COLLECTION COSTS

For 1993, the following collection costs were identified by the localities:

TABLE II-8
SUMMARY ANNUAL COLLECTION COSTS (1993)

LOCALITY	COLLECTION COST	NOTES
Carter County	\$472,780	
• County	\$ 45,000	Convenience Centers
• Elizabethton	\$419,320	
• Watauga	\$ 8,460	Estimated
Johnson County	\$105,695	
• County	0	No collection 92-93
• Mountain City	\$105,695	
Unicoi County	\$168,066	
• County	\$ 84,091	
• Erwin	\$83,975	
Washington County	\$2,440,785	
• County	\$ 42,817	Convenience Centers
• Johnson City	\$2,304,829	
• Jonesborough	\$ 93,139	

I. REVENUES

Each locality allocates funds for its solid waste collection and disposal program in a slightly different way as follows:

**TABLE II-9
REVENUE SOURCES (1993)**

CARTER COUNTY REVENUES	\$1,213,045.00
Carter County Total	\$ 614,500.00
Tipping Fees	\$ 569,500.00
Transfer from General Fund for Convenience Centers	\$ 45,000.00
City of Elizabethton Total	\$ 587,745.00
Commercial Container	\$ 68,552.00
Transfer from General Fund	\$ 420,214.00
Capital Outlay Note	\$ 95,500.00
Interest and Miscellaneous	\$ 3,479.00
City of Watauga Total	\$ 10,800.00
Transfer from General Fund	\$ 10,800.00
JOHNSON COUNTY REVENUES	\$256,931.00
Johnson County Total	\$122,628.00
Tipping Fees	\$122,628.00
Town of Mountain City Total	\$134,303.00
Transfer from General Fund	\$134,303.00

WASHINGTON COUNTY REVENUES	\$5,835,186.00
Washington County Total	\$ 400,140.00
Transfer from General Fund	\$ 327,721.00
Litter Grant	\$ 51,206.00
Interest and Miscellaneous	\$ 21,213.00
City of Johnson City Total	\$5,282,099.00
Landfill Charges	\$1,624,424.00
Sale of Recyclables	\$ 123,874.00
Commercial Collection	\$ 941,983.00
Residential Fees	\$ 852,688.00
Fees from WCUD	\$1,255,665.00
Dumpster Rentals	\$ 115,900.00
Dumpster Pulls	\$ 268,550.00
Misc. Fees and Interest	\$ 99,015.00
Town of Jonesborough Total	\$ 152,947.00
Transfer from General Fund	\$ 124,847.00
Recycling	\$ 5,000.00
Miscellaneous	\$ 500.00
Dumpster Fees	\$ 22,600.00
UNICOI COUNTY REVENUES	\$384,826.00
Unicoi County Total	\$202,348.00
Transfer from General Fund	\$202,348.00
City of Erwin Total	\$182,478.00
Transfer from General Fund	\$182,478.00
TOTAL REGIONAL REVENUES	\$7,689,998.00

CHAPTER III GROWTH TRENDS, WASTE PROJECTIONS AND PRELIMINARY SYSTEM DESIGN

Chapter III will outline the overall growth trends of each locality and the region in terms of both population growth and changes in waste generation rates. In addition, it shall address the preliminary system design that will be developed in later chapters.

A. Population Projections

The Department of Sociology, University of Tennessee and the Division of Information Resources are involved with projecting populations throughout the planning period (1993-2003). The population projections are necessary not only for per capita generation calculations but also for calculation of waste generation/diversion rates. They are also incorporated into some system design. Table III-1 contained in the Solid Waste Plan summarizes the population projections.

Overall the populations for Carter, Johnson and Unicoi Counties are projected to decline while Washington County is projected to grow. The Cities, while technically incorporated into the County figures, may change at varying rates, but are assumed for the sake of this study to change at the same rate as their respective Counties.

B. Waste Projections

Previously, the District Needs Assessment provided a mechanism for estimating the projected changes in waste generation rates. Utilizing the same mechanisms, the FTDD has projected the changes in the waste generation incorporating both population changes and economic growth factors. Tables III-2 and III-3 contained in the Solid Waste Plan summarize their calculations.

To incorporate existing diversion activities into the calculations, the 1993 diversion tonnages have been added to subsequent years generation increases to provide a "Total generation tonnage".

It is critical to note that these projections are based only on that material currently being received at Class I facilities and do not address growth in other segments of the solid waste disposal system, i.e. in brush, debris, etc. currently being segregated. Under the State mandate, localities must divert 25% of their waste from Class I facilities or MSW incinerators through enhanced recycling or other diversion systems. In this context, diversion then is measured as 25% of the waste landfilled in 1989 (or 1993 for Carter and Johnson Counties) as opposed to

25% of the total waste generated in a locality. The latter method of examining total diversion has been utilized by other states. As will be discussed later, while the 25% landfill reduction goal may be difficult to achieve a 25% in total waste stream reduction may not be so difficult to achieve. Both calculations will be presented for discussion in future chapters.

In Tennessee, waste projections are calculated annually by multiplying a fixed per capita generation rate by the projected population. The per capita generation rate is set at 75% of the 1989 rate (or the 1993 rate for Carter and Johnson Counties). The calculation, therefore, does not account for possible changes in the per capita generation rate. Increasing industrialization, urbanization, and a growing economy all contribute to higher per capita generation rates. Should increasing urban or industrialization occur, the Solid Waste Plan should be revised and the issues brought to the States attention.

C. Preliminary System Structure

Figures III-1 through III-3 illustrate the overall existing and proposed solid waste management system structure for the Region on a conceptual basis. Figures III-4 through III-7 illustrate the overall diversion systems (existing and proposed) for each locality. These figures are contained in Appendix 2.

Figures 1 through 3 have divided the system into three distinct time periods, 1994-1996, 1997-1999, and 2000-2003. These periods are defined by the following events:

- Closure - Johnson County Landfill December, 1994
- Opening - WMI, Iris Glen Facility Fall, 1994
- Closure - Carter County Landfill October, 1996
- Permitting/Construction, Carter County Class I and Class III/IV Landfills October, 1996*
- North American Rayon January, 2000
Integrated Waste Management System startup

* Assumes no complications with permitting

Johnson County has immediate plans to construct a transfer station to facilitate transport of their waste to any alternative disposal site.

At this time, the permitting of the Carter County facility is under consideration as is the North American Rayon integrated waste management system project. Neither facility is firmly committed for construction at this time and economics as well as regional cooperation will affect the continued planning activities. However, it is important to note that the Region has a number of very important and significant alternatives to pursue in the future. In addition, the BFI Hawkins County facility and the WMI Iris Glen facility serve as backup and safety nets should the above alternatives fail to materialize.

The three potential disposal alternatives in the region include the WMI - Iris Glen facility in Johnson City, the proposed Carter County Class I and III/IV landfills and the proposed North American Rayon project. Each is briefly discussed below:

1. WMI - IRIS GLEN: The Waste Management Incorporated of Tennessee facility has been under consideration and permitting since 1990, and is currently under construction and expected to open in the fall of 1994. The facility is permitted to receive 339,600 tons per year under the contract with Johnson City and is located on property formerly owned by the General Shale Corporation. The facility is estimated to have a 30 million ton capacity with a life expectancy of 30 years. The facility may accept waste from a region defined as Washington, Unicoi, Sullivan, Johnson, Hawkins, Hancock, Carter and Green Counties in Tennessee, and Washington County, Virginia. Acceptable wastes include MSW, debris and approved special wastes. Under the April 1992 contract with Johnson City, the following fees were established with an annual escalator related to the CPI index under Exhibit F and Attachment A of the WMI contract:

Johnson City/Washington County, TN	\$22.00/ton
Waste from outside above area	\$25.50/ton
Sludges	\$30.00/ton
Industrial process and pollution control waste	\$30.00/ton
Asbestos bearing waste	\$30.00/cy
Grease trap waste	\$30.00/cy
Demolition and land clearing	\$25.50/ton
Contaminated soil	\$30.00/ton
Empty containers	\$30.00/ton
Animal wastes	\$30.00/ton
Tires	\$5.00/tire

WMI requires contracts with waste generators prior to placement of waste in the facility. Contracts can vary in length but are necessary for WMI to track their waste tonnage. A surcharge mechanism has been established with Johnson City should WMI exceed their tonnage limits without prior approval from the City. Hence, if the facility receives commitments for 1200 tpd, it cannot accept additional waste from other localities regardless of their proximity to the facility.

2. CARTER COUNTY NEW CLASS I/CLASS III/IV FACILITIES: Carter County is currently evaluating the feasibility of constructing new Class I and Class III/IV facilities. They have completed an initial evaluation of a site and have developed conceptual disposal and operation costs. These costs may be summarized as follows and includes development, closure and operations:

Class I -	250 tpd	\$43.27/ton
	600 tpd	\$25.72/ton
Class III/IV	20 tpd	\$41.26/ton
	100 tpd	\$15.30/ton

Estimated life expectancies exceed 30 years and there is significant room for expansion.

Work sheets utilized to develop the costs for the Class I - 600 tpd and for the Class III/IV - 100 tpd are included in Appendix 3. Similar tables were developed for the other landfill alternatives but are not included. The values quoted above include financing, and illustrate the effect of inflation on the costs over time. These were utilized throughout the report as indicated.

3. NORTH AMERICAN RAYON INTEGRATED SOLID WASTE MANAGEMENT SYSTEM: The North American Rayon project was proposed as a way for the localities and a major industry to pool their resources to the benefit of all parties relative to solid waste management. In the near future, NAR must upgrade their existing boiler system to meet the new, more stringent Clean Air Requirements and the upgrade will cost considerable money if standard technology is implemented. NAR has stated that the expense could be so great that they may need to close down. However, NAR would like to consider an alternative process which would not only upgrade their air emissions but also allow them to burn cheaper grades of coal and processed MSW. A grant with the U.S. Department of Energy is currently pending and has a high probability of acceptance. The project would then become a national showcase for integrated government/industrial cooperation as well for the new technology.

Materials to the facility must be free of metals, glass and wetter waste types that could create problems in the furnace or lower the BTU value of the waste. Their initial plan in its final Phase IV configuration is diagrammed in Figure III-8. The facility as illustrated consists of the following major components:

- Innovative Source Separated Collection Systems
- Processing Facility (for RDF or recyclables)
- Incineration System
- Landfill for residuals and ash

As currently envisioned, waste would be separated at its source into either recyclable/combustible materials and "residuals". The recyclable/combustible segment would be transferred to the Johnson City Transfer Station where it would be processed for marketing or processed and delivered to NAR. Note curbside and dropoff systems may ultimately be deleted from the system. If there are limited markets or lower pricing for the high BTU materials (plastics and paper) NAR will accept the materials as fuel at their incinerator. Thus the amount of waste actually burned in a year will vary and is not a fixed quantity. The residuals must be delivered to a Class I facility.

The system is extremely flexible and can adjust to market fluctuation. Costs for the system are most significant on the collection side. Separation at the source is critical but will increase collection. Johnson City has assumed a 40% increase in collection for their system under this plan. A 20% increase was projected for the rural Counties. Processing costs should be offset by the sale of recyclables and hence costs are not shown in later tables. There is no cost for incineration. Transportation between the various phases will increase costs but distances are relatively short. Likewise there is no put or pay requirements at the facility and if the waste is incinerated at no cost.

The facility would be ultimately designed to handle the following system:

Recycled or	136,904 tpy	51%
Incinerated	125,868 tpy	47%
Residual	130,036 tpy	49%
Ash	19,000 tpy	NA

It should be noted that a portion of the waste that is burned does not count towards the Region's diversion goal. Only the recycled components will count as true diversion. The facility will not accept yard wastes, demolition materials or certain special wastes (sludges, etc.). However, it will be able to burn tires.

Costs for this project are not yet fully defined and as discussed above focused primarily on the collection side. For Johnson City, a cost of \$43.76 is under consideration which includes collection, transportation, and processing of the materials. These costs assume a wet/dry collection system with a 40-50% increase in collection costs. For this study, the following was assumed:

- Materials would be divided into the following categories:
 - 25% Recycled
 - 25% Incinerated
 - 50% Landfilled

- Residual disposal would be at current rates at either Iris Glen or Carter County.
- The sale of recyclables would offset the cost of processing.
- Collection costs would increase 40% for Washington County and 20% for other Counties.
- Composting of the wet component is not considered at this time but could be viable.

These costs are estimates only based on conversation with Mr. Phil Pinzola and require significant refinement as planning progresses. However, the project looks extremely promising at this time and should be supported by all localities in the Region.

CHAPTER IV WASTE REDUCTION AND RECYCLING

The previous chapters have addressed the existing waste disposal, collection and diversion activities in the Northeast Tennessee region and developed the background information to utilize in examining future waste reduction and recycling systems. This chapter will discuss and evaluate the options available for future waste reduction and recycling and will be divided into the following sections:

- A. Waste Diversion Requirement
- B. Proposed Waste Reduction and Recycling Activities
- C. Affect on Diversion Rate
- D. Additional Activities

The options discussed below are conceptual only and provided as one possibility. Localities can consider other possibilities for increasing diversion. The Region is mandated to reach 25% diversion goal and will look to the localities to meet their goals. Thus as long as the diversion goal is met, the methodology is not as important. Hence these activities listed in the Chapter are suggestions only. Localities will not be mandated to initiate them.

A. Waste Diversion Rate

As previously summarized in Table II-6 (Appendix I) referenced in Chapter II-E some waste reduction and recycling activities are occurring in the region at this time. Of the total waste generated in the region approximately 12% is currently diverted. To meet the State mandated diversion goal of 25% from Class I Landfills and Incinerators (1989 base year/1993 for Carter County) existing activities must be enhanced and new activities undertaken.

To calculate the required diversion tonnages, the following per capita generation rates were utilized:

Carter County (1989)	.59 tn/per/yr
Carter County (1993)	.76 tn/per/yr
Johnson County (1989)	.47 tn/per/yr
Johnson County (1993)	.64 tn/per/yr
Unicoi County (1989)	.99 tn/per/yr
Washington County (1989)	1.20 tn/per/yr

Tables IV-1 through IV-5 contained in Appendix 1 summarize the diversion requirements by year. The tables utilize the population projections which are then multiplied by the allowable per capita generation of 75% of the base year. This value is then compared to the estimated waste projection values developed by the FTDD and presented previously in Chapter III-B.

As review of the Tables shows, for the compliance year of 1995, the following tonnages must be removed from the localities and hence the Regions waste stream:

Carter County (1989)	17,802 tons
Carter County (1993)	11,081 tons
Johnson County (1989)	2,831 tons
Johnson County (1993)	2,466 tons
Unicoi County (1989)	1,412 tons
Washington County (1989)	9,446 tons
Regional Total (Using 1993 Carter and Johnson Counties values)	23,951 tons

The required diversion is significant and represents 94 tons per day on a 5 day/wk average. Carter and Johnson Counties data is shown for both the 1989 and 1993 base years while their variances to utilize only the 1993 data are pending. In the Region, Carter County is the only locality to experience a significant "increase" in their waste stream over the 1989 base year (approximately 30%). This "increase" is felt to be an anomaly in the reporting in the 1989 values, not a true increase in waste that could occur if a major industry came on line etc.

It should be noted that for the following discussion several basic assumptions were made. One, that all recycling activities would be phased in slowly to reflect the time necessary to provide adequate planning and public education; and two that markets are available for all materials collected. This last assumption is obviously the most problematic as market availability is the major stumbling block of most recycling programs. Thus the diversion projections are conservative and could be accelerated if necessary.

B. Proposed Waste Reduction and Recycling Activities

To meet the reduction goal of 25% and to delete 24,400 tons from the waste stream by 1995 is a difficult task. A combination of activities will be necessary if this goal is to be attained. The activities examined in this Section include the following:

- Curbside Recycling
- Dropoff Recycling
- Other Recycling Activities (Commercial)
- Class III/IV Landfilling
- Industrial Source Reduction
- Composting (Yard Waste/Sludge Only)

As limited data was available relative to potential recyclable materials in the Region the following section is somewhat generic in approach. As such, it is meant to offer a framework for future planning activities when more detailed information may be available.

For future planning the following information should be collected as soon as possible:

- Existing commercial recycling activities (e.g. Cardboard from major food chains etc.) Possibility of piggy backing efforts.
- Estimates of cardboard or white office paper available within region that could be collected in commercial curbside programs etc.
- Cataloging of the types of industrial wastes that are currently being delivered to Class I facilities especially those tagged as special wastes. Can they be reduced, recycled? How will the industries be affected by proposed alternatives?
- Amounts of waste water and water treatment plant sludges generated annually?
- Cataloging of demolition and debris material. How much, how is it delivered? How will Regional Class III/IV effect private contractors, home owners? Will a transfer station be necessary?
- Cataloging of any unique waste streams that could be reduced. (Usually in the commercial/industrial sector).
- Cataloging major institutional waste streams for reduction.

There are probably other issues that could also be addressed in developing a comprehensive understanding of the waste stream but the above seven items are initially important in reducing the commercial/industrial component of the waste stream, a component which according to the 1989 study represents approximately 28% of the waste stream in the region.

1. CURBSIDE RECYCLING

Curbside recycling is currently in place in Johnson City and Jonesboro in Washington County and is operating with some success as described in Chapter II. No other County currently operates a curbside system. Curbside programs although frequently expensive (\$100 to \$200/ton collected, national range), can efficiently collect the greatest component of household recyclables. To evaluate the effectiveness of potential curbside systems, it was assumed that on average a person produces 4 lb/person/day of household waste and that approximately 15% of that is recyclable as follows (based on national averages):

**TABLE IV-6
SUMMARY HOUSEHOLD RECYCLABLES**

	National Average	Per Capita Rate (lb/per/day)
Newspaper	5.7%	0.23
Glass containers	6.3%	0.25
Aluminum Beverage	0.4%	0.02
Steel Beverage and Food	1.4%	0.06
Plastic Containers	1.5%	0.06
Remaining Waste	84.7%	3.38
TOTAL	100.0%	4.00

The recyclable component totals 0.62 lb/person/day. This value could be adjusted by regional averages and even per capita generation rates but for this component of the study the national average is sufficient at this time. Also additional materials such as mixed paper can also be collected and could increase the collected materials significantly. However mixed paper is frequently difficult to market, and requires proper storage and processing facilities and hence is not considered at this time.

Table IV-7 contained in Appendix I summarizes the possible collection tonnages from localities which are large enough to consider implementing a curbside system. The Table evaluates phasing in the system over a 10 year period beginning in 1995, with an increasing collection program (i.e. the assumption is that initially only 10% of the recyclables are collected then 12%, then 15%). It also evaluates different participation rates which are a function of budget (how many homes can a locality afford to collect) and public education (promoting use of the system). For future analyses, it is assumed that in 1995 a 50% participation rate is achieved, in 2000 a 75% rate and in 2005 a 90% participation rate.

These values could be escalated by:

1. Increasing types of materials collected.
2. Mandating recycling ordinances.
3. Instituting pay by the bag systems for waste.
4. Intensifying public education system.

However these were not considered at this time as the evaluation required a conservative approach.

Based on the data collected in Table IV-7 curbside at its maximum (90% Participation/15% materials) will only provide a total of 7212 tons per year annually or 30% of the 1995 removal goal. Table IV-8 provides estimated costs for the curbside program utilizing national averages and assuming a minor economy of scale (i.e. more participation less costs as the system grows in efficiency). Revenues from the sale of materials are not included.

2. DROPOFF FACILITIES

Dropoff facilities are necessary when a population is spread out over a large area, where door to door collection would be impractical. It can be effective, although, participation rates are historically low, the materials frequently contaminated and the types of services offered limited. The program, because of its limited scope, is less expensive to operate than curbside averaging \$40/ton to \$60/ton collected (National averages). For full effectiveness, dropoff programs require a large public awareness effort to initiate and maintain participation and to prevent contamination.

Table IV-9 summarizes the potential tonnage that could be collected for those populations not served by a curbside program in the previous section. Here again as with curbside a phased in approach is evaluated which could be accelerated by increased funding and public education. However a dropoff program cannot be initiated until a thorough study is made of collection mechanisms and markets. As programs become successful large volumes of materials will be collected and these require proper handling and processing prior to marketing. This must be planned as unsightly dropoff can become a problem if material is not collected frequently enough and contamination can increase.

The positioning of dropoff facilities is critical to their success. They must be in a place frequently attended by citizens or at least visible. At a minimum all convenience centers should have a drop off recycling area. Additionally, dropoffs at schools are a possibility; however, the bins must be kept clear of congested areas (i.e. bus dropoffs, parking, ballfields etc.). Also, the drop-offs should be serviced frequently to assure no unsightly build up of materials etc. When placed at the schools, drop-offs can be an excellent educational tool.

Through best positioning and maximum participation, drop-offs can provide a total of 3007 tons per year annually or 12% of the 1995 reduction goal. Table IV-10 provides estimated costs for the dropoffs utilizing national averages and assuming a minor economy of scale (i.e. more participation less costs) as the system grows in efficiency. Revenues from the sale of materials are not included.

3. OTHER RECYCLING ACTIVITIES

Other recycling activities abound in the commercial and industrial sectors. Frequently promoting recycling at this level has been found to have greater effect on reduction at a lower price than residential programs. To determine the effectiveness of implementing commercial/industrial recycling programs, the localities must determine the type and amount of recyclables produced by business and industry. For this study, this category was left open at this time pending data collection. However, this component must be tapped if the diversion rates are to be met.

4. CLASS III/IV LANDFILLS

Yard waste and demolition/debris waste can be diverted from the Class I facilities to a Class III/IV facility to meet reduction rates. This material can also be diverted by other programs such as mulching, composting, pit burning etc.

Table IV-11 contained in Appendix I summarizes the materials available for Class III/IV disposal based on the regional averages outlined previously in Table II-1 in Chapter II. For Class III/IV diversion calculations were assuming a 50% diverted rate by 1995 and 75% by the year 2000. It is assumed that the last 25% is difficult to divert at this time due to collection.

5. INDUSTRIAL WASTE REDUCTION

As described previously, for some localities industrial waste is a significant portion of the waste stream. The regional waste stream for 1993 is outlined below:

	<u>Tons/Year</u>	<u>%Class I Waste</u>
Carter County	10,000	25.5%
Johnson County	2,000	22.8%
Unicoi County	4,000	30.2%
Washington County	30,000	33.2%

To educate the industries on waste reduction, the FTDD in conjunction with the University of Tennessee held seminars in each County during the course of the Solid Waste Plan preparation. Through the seminar and continuing education processes, industries will implement programs to help meet the 25% reduction goal. The study assumes Carter, Johnson and Unicoi Counties, would reducing wastes by 2% in 1995, 10% by 2000 and 15% by 2005. Washington County is assumed to remove 10%, 20% and 30% for the same years. Here again the assumption is conservative allowing the industries to gradually phase in reduction programs, identify markets, etc. With more detailed information on waste type, the reduction potential could be further refined. Mandatory programs could also be implemented to require reduction, tipping fees raised, or surcharges implemented which would accelerate the reduction program.

In summary, regional industrial waste will be removed at the following annual tonnages.

**TABLE IV-12
SUMMARY INDUSTRIAL DIVERSION**

Year	Tons/Year	Tons/Day (5 day/wk)
1995	3,320	13
2000	7,600	29
2005	12,200	47

6. COMPOSTING

At this time a full scale MSW composting system is not considered for the region. The separation and processing costs as well as the marketing of MSW compost is still not proven nationally to be a cost effective method of reduction/disposal for smaller rural areas at this time. However, as the NAR program develops, MSW composting could fit well with the overall integrated waste management system and should be considered seriously in the future.

At this time Elizabethton has initiated a yard waste/sludge composting program and Johnson City has an informal leaf composting program. Both programs appear to divert a significant quantity of materials and should be encouraged to expand. For this study, with limited information available on sludge generation rates and yard waste tonnages it was assumed that neither existing program expands and that neither Johnson nor Unicoi County implement similar programs. Should the Elizabethton project prove successful, the other localities may wish to implement similar programs or seek to expand Elizabethton's. To meet diversion goals this may be necessary.

C. SUMMARY OF ACTIVITIES

In summary, the above sections have outlined briefly proposed waste reduction and recycling programs. The effect of these programs is summarized in Tables IV-13 to IV-16 which have been generated for each County. In these tables, the total waste generated is delineated then divided among the various recycling and reduction programs as indicated. In all instances, Class I disposal capacity is still necessary and remains fairly significant until the NAR system is fully implemented in 2000.

The total effect of these programs is summarized in Table IV-17 contained in Appendix 1. The table compares the projected Class I disposal tonnage against the allowable tonnage, on a local and regional level. The localities, except Unicoi County, do not meet the required 25% reduction/recycling goal. In 1995 the remaining reduction may be summarized as follows:

**TABLE IV-18
SUMMARY REQUIRED DIVERSION (ADDITIONAL)**

COUNTY	REMAINING REDUCTION REQUIRED (TONS/YEAR)
	1995
Carter County	5,816
Johnson County	1,750
Unicoi County	0
Washington County	3,012
Regional Total	10,578

Regionally, a significant additional reduction effort must be made. Regional efforts will concentrate primarily in commercial/industrial waste and to a lesser extent the Class III/IV waste. Reductions in Class III/IV are minimal since limited disposal capacity exists. To meet the diversion goal, additional materials must be removed as follows:

- Commercial/Industrial Recycling 8,880 tons/year
- Industrial Source Reduction 1,700 tons/year

Table IV-19 also summarizes the diversion, attainable by the projected programs, of the Total Waste stream (not Class I/incineration capacity). This table is provided to illustrate that a significant reduction effort is beneficial on the overall waste stream reduction basis although the mandated reduction is not met.

D. COSTS OF REDUCTION

Tables IV-20 through IV-23 in Appendix 1 summarize the conceptual costs of the reduction programs. Industrial source reduction is not assigned a cost as it would occur within the industry itself and would not be passed on to the locality. It should be noted that projected revenues from the recycling programs are not included as an offset to the costs except for the NAR project where the revenues are projected to offset processing costs. The costs provided in these tables are generic and conceptual only and do not reflect specific costs for a fully designed and implemented program. They should be used for general planning purposes only and future discussions.

CHAPTER V WASTE COLLECTION AND TRANSPORTATION

The existing collection systems for the localities have been described previously in Chapter II. The purpose of this chapter is to review proposed modifications to the waste collection systems to meet State mandates. For information relative to this chapter, see the Regional Solid Waste Management Plan developed by the First Tennessee Development District.

CHAPTER VI RECYCLING

Chapter IV on waste reduction also addresses recycling and the reviewer is directed to that chapter for the information required herein. Also existing activities were previously addressed under Chapter II.

CHAPTER VII
COMPOSTING, PROCESSING, WASTE-TO-ENERGY
AND INCINERATION CAPACITY

Information required under this chapter has been previously addressed as follows:

Composting	Chapter IV.B.6
Processing (NAR)	Chapter III.C.3
Waste to Energy (NAR)	Chapter III.C.3
Incineration (NAR)	Chapter III.C.3

The reviewer is directed to these sections for the information required herein. For the overall system summary see Chapter VIII.

**CHAPTER VIII
DISPOSAL CAPACITY/SYSTEM SUMMARY**

Chapters II and III previously addressed the existing and proposed disposal capacity in the region. Based on the proposed reduction efforts (which do not meet the 25% reduction goal at this time), the region requires a minimum disposal capacity of 140,800 tons annually broken out by locality as follows:

**TABLE VIII - 1
REQUIRED DISPOSAL CAPACITY - 1995**

County	Tons Per Year (1995)	Tons Per Day (5 day week)
Carter County	35,286	136
Johnson County	8,360	32
Unicoi County	11,929	46
Washington County	87,156	335
Regional Total	142,677	549

The required capacity will be served in the short term through the opening of Iris Glen and continued operation of the Carter County Landfill. After 1996, the required capacity will continue to be served by Iris Glen and possibly supplemented by the new Carter County MSW and Class III/IV facilities. In the long term, disposal capacity may be served by a combination of Iris Glen, North American Rayon and the Carter County Class III/IV capacity.

Tables VIII-2 through VIII-5 summarize the costs of implementing various diversion programs for each County. Disposal costs are developed in Table VIII-6 for various options and transportation requirements for the various disposal options are summarized in Table VIII-7. This table is incomplete at this time pending additional information. Johnson County is the only county currently considering a major transfer station because of its long haul distances to either Elizabethton or Johnson City. (30 miles one way and 40 miles one way, respectively estimated). A transfer station is also shown for Carter County although this would not be entirely necessary to transport large volumes of MSW to Iris Glen. Transfer station costs are developed in Table VIII-8.

The North American Rayon costs include the assumptions previously described in Chapter III.

In summary, an abundance of disposal capacity is available in the Region although significant amounts are still tied to the planning stage at this time. It must be remembered that additional capacity is also available immediately outside the region at the following facilities:

- WMI - Chestnut Ridge
- BFI - Hawkins County
- City of Bristol (under permitting)

which could be utilized. If these alternate facilities were used then the transportation component would change and the economies vary with these other options.

CHAPTER IX
PUBLIC INFORMATION AND EDUCATION

For information relative to this Chapter, see the Solid Waste Management Plan, developed by the First Tennessee Development District.

CHAPTER X PROBLEM WASTES

For information relative to this Chapter, see the Solid Waste Management Plan, developed by the First Tennessee Development District

**CHAPTER XI
IMPLEMENTATION SCHEDULE, STAFFING AND FUNDING**

Previous chapters have discussed the proposed reduction, recycling, and diversion activities available to the region for implementation of various activities to meet the 25% reduction goal. As also discussed, the proposed phased in approach will not meet the mandated goal although significant diversion will be provided. The difference between the mandated reduction and proposed reduction must be made up in further and accelerated reduction in the commercial and industrial sectors. As proposed, the mandated reduction regionally is comprised of the following components by annual tonnage and %: (1995)

**TABLE XI-1
DIVERSION COMPONENTS
1995**

<u>Type</u>	<u>Tons/Year</u>	<u>Projected %</u>	<u>Required %</u>
Residential Recycling (Curbside/Dropoff)	3,768	2.2	2.2
Commercial Recycling	1,389	0.8	6.1
Class III/IV Landfill	8,834	5.0	5.1
Composting/Mulching	15,089	8.6	8.7
Incineration Yard Waste			
Industrial Source Reduction	3,320	1.9	2.9
Total Diversion	32,400	18.5	25.0
Class I Disposal	142,677	81.5	75.0
Total Waste Generation	175,077	100	100

The following Chapter discusses implementation staffing and funding.

A. Implementation

Although the Solid Waste Plan has been developed regionally, it will be up to each individual locality to implement their own diversion activities at this time. The schedule of implementation is driven by funding availability, planning activities and educational programs. In general, the priority of activities should be as follows:

- Identify all waste sources by type to predict diversion (Industrial, cardboard, scrap metal, other).
- Initiate a public and industrial education program.
- Review processing and marketing requirements for recyclables.
- Discuss the potential for regional recycling efforts (processing/marketing).
- Continue discussions with North American Rayon.
- Develop and implement diversion activities.

Individually each locality should pursue the following specific activities:

1. Carter County
 - Complete planning on new Class I and III/IV facilities.
 - Initiate permitting on new Class I/Class III/IV facilities.
 - Implement/expand Dropoff recycling system.
 - Elizabethton should evaluate/plan for curbside.
 - Support NAR.
 - Plan/Implement Closure existing facility.

2. Johnson County
 - Plan/Implement Closure existing facility.
 - Finalize funding on Transfer Station, complete design and construct.
 - Initiate transport of waste to Carter County for disposal.
 - Evaluate feasibility of short term contract with WMI for disposal versus participation with Carter County in new landfill.
 - Evaluate potential for curbside recycling in Mountain City and dropoff facilities at schools.
 - Continue to identify sources of commercial/industrial reduction.
 - Support NAR.

 - Evaluate Class III/IV materials and need for Class III/IV facility or participation in Regional facility.

3. Unicoi County - Continue transport and disposal with Washington County.
- Expand drop off recycling and evaluate curbside in Erwin.
- Evaluate Class III/IV materials generated in County and ultimate need for own Class III/IV Landfill.
- Support NAR.

4. Washington County - Support Johnson City and Jonesboro in reduction activities.
- Evaluate materials available for Class III/IV facility.
- Continue existing diversion activities and evaluate potential sludge composting facility.
- Initiate extensive communication network with commercial businesses and industries to identify further sources of reduction.
- Support NAR.

The overall time lines for implementation have been presented in Figures III-1 through III-3 and in summary tables previously identified.

B. Staffing

To implement the diversion programs identified in the plan, additional personnel will be necessary. It is difficult to predict the exact staffing requirements as programs have not yet been designed. For Carter, Johnson and Unicoi Counties, the accelerated recycling will probably require at least 2-3 additional staff:

- One (1) recycling coordinator responsible for identifying markets, coordinating activities with other localities, providing public and industrial education programs; and
- One to two (1-2) laborers who must collect, sort and transport recyclables to markets etc.

Curbside programs will require equipment and additional personnel as would any operations of Class III/IV facilities or composting.

If Carter County chooses to implement a large regional Class I facility, additional personnel and equipment may be necessary and is reflected in the proposed costs.

C. Funding

To meet the reduction goals and provide adequate disposal, will require significant expenditures by each locality. The costs of individual options have been presented in previous Tables and may be summarized by year as follows:

TABLE XI-2
SUMMARY 1995 SOLID WASTE COSTS

1995 Short Term Option	Collection/Transport	Disposal	Diversion/Recycling	Total	1993 Budget
Carter County(1)	\$ 472,780	\$ 705,720	\$315,092	\$1,493,592	\$1,213,045
Johnson County(3)	\$ 281,616	\$ 199,300	\$ 35,534	\$ 516,450	\$ 256,931
Unicoi County(1)	\$ 168,066	\$ 310,154	\$ 82,060	\$ 560,280	\$ 384,826
Washington County(2)(1)	\$2,440,785	\$2,266,056	\$396,120**	\$5,102,961	\$5,173,189
Regional Total	\$2,893,247	\$3,481,230	\$828,806	\$7,673,283	\$7,029,984

(1) Collection costs assumed similar to 1993 figures.

(2) **For Washington County diversion significant costs are under development that will be added to this category when available.

(3) Johnson County includes \$131,705 for transfer station operation and transportation.

These costs are based on Figure III-1 illustrating the short term options. The long term option may be summarized as follows:

**TABLE XI-3
SUMMARY 2003 SOLID WASTE COSTS
(EXCLUSIVE OF INFLATION)**

2003 Long Term Option	Collection/ Transport⁽¹⁾	Disposal	Diversion/ Recycling	Total	1993 Budget
Carter County	\$ 567,336	\$ 398,000	\$ 452,647	\$1,417,983	\$1,213,045
Johnson County	\$ 257,881	\$ 98,100	\$ 96,200	\$ 452,181	\$4256,931
Unicoi County	\$ 201,679	\$ 131,100	\$ 172,850	\$ 505,629	\$384,826
Washington County	\$3,417,099	\$ 858,900	\$ 715,950	\$4,991,949	\$5,173,189
Regional Total	\$4,443,995	\$1,486,100	\$1,437,647	\$7,367,742	\$7,029,984

- (1) Collection costs assumed implementation of wet dry system.
- (2) Johnson County includes \$131,705 for transfer station operation and transportation.

These costs are based on Figure IV-3 illustrating the long term option and assuming NAR is on line.

CHAPTER XII
ALLOCATION OF IMPLEMENTATION RESPONSIBILITY

For information relative to this Chapter, see the Solid Waste Management Plan developed by the First Tennessee Development District.

CHAPTER XIII
FLOW CONTROL AND PERMIT APPLICATION REVIEW

For information relative to this Chapter, see the Solid Waste Management Plan developed by the First Tennessee Development District.

APPENDIX 1

Tables

TABLE II-4a

MAJOR INDUSTRIAL/COMMERCIAL GENERATORS IN
CARTER COUNTY

Screening Criteria Applied > 50 Employees

Blue Ridge Fabricators
Crawford Dry Wall
East Tennessee Undergarment
Inland Container
Jarl/Alcan Extrusions
Mapes Piano String Company
North American Rayon
Precipitator Services Group
Snap-on Tools
Stacy's Carpet
Watauga Industries

Total Number = 11

Estimated Total Quantity of Waste = 10,000 TPY

TABLE II-4b

**MAJOR INDUSTRIAL/COMMERCIAL GENERATORS IN
UNICOI COUNTY**

Screening Criteria Applied >25 Employees

American Bictech
CSX Transportation
Dreicor, Incorporated
Hoover Precision Products
Images Fiberglass Products
Impact Plastics
Morrill Electric
Morrill Motors
N. N. Ball and Roller, Incorporated
NRF, Incorporated
Nuclear Fuel Services
Plassco Company
Poly Pipe Industries, Incorporated
Premier Refractories, Incorporated
Red Cap Workwear
Tennessee Abrasive, Incorporated

Total Number = 16

Estimated Total Quantity of Waste = 4,000 TPY

TABLE II-4c

MAJOR INDUSTRIAL/COMMERCIAL GENERATORS IN
WASHINGTON COUNTY

Screening Criteria Applied >50 Employees

Accurate Machine Products	Aerojet Ordinance
Alemite Corporation	Allied Metals Company
Baxter Pharmaseal	Budd Company
Burlington Industries	Burton Rubber Processing
Cantech Industries	Connie Saylor and Associates
Denise Lingerie Corporation	E-Z Painter
Empire Furniture Company	Free Service Tire Company
Flour City Architectural Metals	General Mills
General Shale	Gordons, Incorporated
Hampton Print Works #1	Hampton Print Works #2
Harris-Tarkett, Incorporated	Johnson City Bedding
Johnson City Medical Center	Johnson City Press
Kawneer Commercial Windows	Kennametal
Leon-Ferenbach, Incorporated	Levi-Strauss and Company
Mayes Brothers Tool Company	Mazer Corporation
MINCO	Moody Dunbar
Mountain Home V.A. Medical Center	Pepsi South
Quality Dental Products	Rainbo Bakery
S.A.B.H.	Sears Payment Systems
Siemens Industrial Automation	Snap-on Tools Corporation
Southeast Incorporated	Southeastern Apparel
Southeastern Color Graphics	Stone Electronics
Superior Industries	Tex-Tenn Corporation
TPI Corporation	Watauga Apparel

Total Number = 48

Estimated Total Quantity of Waste = 30,000 TPY

TABLE II-4d

MAJOR INDUSTRIAL/COMMERCIAL GENERATORS IN
JOHNSON COUNTY

Screening Criteria Applied >25 Employees

Bike Athletics
Craftline Wood Products
Film Processing Company
Film Salvage Company
Goode Furniture Company
Levi Strauss Company
Mountain City Glove
Rainbow Paper Products
Sara-Lee Knit Products
Stanley Knitting Mills
Timberland Company
Tri-State Growers

Total Number = 12

Estimated Total Quantity of Waste = 2,000 TPY

TABLE II - 6
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 EXISTING SOLID WASTE ACTIVITIES
 1993
 JUNE 22, 1994

LOCALITY	WASTE LANDFILLED 1993	YARD WASTE/ SLUDGE COMPOSTED	RESIDENTIAL WASTE RECYCLED	YARD WASTE/ MULCHED/ BANNED		CLASS III/IV LANDFILLED	PIT BURNING	TOTAL WASTE GENERATED	TOTAL DIVERSION	DIVERSION %
CARTER COUNTY	39,280	0	0	0	0	1,484	500	41,264	1,984	4.8%
JOHNSON COUNTY (5)	8,766	0	0.13	550	0	0	0	9,316	550	5.9%
UNICOI COUNTY	13,261	0	0	0	0	0	0	13,261	0	0.0%
WASHINGTON COUNTY	90,250	3,318	3,560	100	0	0	8,782	106,010	15,760	14.9%
Johnson City (3) Jonesborough	67,396 2,492	3,318 0	3,309 0	100 0	0	0	8,782 0	82,905 2,492	15,509 0	18.7% 0.0%
REGIONAL TOTAL	151,557	3,318	3,560	650	0	1,484	9,282	169,851	18,294	10.8%

NOTES:
 1. All information supplied from the localities and is presented in tons per year.
 2. Washington County's waste stream has had Unicoi County subtracted out.
 3. County data has the cities and towns included in it.
 4. Carter County pit burning estimated at 10 tons/wk.
 5. Johnson County banned yard waste in 1990-1991. Records on the exact amount of waste diverted are not available at this time. The diversion shown is based on Table II-1 averages as applied to their waste stream (1989)

TABLE IV-1 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN DIVERSION GOALS						
CARTER COUNTY - 1993						
MAY 11, 1994						
YEAR	POPULATION	PER CAPITA WASTE		WASTE TONNAGE DISPOSAL GOAL (tons/year)	ESTIMATED TONNAGE GENERATED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)
		DISPOSAL GOAL (tons/per/yr)	WASTE TONNAGE			
1993	51,613	0.57	29,419	39,280	9,861	
1994	51,647	0.57	29,439	40,508	11,069	
1995	51,702	0.57	29,470	40,551	11,081	
1996	51,713	0.57	29,476	40,560	11,084	
1997	51,753	0.57	29,499	40,591	11,092	
1998	51,790	0.57	29,520	40,620	11,100	
1999	51,820	0.57	29,537	40,643	11,106	
2000	51,855	0.57	29,557	40,671	11,114	
2001	51,786	0.57	29,518	40,616	11,098	
2002	51,715	0.57	29,478	40,561	11,083	
2003	51,650	0.57	29,440	40,510	11,070	

NOTES:

1. Population taken from Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 0.76 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.

YEAR	POPULATION	PER CAPITA WASTE		WASTE TONNAGE		ESTIMATED TONNAGE GENERATED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)
		DISPOSAL GOAL (tons/per/yr)	WASTE DISPOSAL GOAL (tons/year)	DISPOSAL GOAL (tons/year)	DISPOSAL GOAL (tons/year)		
1993	51,613	0.44	22,710	39,280	16,570		
1994	51,647	0.44	22,725	40,508	17,783		
1995	51,702	0.44	22,749	40,551	17,802		
1996	51,713	0.44	22,754	40,560	17,806		
1997	51,753	0.44	22,771	40,591	17,820		
1998	51,790	0.44	22,788	40,620	17,832		
1999	51,820	0.44	22,801	40,643	17,842		
2000	51,855	0.44	22,816	40,671	17,855		
2001	51,786	0.44	22,786	40,616	17,830		
2002	51,715	0.44	22,755	40,561	17,806		
2003	51,650	0.44	22,726	40,510	17,784		

NOTES:

1. Population taken from Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 0.59 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.

TABLE IV-2
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 DIVERSION GOALS

CARTER COUNTY - 1989

MAY 11, 1994

TABLE IV-3a NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN DIVERSION GOALS							
JOHNSON COUNTY - 1989							
MAY 13, 1994.							
YEAR	POPULATION	PER CAPITA		WASTE		ESTIMATED TONNAGE GENERATED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)
		WASTE DISPOSAL GOAL (tons/per/yr)	WASTE TONNAGE DISPOSAL GOAL (tons/year)	WASTE TONNAGE DISPOSAL GOAL (tons/year)	WASTE TONNAGE GENERATED (tons/year)		
1993	13,694	0.35	4,793	7,400	2,607		
1994	13,666	0.35	4,783	7,616	2,833		
1995	13,659	0.35	4,781	7,612	2,831		
1996	13,614	0.35	4,765	7,587	2,822		
1997	13,593	0.35	4,758	7,575	2,817		
1998	13,564	0.35	4,747	7,559	2,812		
1999	13,542	0.35	4,740	7,547	2,807		
2000	13,514	0.35	4,730	7,532	2,802		
2001	13,467	0.35	4,713	7,505	2,792		
2002	13,415	0.35	4,695	7,476	2,781		
2003	13,368	0.35	4,679	7,450	2,771		

NOTES:

1. Population taken from Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 0.47 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.



TABLE IV-3b
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 DIVERSION GOALS

JOHNSON COUNTY - 1993

JUNE 22, 1994

YEAR	POPULATION	PER CAPITA WASTE		WASTE TONNAGE DISPOSAL GOAL (tons/year)	ESTIMATED TONNAGE GENERATED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)
		DISPOSAL GOAL (tons/per/yr)	TONNAGE			
1993	13,694	0.48	6,573	8,766	2,193	
1994	13,666	0.48	6,560	9,026	2,466	
1995	13,659	0.48	6,556	9,022	2,466	
1996	13,614	0.48	6,535	8,992	2,457	
1997	13,593	0.48	6,525	8,978	2,453	
1998	13,564	0.48	6,511	8,959	2,448	
1999	13,542	0.48	6,500	8,944	2,444	
2000	13,514	0.48	6,487	8,926	2,439	
2001	13,467	0.48	6,464	8,895	2,431	
2002	13,415	0.48	6,439	8,861	2,422	
2003	13,368	0.48	6,417	8,829	2,412	

NOTES:

1. Population taken from Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 0.64 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.



TABLE IV-4 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN DIVERSION GOALS						
UNICOI COUNTY						
MAY 7, 1994						
YEAR	POPULATION	PER CAPITA		WASTE		WASTE TONNAGE TO BE DIVERTED (tons/year)
		WASTE DISPOSAL GOAL (tons/per/yr)	DISPOSAL GOAL (tons/year)	ESTIMATED TONNAGE GENERATED (tons/year)	TONNAGE TO BE DIVERTED (tons/year)	
1993	16,508	0.74	12,216	13,261	1,045	1,045
1994	16,489	0.74	12,202	13,613	1,411	1,411
1995	16,496	0.74	12,207	13,619	1,412	1,412
1996	16,469	0.74	12,187	13,597	1,410	1,410
1997	16,458	0.74	12,179	13,587	1,408	1,408
1998	16,437	0.74	12,163	13,571	1,408	1,408
1999	16,426	0.74	12,155	13,562	1,407	1,407
2000	16,409	0.74	12,143	13,547	1,404	1,404
2001	16,357	0.74	12,104	13,505	1,401	1,401
2002	16,302	0.74	12,063	13,459	1,396	1,396
2003	16,252	0.74	12,026	13,418	1,392	1,392

NOTES:

1. Population taken from the Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 0.99 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.



TABLE IV-5 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN DIVERSION GOALS									
WASHINGTON COUNTY									
MAY 7, 1994									
YEAR	POPULATION	PER CAPITA		WASTE		ESTIMATED		WASTE	
		WASTE DISPOSAL GOAL (tons/per/yr)	WASTE TONNAGE DISPOSAL GOAL (tons/year)	WASTE TONNAGE GENERATED (tons/year)	WASTE TONNAGE GENERATED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)	WASTE TONNAGE TO BE DIVERTED (tons/year)		
1993	93,017	0.90	83,715	90,250	6,535				
1994	93,247	0.90	83,922	93,344	9,422				
1995	93,493	0.90	84,144	93,590	9,446				
1996	93,708	0.90	84,337	93,806	9,469				
1997	93,945	0.90	84,551	94,043	9,493				
1998	94,173	0.90	84,756	94,271	9,515				
1999	94,412	0.90	84,971	94,511	9,540				
2000	94,640	0.90	85,176	94,739	9,563				
2001	94,686	0.90	85,217	94,784	9,567				
2002	94,721	0.90	85,249	94,819	9,570				
2003	94,764	0.90	85,288	94,862	9,574				

NOTES:

1. Population taken from the Dept. of Sociology, UT.
2. Per capita waste disposal goal is 75% of the per capita rate taken from Table IV-1a of the Plan. (Per capita rate at 1.20 tons/per/year)
3. Estimated tonnage generated taken from Table III-3 of the Plan.



TABLE IV-7 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN POTENTIAL RECYCLING RATES CURBSIDE FACILITIES MAY 7, 1994										
LOCALITY	POPULATION	AVAILABLE RECYCLABLE MATERIALS (TN/PER/YR)	50%			75%			90%	
			PARTICIPATION (TONS/YR)							
ELIZABETHTON	1995	11,976	0.073	437	656	787				
	2000	12,012	0.088	529	793	951				
	2005	11,936	0.110	656	985	1,182				
ERWIN	1995	4,998	0.073	182	274	328				
	2000	4,972	0.088	219	328	394				
	2005	4,897	0.110	269	404	485				
MOUNTAIN CITY	1995	2,152	0.073	79	118	141				
	2000	2,129	0.088	94	141	169				
	2005	2,093	0.110	115	173	207				
JOHNSON CITY	1995	50,011	0.073	1,825	2,738	3,286				
	2000	50,624	0.088	2,227	3,341	4,009				
	2005	50,745	0.110	2,791	4,186	5,024				
JONESBORO	1995	3,130	0.073	114	171	206				
	2000	3,169	0.088	139	209	251				
	2005	3,176	0.110	175	262	314				

NOTES:

1. Available recycling materials assumes that the average person produces 4 lb/per/day of waste and that 15% of that could be collected in a curbside program ultimately. However, initial collection at the following estimated percentages: 10%, 12%, and 15% respectively.
2. Population projections taken from information provided by the FTDD.



TABLE IV-8
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
POTENTIAL RECYCLING COSTS

CURBSIDE FACILITIES

MAY 7, 1994

LOCALITY	POPULATION	AVAILABLE RECYCLABLE MATERIALS (TN/PER/YR)	PARTICIPATION		
			50% (\$120/TON)	75% (\$100/TON)	90% (\$90/TON)
ELIZABETHTON	11,976	0.073	\$52,455	\$65,569	\$70,814
	12,012	0.088	\$52,455	\$65,569	\$70,814
	11,936	0.110	\$52,455	\$65,569	\$70,814
ERWIN	4,998	0.073	\$21,891	\$27,364	\$29,553
	4,972	0.088	\$26,252	\$27,364	\$29,553
	4,897	0.110	\$32,320	\$27,364	\$29,553
MOUNTAIN CITY	2,152	0.073	\$9,426	\$11,782	\$12,725
	2,129	0.088	\$9,426	\$11,782	\$12,725
	2,093	0.110	\$9,426	\$11,782	\$12,725
JOHNSON CITY	50,011	0.073	\$219,048	\$273,810	\$295,715
	50,624	0.088	\$219,048	\$273,810	\$295,715
	50,745	0.110	\$219,048	\$273,810	\$295,715
JONESBORO	3,130	0.073	\$13,709	\$17,137	\$18,508
	3,169	0.088	\$13,709	\$17,137	\$18,508
	3,176	0.110	\$13,709	\$17,137	\$18,508

NOTES:

1. Available recycling materials assumes that the average person produces 4 lb/per/day of waste and that 15% of that could be collected in a curbside program ultimately. However initial collection is estimated at the following rates: 10%, 12%, and 15% respectively.
2. Population projections taken from information provided by the FTDD.
3. Costs for recycling are based approximately on general national averages and may vary from program to program.
4. Revenue from recycled materials was not included.



TABLE IV-9
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
POTENTIAL RECYCLING RATES

DROPOFF FACILITIES

MAY 7, 1994

LOCALITY	POPULATION NOT SERVED BY CURBSIDE	AVAILABLE RECYCLABLE MATERIALS (TN/PER/YR)	NUMBER OF DROPOFFS	20% PARTICIPATION (TONS/YR)	30% PARTICIPATION (TONS/YR)	40% PARTICIPATION (TONS/YR)
CARTER COUNTY	1995	0.036	4	286	429	572
	2000	0.055	6	438	657	877
	2005	0.073	8	578	867	1,156
JOHNSON COUNTY	1995	0.036	2	83	124	166
	2000	0.055	3	125	188	250
	2005	0.073	4	163	245	327
UNICOI COUNTY	1995	0.036	2	83	124	166
	2000	0.055	3	126	189	252
	2005	0.073	4	164	247	329
WASHINGTON COUNTY	1995	0.036	4	291	436	581
	2000	0.055	6	449	674	899
	2005	0.073	8	598	897	1,195

NOTES:

1. Available recycling materials assumes that the average person produces 4 lb/per/day of waste and that 5%, 7.5%, and 10% could be captured at the various levels of service shown.
2. Population projections taken from Dept. of Sociology, UT, with curbside populations subtracted out.
3. Minimum level of coverage should utilize the convenience center requirement of 1 site per 12,000 people. However, each County should have no fewer than 2 sites if possible.



TABLE IV-10 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN POTENTIAL RECYCLING COSTS DROPOFF FACILITIES MAY 7, 1994									
LOCALITY	POPULATION NOT SERVED BY CURBSIDE	AVAILABLE RECYCLABLE MATERIALS (TN/PERYR)	NUMBER OF DROPOFFS	20% PARTICIPATION (\$60/ton)	30% PARTICIPATION (\$50/ton)	40% PARTICIPATION (\$40/ton)			
CARTER COUNTY	1995	39,726	0.036	4	\$17,162	\$21,452	\$22,882		
	2000	39,843	0.055	6	\$26,296	\$32,870	\$35,062		
	2005	39,592	0.073	8	\$34,683	\$43,353	\$46,243		
JOHNSON COUNTY	1995	11,507	0.036	2	\$4,971	\$6,214	\$6,628		
	2000	11,385	0.055	3	\$7,514	\$9,393	\$10,019		
	2005	11,189	0.073	4	\$9,802	\$12,252	\$13,069		
UNICOI COUNTY	1995	11,498	0.036	2	\$4,967	\$6,209	\$6,623		
	2000	11,437	0.055	3	\$7,548	\$9,436	\$10,065		
	2005	11,263	0.073	4	\$9,866	\$12,333	\$13,155		
WASHINGTON COUNTY	1995	40,352	0.036	4	\$17,432	\$21,790	\$23,243		
	2000	40,847	0.055	6	\$26,959	\$33,699	\$35,945		
	2005	40,940	0.073	8	\$35,863	\$44,829	\$47,818		

- NOTES:
1. Available recycling materials assumes that the average person produces 4 lb/per/day of waste and that 5%, 7.5%, and 10% could be captured at the various levels of service shown.
 2. Population projections taken from Dept. of Sociology, UT with curbside populations subtracted out.
 3. Minimum level of coverage should utilize the convenience center requirement of 1 site per 12,000 people. However, each County should have no fewer than 2 sites if possible.
 4. The national average for dropoff operation ranges from \$40 - \$60 per ton collected and will vary for each program. For the above estimate increased participation was assumed to lower costs.
 5. Revenue from recycled materials was not included.

TABLE IV-11
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 ESTIMATE OF MATERIAL AVAILABLE FOR CLASS III/IV LANDFILLS

JUNE 22, 1994

LOCALITY	1993			ESTIMATED		TOTAL		EXISTING MANAGEMENT	AVAILABLE FOR LANDFILL
	WASTE STREAM	WOOD WASTE	YARD WASTE	ESTIMATED WASTE	ESTIMATED WASTE	EXISTING MANAGEMENT	AVAILABLE FOR LANDFILL		
CARTER COUNTY	39,280	4,609	3,352	7,961	1,500	6,461			
JOHNSON COUNTY	8,766	1,029	0	1,029	NA	1,029			
UNICOI COUNTY	13,261	1,556	1,132	2,688	NA	2,688			
WASHINGTON COUNTY	90,250	10,589	7,701	18,290	12,100	6,190			
Johnson City	67,396	7,907	5,750	13,657	12,100	1,557			

NOTES:

1. All quantities are in tons per year.
2. The first three columns are taken from Tables II-1 and II-3 of the Solid Waste Plan and are based on 1991 data.
3. The estimated quantities are taken calculated from the regional averages using 1993 tonnages.
4. The existing management quantities are taken from information provided by the localities, found in the District Needs Assessment, of reported during 1993 which ever is larger.
5. Johnson County banned yard waste from the landfill in 1990 - 1991. Therefore this component is not included in the estimate.

TABLE IV-14
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
DIVERSION ESTIMATES

JOHNSON COUNTY

JUNE 22, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/ MULCH/ BANNED	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I LANDFILL
1993	9,316	0.13	0	0	0	550	0	0	0	8,766
1994	9,576	0.13	0	0	0	550	0	0	0	9,026
1995	9,572	83	79	0	514	550	0	0	40	8,306
1996	9,542	104	91	0	566	550	0	0	70	8,161
1997	9,528	125	104	0	618	550	0	0	100	8,031
1998	9,509	146	116	0	670	550	0	0	130	7,897
1999	9,494	167	129	0	722	550	0	0	160	7,766
2000	9,476	188	141	1,906	772	550	0	1,906	200	3,613
2001	9,445	216	154	1,878	772	550	0	1,878	240	3,757
2002	9,411	244	167	1,850	772	550	0	1,850	280	3,698
2003	9,379	272	181	1,821	772	550	0	1,821	320	3,642
2004	9,347	300	194	1,792	772	550	0	1,792	360	3,587
2005	9,315	327	207	1,765	772	550	0	1,765	400	3,529

NOTES:

1. Waste generation taken from information provided by the FTDD. For 1993 the waste generated includes the landfilled waste plus the diverted waste. All other years include the waste projected from Table III-3 plus the 1993 diverted waste.
2. Recycling data taken from Tables IV-7 AND IV-9 and assume an escalating participation rate over time.
3. MRF and MSW incineration reflects the operation of the NAR project.
4. The Class III/IV landfill assumes that 50% of the estimated material (from Table IV-11) goes into the facility by 1995 and that 75% goes in by 2000.
5. The industrial source reduction assumes that 2%, 10%, and 20% are removed in years 1995, 2000, 2005 respectively. The estimated 1993 industrial tonnage is 2000 tons.
6. Years 2000 - 2005 assume that 25% of the wastestream is diverted to the NAR facility, 25% is recovered for recycling, and the remainder goes to the Class I facility.

TABLE IV-13
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
DIVERSION ESTIMATES

CARTER COUNTY

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING			RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/		INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	WASTE TO CLASS I LANDFILL
		DROPOFF	CURBSIDE	OTHER				MULCH	YARD WASTE				
1993	41,264	0	0	0	0	0	1,484	0	500	0	0	0	39,280
1994	42,492	0	0	0	0	6	2,732	1,839	500	0	0	0	37,415
1995	42,535	296	437	7	7	7	3,980	1,839	500	0	200	0	35,286
1996	42,544	360	508	8	8	8	4,378	1,839	500	0	360	0	34,591
1997	42,575	430	579	9	9	9	4,776	1,839	500	0	520	0	33,922
1998	42,604	510	651	10	10	10	5,174	1,839	500	0	680	0	33,240
1999	42,627	580	722	11	11	11	5,572	1,839	500	0	840	0	32,563
2000	42,655	657	793	7,971	7,971	7,971	5,970	1,839	500	7,971	1,000	0	15,954
2001	42,600	757	871	7,862	7,862	7,862	5,970	1,839	500	7,862	1,200	0	15,739
2002	42,545	857	949	7,754	7,754	7,754	5,970	1,839	500	7,754	1,400	0	15,522
2003	42,494	956	1,026	7,647	7,647	7,647	5,970	1,839	500	7,647	1,600	0	15,309
2004	42,443	1,056	1,104	7,540	7,540	7,540	5,970	1,839	500	7,540	1,800	0	15,094
2005	42,392	1,156	1,182	7,433	7,433	7,433	5,970	1,839	500	7,433	2,000	0	14,879

NOTES:

1. Waste generation taken from information provided by the FTDD. Waste generated includes for 1993 the landfilled waste plus diverted waste. All other years include the waste projected from Table III-3 plus the 1993 diversion tonnages.
2. Recycling data taken from Tables IV-7 and IV-9 and assume an escalating participation rate over time.
3. MRF and MSW incineration reflects the operation of the NAR project.
4. The Class III/IV landfill assumes that 50% of the estimated material (from Table II-6) goes into the facility by 1995 and that 75% goes in by 2000.
5. The industrial source reduction assumes that 2%, 10%, and 20% are removed in years 1995, 2000, 2005 respectively. The estimated 1993 industrial tonnage is 10,000 tons.
6. Composting represents brush from Elizabethton (1474 tn/yr) and sludge from the WWTP (365 tn/yr).
7. Other recycling represents potential from the cardboard program at Elizabethton.
8. Years 2000 - 2005 assume that 25% of the wastestream is diverted to the NAR facility for incineration, 25% recovered for recycling and the remainder to a Class I facility.

TABLE IV-15
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
DIVERSION ESTIMATES

UNICOI COUNTY

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/ MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I LANDFILL
1993	13,261	0	0	0	0	0	0	0	0	13,261
1994	13,613	88	0	0	0	0	0	0	0	13,525
1995	13,619	88	182	0	1,340	0	0	0	80	11,929
1996	13,597	108	211	0	1,472	0	0	0	144	11,662
1997	13,587	128	240	0	1,604	0	0	0	208	11,407
1998	13,571	148	270	0	1,736	0	0	0	272	11,145
1999	13,562	168	299	0	1,868	0	0	0	336	10,891
2000	13,547	189	328	2,757	2,000	0	0	2,657	400	5,216
2001	13,505	217	359	2,612	2,000	0	0	2,612	480	5,225
2002	13,459	245	391	2,565	2,000	0	0	2,565	560	5,133
2003	13,418	273	422	2,520	2,000	0	0	2,520	640	5,043
2004	13,377	301	454	2,476	2,000	0	0	2,476	720	4,950
2005	13,336	329	485	2,430	2,000	0	0	2,430	800	4,862

NOTES:

1. Waste generation taken from information provided by the FTDD. Waste generated for 1993 includes the landfilled waste plus the diverted waste. All other years include the waste projected from Table III-3 plus the 1993 diverted waste.
2. Recycling data taken from Tables IV-7 and IV-9 and assume an escalating participation rate over time.
3. MRF and MSW incineration reflects the operation of the NAR project.
4. The Class II/IV landfill assumes that 50% of the estimated material (from Table II-6) goes into the facility by 1995 and that 75% goes in by 2000.
5. The industrial source reduction assumes that 2%, 10%, and 20% are removed in years 1995, 2000, 2005 respectively. The estimated 1993 industrial tonnage is 4000 tons.
6. Years 2000 - 2005 assumes that 25% of the waste after diversion is taken to the NAR facility, that 25% is recovered for recycling, and the remainder is taken to a Class I facility.



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TABLE IV-16
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
DIVERSION ESTIMATES

WASHINGTON COUNTY (INCLUDING JOHNSON CITY AND JONESBOROUGH)

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I LANDFILL
1993	106,011	554	1,701	1,306	0	3,418	8,782	0	0	90,250
1994	109,105	554	1,752	1,316	0	3,418	8,782	0	0	93,283
1995	109,351	674	1,939	1,382	3,000	3,418	8,782	0	3,000	87,156
1996	109,567	780	2,261	1,450	3,300	3,418	8,782	0	3,600	85,976
1997	109,804	887	2,583	1,520	3,600	3,418	8,782	0	4,200	84,814
1998	110,032	994	2,906	1,600	3,900	3,418	8,782	0	4,800	83,632
1999	110,272	1,100	3,227	1,680	4,200	3,418	8,782	0	5,400	82,465
2000	110,500	1,195	3,550	22,086	4,500	3,418	8,782	20,322	6,000	40,647
2001	110,545	1,255	3,907	21,909	4,500	3,418	8,782	20,057	6,600	40,117
2002	110,580	1,317	4,265	21,733	4,500	3,418	8,782	19,788	7,200	39,577
2003	110,623	1,363	4,623	21,560	4,500	3,418	8,782	19,518	7,800	39,039
2004	110,666	1,452	4,980	21,391	4,500	3,418	8,782	19,247	8,400	38,496
2005	110,709	1,525	5,338	21,224	4,500	3,418	8,782	18,973	9,000	37,949

NOTES:

1. Waste generation taken from information provided by the FTDD. Waste generated for 1993 includes the landfilled waste plus the diverted waste. All other years include the projected waste from Table III-3 plus the 1993 diverted waste.
2. Recycling data taken from Tables IV-7 and IV-9 and assume an escalating participation rate over time. 1993 values from the City.
3. MRF and MSW incineration reflects the operation of the NAR project.
4. The Class III/IV landfill assumes that 50% of the estimated material (from Table II-6) goes into the facility by 1995 and that 75% goes in by 2000. This represents only that portion of the waste not all ready handled by existing programs.
5. The industrial source reduction assumes that 10%, 20%, and 30% are removed in years 1995, 2000, 2005 respectively. The estimated 1993 industrial tonnage is 30,000 tons.
6. Washington County wastestream does not include Unicoi County.
7. The existing commercial recycling (other) is increased at a rate of 5%/year, as is the dropoff after 2000.
8. Years 2000 - 2005 assumes that 25% of the waste is transferred to the NAR project, that 25% is recovered for recycling, and that the remainder is taken to a Class I facility.

TABLE IV-17
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
COMPARISON OF THE PROJECTED CLASS I DISPOSAL
AND THE ALLOWABLE CLASS I DISPOSAL

JUNE 22, 1994

YEAR	CARTER CO.		CARTER CO.		DIFFERENCE		JOHNSON CO.		DIFFERENCE		REGIONAL		DIFFERENCE	
	PROJECTED DISPOSAL	ALLOWABLE DISPOSAL												
1993	39,280	39,280	0	0	8,766	8,766	0	0	151,557	151,557	0	0	151,557	151,557
1994	37,415	37,415	0	0	9,026	9,026	0	0	153,249	153,249	0	0	153,249	153,249
1995	35,286	29,470	5,816	5,816	8,306	6,556	1,750	1,750	142,677	142,677	10,300	10,300	142,677	132,377
1996	34,591	29,476	5,115	5,115	8,161	6,535	1,626	1,626	140,390	140,390	7,855	7,855	140,390	132,535
1997	33,922	29,499	4,423	4,423	8,031	6,525	1,506	1,506	138,174	138,174	5,420	5,420	138,174	132,754
1998	33,240	29,520	3,720	3,720	7,897	6,511	1,386	1,386	135,914	135,914	2,964	2,964	135,914	132,950
1999	32,563	29,537	3,026	3,026	7,766	6,500	1,266	1,266	133,685	133,685	522	522	133,685	133,163
2000	23,925	29,557	(5,632)	(5,632)	3,813	6,487	(2,674)	(2,674)	96,580	96,580	(36,783)	(36,783)	96,580	133,363
2001	23,601	29,518	(5,917)	(5,917)	3,757	6,464	(2,707)	(2,707)	95,369	95,369	(37,934)	(37,934)	95,369	133,303
2002	23,276	29,478	(6,202)	(6,202)	3,698	6,439	(2,741)	(2,741)	94,037	94,037	(39,192)	(39,192)	94,037	133,229
2003	22,956	29,440	(6,484)	(6,484)	3,642	6,417	(2,775)	(2,775)	92,718	92,718	(40,453)	(40,453)	92,718	133,171

YEAR	UNICOI CO.		UNICOI CO.		DIFFERENCE		WASHINGTON CO.		DIFFERENCE		WASHINGTON CO.		DIFFERENCE	
	PROJECTED DISPOSAL	ALLOWABLE DISPOSAL												
1993	13,261	13,261	0	0	90,250	90,250	0	0	90,250	90,250	0	0	90,250	90,250
1994	13,525	13,525	0	0	93,283	93,283	0	0	93,283	93,283	0	0	93,283	93,283
1995	11,929	12,207	(278)	(278)	87,156	84,144	3,012	3,012	84,144	84,144	3,012	3,012	84,144	81,132
1996	11,662	12,187	(525)	(525)	85,976	84,337	1,639	1,639	84,337	84,337	1,639	1,639	84,337	82,698
1997	11,407	12,179	(772)	(772)	84,814	84,551	263	263	84,551	84,551	263	263	84,551	84,288
1998	11,145	12,163	(1,018)	(1,018)	83,632	84,756	(1,124)	(1,124)	84,756	84,756	(1,124)	(1,124)	84,756	83,632
1999	10,891	12,155	(1,264)	(1,264)	82,465	84,971	(2,506)	(2,506)	84,971	84,971	(2,506)	(2,506)	84,971	82,465
2000	7,873	12,143	(4,270)	(4,270)	60,969	85,176	(24,207)	(24,207)	85,176	85,176	(24,207)	(24,207)	85,176	60,969
2001	7,837	12,104	(4,267)	(4,267)	60,174	85,217	(25,043)	(25,043)	85,217	85,217	(25,043)	(25,043)	85,217	60,174
2002	7,698	12,063	(4,365)	(4,365)	59,365	85,249	(25,884)	(25,884)	85,249	85,249	(25,884)	(25,884)	85,249	59,365
2003	7,563	12,026	(4,463)	(4,463)	58,557	85,288	(26,731)	(26,731)	85,288	85,288	(26,731)	(26,731)	85,288	58,557

NOTES:

1. Projected disposal taken from Tables IV-13 to IV-16. Years 2000 - 2003 sum Class I disposal with MSW incineration under projected disposal.
2. For the years 1993 and 1994 diversion is not required and hence is not shown.
3. Carter and Johnson Counties values utilize the 1993 diversion calculations.



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TABLE IV-19
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 DIVERSION RATES CALCULATED AS PERCENT
 OF PROJECTED WASTE GENERATION

JUNE 22, 1994

YEAR	CARTER CO.		DIVERSION RATE (%)		JOHNSON CO.		DIVERSION RATE (%)		REGIONAL		DIVERSION RATE (%)
	PROJECTED GENERATION	ESTIMATED DIVERSION									
1993	41,264	1,984	5%	9,316	550	6%	169,852	18,295	11%		
1994	42,492	5,077	12%	9,576	550	6%	174,786	21,537	12%		
1995	42,535	7,249	17%	9,572	1,266	13%	175,077	32,400	19%		
1996	42,544	7,953	19%	9,542	1,381	14%	175,250	34,860	20%		
1997	42,575	8,653	20%	9,528	1,497	16%	175,494	37,320	21%		
1998	42,604	9,364	22%	9,509	1,612	17%	175,716	39,802	23%		
1999	42,627	10,064	24%	9,494	1,728	18%	175,955	42,270	24%		
2000	42,655	18,730	44%	9,476	3,757	40%	176,178	77,692	44%		
2001	42,600	18,999	45%	9,445	3,810	40%	176,095	78,848	45%		
2002	42,545	19,269	45%	9,411	3,863	41%	175,995	80,108	46%		
2003	42,494	19,538	46%	9,379	3,916	42%	175,914	81,375	46%		
YEAR	UNICOI CO.		DIVERSION RATE (%)		WASHINGTON CO.		DIVERSION RATE (%)		REGIONAL		DIVERSION RATE (%)
	PROJECTED GENERATION	ESTIMATED DIVERSION									
1993	13,261	0	0%	106,011	15,761	15%	15,761	15,761	15%		
1994	13,613	88	1%	109,105	15,822	15%	15,822	15,822	15%		
1995	13,619	1,690	12%	109,351	22,195	20%	22,195	22,195	20%		
1996	13,597	1,935	14%	109,567	23,591	22%	23,591	23,591	22%		
1997	13,587	2,180	16%	109,804	24,990	23%	24,990	24,990	23%		
1998	13,571	2,426	18%	110,032	26,400	24%	26,400	26,400	24%		
1999	13,562	2,671	20%	110,272	27,807	25%	27,807	27,807	25%		
2000	13,547	5,674	42%	110,500	49,531	45%	49,531	49,531	45%		
2001	13,505	5,668	42%	110,545	50,371	46%	50,371	50,371	46%		
2002	13,459	5,761	43%	110,580	51,215	46%	51,215	51,215	46%		
2003	13,418	5,855	44%	110,623	52,066	47%	52,066	52,066	47%		

NOTES:

1. Projected generation and diversion taken from Tables IV13 to IV16. For the years 2000 - 2003 it is assumed that the NAR project has come on line and diversion includes existing activities, proposed activities, and recyclables from NAR. (Estimated)

TABLE VIII-1
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
WASTE DIVERSION COST ESTIMATES

CARTER COUNTY

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	WASTE TO CLASS I LANDFILL	COLLECTION COSTS	ANNUAL COST ESTIMATES
1993	39,280	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$585,200	\$472,780	\$1,061,980
1994	42,482	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$537,380	\$472,780	\$1,110,160
1995	42,535	\$17,160	\$32,440	\$0	\$164,215	\$81,277	\$0	\$0	\$0	\$705,720	\$472,780	\$1,476,432
1996	42,544	\$21,600	\$80,860	\$0	\$179,498	\$81,277	\$0	\$0	\$0	\$691,820	\$472,780	\$1,486,335
1997	42,575	\$25,800	\$89,480	\$0	\$195,818	\$81,277	\$0	\$0	\$0	\$681,972	\$472,780	\$1,701,325
1998	42,604	\$30,600	\$78,120	\$0	\$212,134	\$81,277	\$0	\$0	\$0	\$684,240	\$472,780	\$1,708,551
1999	42,627	\$34,800	\$86,640	\$0	\$228,452	\$81,277	\$0	\$0	\$0	\$648,640	\$472,780	\$1,715,789
2000	42,655	\$32,850	\$79,300	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$414,804	\$567,336	\$1,411,487
2001	42,800	\$37,850	\$87,100	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$409,200	\$567,336	\$1,413,683
2002	42,545	\$42,850	\$94,900	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$403,600	\$567,336	\$1,415,883
2003	42,494	\$47,800	\$102,600	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$399,000	\$567,336	\$1,417,983
2004	42,443	\$52,800	\$110,400	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$392,000	\$567,336	\$1,419,783
2005	42,392	\$48,240	\$108,380	\$24,000	\$244,770	\$81,277	\$0	\$0	\$0	\$386,900	\$567,336	\$1,410,663

NOTES:

1. Tonrages used to calculate costs taken from Table IV-13.
2. Costs for curbside and dropoff recycling taken from Tables IV-7 and IV-9 respectively.
3. Cost for Class III/IV disposal assume a 20 tpd facility.
4. Costs for the recycled component of the NAR project assume that the sale of recyclables offsets the costs of processing.
The only cost shown is for transportation.
5. Costs for Class I landfilling assume a regional facility at Carter County (600 tpd)
6. Collection costs are increased by 20% in 2000 to reflect the new collection system for NAR.



Draper Aden Associates
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NASHVILLE, TN 37203

TABLE VIII-2
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
WASTE DIVERSION COST ESTIMATES

JOHNSON COUNTY

JUNE 22, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/ MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I LANDFILL	COLLECTION COSTS	ANNUAL COST ESTIMATES
1993	9,316	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,500	\$105,695	\$272,195
1994	9,576	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$171,500	\$105,695	\$277,195
1995	9,572	\$4,960	\$9,480	\$0	\$21,074	\$0	\$0	\$0	\$0	\$199,300	\$105,695	\$340,529
1996	9,542	\$6,240	\$10,920	\$0	\$23,206	\$0	\$0	\$0	\$0	\$195,900	\$105,695	\$341,961
1997	9,528	\$7,500	\$12,480	\$0	\$25,338	\$0	\$0	\$0	\$0	\$208,800	\$105,695	\$359,613
1998	9,509	\$8,760	\$13,920	\$0	\$27,470	\$0	\$0	\$0	\$0	\$203,100	\$105,695	\$358,945
1999	9,494	\$10,020	\$15,480	\$0	\$29,602	\$0	\$0	\$0	\$0	\$198,700	\$105,695	\$360,497
2000	9,478	\$9,400	\$14,100	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$98,100	\$128,834	\$321,086
2001	9,445	\$10,800	\$15,400	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$96,600	\$128,176	\$321,628
2002	9,411	\$12,200	\$16,700	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$95,100	\$128,176	\$322,628
2003	9,379	\$13,600	\$18,100	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$93,700	\$128,176	\$324,228
2004	9,347	\$15,000	\$19,400	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$92,300	\$128,176	\$325,528
2005	9,315	\$13,080	\$18,630	\$41,000	\$31,652	\$0	\$0	\$0	\$0	\$90,800	\$128,176	\$321,338

NOTES:

1. Tonnages used to calculate costs taken from Table IV-14.
2. Costs for curbside and dropoff recycling taken from Tables II-7 and II-9 respectively.
3. Cost to Class III/IV disposal assumes a 20 tpd facility.
4. Costs for the recycled component of the NAR project assume that the sale of recyclables offsets the processing cost. The only cost shown is for transportation to the facility.
5. Costs for Class I landfilling assume a regional facility at Carter County (600 tpd)
6. Collection cost are increased by 20% in 2000 to reflect the new system for the NAR.



Draper Aden Associates
CONSULTING ENGINEERS
BLACKSBURG - RICHMOND, VIRGINIA
NASHVILLE, TENNESSEE

TABLE VIII-3
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 WASTE DIVERSION COST ESTIMATES

UNICOI COUNTY

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	CLASS III/IV LANDFILL	COMPOSTING/MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I LANDFILL	COLLECTION COSTS	ANNUAL COST ESTIMATES
1993	13,261	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$344,786	\$188,068	\$512,852
1994	13,619	\$5,260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$351,650	\$188,068	\$524,986
1995	13,619	\$5,260	\$21,840	\$0	\$54,940	\$0	\$0	\$0	\$0	\$310,154	\$188,068	\$560,260
1996	13,597	\$6,480	\$23,320	\$0	\$60,352	\$0	\$0	\$0	\$0	\$303,212	\$188,068	\$563,430
1997	13,587	\$7,680	\$28,800	\$0	\$65,764	\$0	\$0	\$0	\$0	\$296,582	\$188,068	\$566,982
1998	13,571	\$8,880	\$32,400	\$0	\$71,176	\$0	\$0	\$0	\$0	\$289,770	\$188,068	\$570,292
1999	13,562	\$10,080	\$35,680	\$0	\$78,588	\$0	\$0	\$0	\$0	\$283,166	\$188,068	\$573,760
2000	13,547	\$9,450	\$32,800	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$135,600	\$201,679	\$496,529
2001	13,505	\$10,850	\$35,800	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$135,800	\$201,679	\$501,229
2002	13,489	\$12,250	\$39,100	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$133,500	\$201,679	\$503,329
2003	13,418	\$13,650	\$42,200	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$131,100	\$201,679	\$505,629
2004	13,377	\$15,050	\$45,400	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$128,700	\$201,679	\$507,829
2005	13,336	\$13,160	\$43,650	\$35,000	\$82,000	\$0	\$0	\$0	\$0	\$126,400	\$201,679	\$501,689

NOTES:

1. Tonnes used to calculate costs taken from Table IV-15.
2. Costs for curbside and dropoff recycling taken from Tables IV-7 and IV-9 respectively.
3. Cost for Class III/IV disposal assume a 20 tpd facility.
4. Costs for the recycled component of the NAR project assume that the sale of recyclables offsets the cost of processing. The only cost shown is that for transportation.
5. Costs for Class I landfilling assume use of the Iris Glen facility.
6. Collection costs for 2000 assumes a 20% increase for the new system for the NAR project.

TABLE VIII-4
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 WASTE DIVERSION COST ESTIMATES

WASHINGTON COUNTY (INCLUDING JOHNSON CITY AND JONESBOROUGH)

MAY 13, 1994

YEAR	WASTE GENERATED	RECYCLING DROPOFF	RECYCLING CURBSIDE	RECYCLING OTHER	RECYCLING	LANDFILL	CLASS III/IV COMPOSTING/MULCH	INCINERATION YARD WASTE	INCINERATION MSW	INDUSTRIAL SOURCE REDUCTION	CLASS I COSTS	COLLECTION	ANNUAL COST ESTIMATES
1983	108,011	\$33,240	\$301,077	(?)	(?)	\$0	(?)	(?)	\$0	\$0	\$1,995,500	\$2,440,785	\$4,760,802
1984	109,705	\$33,240	\$310,104	(?)	(?)	\$0	(?)	(?)	\$0	\$0	\$2,052,228	\$2,440,785	\$4,836,355
1985	109,351	\$40,440	\$232,680	(?)	(?)	\$123,000	(?)	(?)	\$0	\$0	\$1,917,400	\$2,440,785	\$4,754,305
1986	109,387	\$48,800	\$271,350	(?)	(?)	\$135,300	(?)	(?)	\$0	\$0	\$1,891,500	\$2,440,785	\$4,785,705
1987	109,804	\$53,220	\$309,860	(?)	(?)	\$147,600	(?)	(?)	\$0	\$0	\$1,865,900	\$2,440,785	\$4,817,465
1988	110,032	\$59,640	\$348,720	(?)	(?)	\$159,900	(?)	(?)	\$0	\$0	\$1,839,900	\$2,440,785	\$4,848,945
1989	110,272	\$68,000	\$387,240	(?)	(?)	\$172,200	(?)	(?)	\$0	\$0	\$1,814,200	\$2,440,785	\$4,880,425
2000	110,500	\$58,750	\$355,000	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$894,200	\$3,417,099	\$4,910,549
2001	110,545	\$92,750	\$380,700	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$882,600	\$3,417,099	\$4,937,849
2002	110,580	\$85,950	\$428,500	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$870,700	\$3,417,099	\$4,964,849
2003	110,623	\$89,150	\$462,300	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$858,900	\$3,417,099	\$4,991,849
2004	110,666	\$72,600	\$498,000	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$846,700	\$3,417,099	\$5,018,899
2005	110,709	\$76,250	\$533,800	\$0	\$0	\$184,500	(?)	(?)	\$0	\$0	\$834,900	\$3,417,099	\$5,046,549

NOTES:

1. Tonnages used to calculate costs taken from Table IV-16.
2. Costs for curbside are estimated at \$177/ton collected for the existing system with a decreasing cost over time.
3. Costs for the dropoff system are taken from Table II-9 and are estimates only. They do not represent actual system costs.
4. Costs for Class III/IV disposal assume a 20 tpd facility.
5. Costs for the recycled component "other" for the years 2000 - 2005 are assumed to be offset by the sale of recycled materials.
6. Costs for the Class I landfilling assume use of the Iris Glen facility.
7. Inflation is not included in the above costs.
8. Collection costs for 2000 reflect additional costs for the new system for the NAR project (40% increase).

TABLE VIII-6 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN POTENTIAL DISPOSAL OPTIONS MSW AND DEBRIS 1995 JUNE 22, 1994									
LOCALITY	MATERIAL	TONNAGE 1995	DISPOSAL SITE	DISPOSAL (\$/TON)	TRANSFER STA. (\$/TON)	TRANSPORT (\$/TON)	TOTAL (\$/TON)	TOTAL (\$/YEAR)	
CARTER COUNTY	MSW	35,286	CARTER CO. (250 TPD)	\$43.27	\$0.00	\$0.00	\$43.27	\$1,528,825	
	MSW	35,286	CARTER CO. (600 TPD)	\$25.72	\$0.00	\$0.00	\$25.72	\$907,536	
	MSW	35,286	IRIS GLEN	\$25.50	\$6.00	\$3.00	\$34.50	\$1,217,367	
	MSW (2000)	15,954	NAR - DISPOSAL	\$25.72	\$0.00	\$0.00	\$25.72	\$410,337	
	MSW (2000)	7,871	NAR - PROCESSING	\$0.00	\$0.00	\$3.00	\$3.00	\$23,913	
	DEBRIS	3,960	CARTER CO. (20 TPD)	\$41.26	\$0.00	\$0.00	\$41.26	\$164,215	
	DEBRIS	3,960	CARTER CO. (100 TPD)	\$15.30	\$0.00	\$0.00	\$15.30	\$60,894	
	DEBRIS	3,960	IRIS GLEN	\$25.50	\$0.00	\$3.20	\$28.70	\$114,226	
	MSW	6,308	CARTER CO. (250 TPD)	\$43.27	\$12.00	\$0.00	\$55.27	\$276,218	
	MSW	6,308	CARTER CO. (600 TPD)	\$25.72	\$12.00	\$6.88	\$44.60	\$370,448	
JOHNSON COUNTY	MSW	6,308	IRIS GLEN	\$25.50	\$12.00	\$9.18	\$46.68	\$387,724	
	MSW (2000)	3,613	NAR - DISPOSAL	\$25.72	\$12.00	\$6.88	\$44.60	\$170,060	
	MSW (2000)	1,900	NAR - PROCESSING	\$0.00	\$12.00	\$9.60	\$21.60	\$41,040	
	DEBRIS	514	CARTER CO. (20 TPD)	\$41.26	\$0.00	\$0.00	\$41.26	\$21,442	
	DEBRIS	514	CARTER CO. (100 TPD)	\$15.30	\$0.00	\$0.00	\$15.30	\$12,780	
	DEBRIS	514	JOHNSON CO.	\$41.26	\$0.00	\$0.00	\$41.26	\$21,208	
	DEBRIS	514	IRIS GLEN	\$25.50	\$0.00	\$12.80	\$38.30	\$19,688	
	MSW	87,156	IRIS GLEN	\$22.00	\$0.00	\$0.00	\$22.00	\$1,917,432	
	MSW (2000)	40,647	NAR - DISPOSAL	\$22.00	\$0.00	\$0.00	\$22.00	\$894,234	
	MSW (2000)	22,086	NAR - PROCESSING	\$0.00	\$0.00	\$0.00	\$0.00	\$0	
WASHINGTON COUNTY	DEBRIS	3,000	CARTER CO. (100 TPD)	\$15.30	\$0.00	\$3.20	\$18.50	\$55,500	
	DEBRIS	3,000	WASHINGTON (ONLY)	\$41.26	\$0.00	\$0.00	\$41.26	\$123,780	
	MSW	11,929	IRIS GLEN	\$25.50	\$0.00	\$12.70	\$38.20	\$455,686	
	MSW (2000)	5,216	NAR DISPOSAL	\$25.50	\$0.00	\$0.00	\$25.50	\$135,008	
	MSW (2000)	2,757	NAR - PROCESSING	\$0.00	\$0.00	\$12.70	\$12.70	\$35,014	
	DEBRIS	1,340	UNICOLI	\$41.26	\$0.00	\$0.00	\$41.26	\$55,288	
	DEBRIS	1,340	IRIS GLEN	\$25.50	\$0.00	\$12.67	\$38.17	\$51,148	
	DEBRIS	1,340	CARTER CO. (100 TPD)	\$15.30	\$0.00	\$6.40	\$21.70	\$29,078	

NOTES:

1. Tonnage is taken from the 1995 values presented in the Solid Waste Plan (Table III-3). MSW is calculated as the total tonnage minus the estimated wood and yard waste components and other diversion activities.
2. The disposal costs are taken from general quotes from WMI for Iris Glen and do not necessarily represent actual contract prices. The disposal costs for all other facilities are taken from conceptual cost estimates developed by Draper Aden Associates and do NOT represent actual facilities.
3. Note for Washington County, that Unicol has been subtracted out.
4. Disposal costs for the NAR alternative are broken into disposal and processing. Localities have a variety of choices for disposal. For processing the Johnson City transfer station is utilized. Processing costs are assumed to be offset by the sale of the recyclables.
5. NAR costs do not include revenues from recyclables or ash disposal.
6. Inflation is not included.

TABLE VIII-7
 NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
 TRANSPORTATION OPTIONS AND COSTS
 MSW AND DEBRIS
 1995

JUNE 22, 1994

LOCALITY/DESTINATION	TYPE OF TRANSPORT	MATERIAL	TONNAGE 1995	APPROX. RT MILES/TRIP	TRIPS/YEAR	COST/MILE	ANNUAL MILES	ANNUAL COSTS	COST PER TON
CARTER COUNTY TO IRIS GLEN	Semi Trailer	MSW	35,286	20	2,076	\$1.95	41,513	\$80,950	\$2.29
	Collection	MSW	35,286	-	-	-	0	\$0	\$0.00
	Rolloff	DEBRIS	3,980	20	398	\$1.60	7,960	\$12,736	\$3.20
JOHNSON COUNTY TO CARTER CO.	Semi Trailer	MSW	8,306	60	489	\$1.95	29,315	\$57,165	\$6.88
	Rolloff	DEBRIS	514	60	51	\$1.60	3,084	\$4,934	\$9.60
	Semi Trailer	MSW	8,306	80	489	\$1.95	39,087	\$76,220	\$9.18
TO IRIS GLEN	Rolloff	DEBRIS	514	80	51	\$1.60	4,112	\$6,579	\$12.80
	Semi Trailer	MSW	8,306	60	489	\$1.95	29,315	\$57,165	\$6.88
UNICOI COUNTY TO IRIS GLEN	(?)	MSW	11,929	30	-	-	0	\$0	\$0.00
	(?)	DEBRIS	1,340	30	-	-	0	\$0	\$0.00
	(?)	DEBRIS	1,340	30	-	-	0	\$0	\$0.00
TO WASH. CO. TO CARTER CO.	Rolloff	DEBRIS	1,340	40	134	\$1.60	5,360	\$8,576	\$6.40
	(?)	MSW	11,929	40	-	-	0	\$0	\$0.00
WASHINGTON COUNTY TO CARTER CO.	Rolloff	DEBRIS	3,000	20	300	\$1.60	6,000	\$9,600	\$3.20
	Semi Trailer	MSW	87,156	20	5,127	\$1.95	102,536	\$199,946	\$2.29

NOTES:
 1. Annual tonnage based on the 1995 broken into components as per Table II-1
 2. Distances are approximate only and were measured with a map wheel using the, "TENNESSEE ATLAS AND GAZETTER". Johnson County distances were based on measurements and not the transfer station study.
 3. Cost per mile were taken from, "SOLID WASTE: TRANSPORTATION AND OTHER COSTS, by the University of Tennessee, County Technical Assistance Service.
 Costs include the driver, capital costs for the trucks as well as operating expenses. Driver hourly rates assumed to be \$7/hour for the rolloff and \$9/hour for the semi trailer.
 4. Tonnages per load assume the following:
 SEMI TRAILER 17 tons
 ROLLOFF 10 tons

TABLE VIII-8
NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLAN
TRANSFER STATION COSTS

JUNE 22, 1984

ITEMS	JOHNSON COUNTY	CARTER COUNTY
A. CAPITAL EXPENDITURES		
1. SITE WORK		
Grading	\$124,000	\$150,000
Utilities	\$10,000	\$20,000
Water line	\$40,000	\$0
Paving	\$32,000	\$64,000
Fencing	\$30,000	\$30,000
Gravel for Storage	\$12,000	\$12,000
Concrete Pads	\$4,000	\$4,000
2. BUILDING		
Transfer Station	\$180,000	\$360,000
Scales Incoming	\$36,000	\$0
Scales loading	\$0	\$16,000
Retaining walls	\$45,000	\$60,000
3. ENGINEERING/LEGAL		
	\$78,000	\$78,000
4. LAND ACQUISITION		
	\$0	\$0
5. EQUIPMENT		
Recycling Equipment	\$20,000	\$20,000
SUBTOTAL	\$611,000	\$814,000
Contingency (5%)	\$30,550	\$40,700
TOTAL	\$641,550	\$854,700
AMORTIZED @ 8%/20YR	\$65,342	\$67,051
COST PER TON	\$7.45	\$3.60
B. OPERATIONS		
1. PERSONNEL		
Operators (\$16,000/EA)	\$32,000	\$48,000
2. UTILITIES	\$4,600	\$6,000
SUBTOTAL	\$36,600	\$54,000
Contingency (15%)	\$5,490	\$8,100
TOTAL	\$42,090	\$62,100
C. TOTAL ANNUAL COSTS	\$107,432	\$149,151
D. COST PER TON	\$12	\$6

NOTES:

1. Tonnages for the various localities assumed as follows (1993)

Johnson County 8,766 tpy
Carter County 39,280 tpy

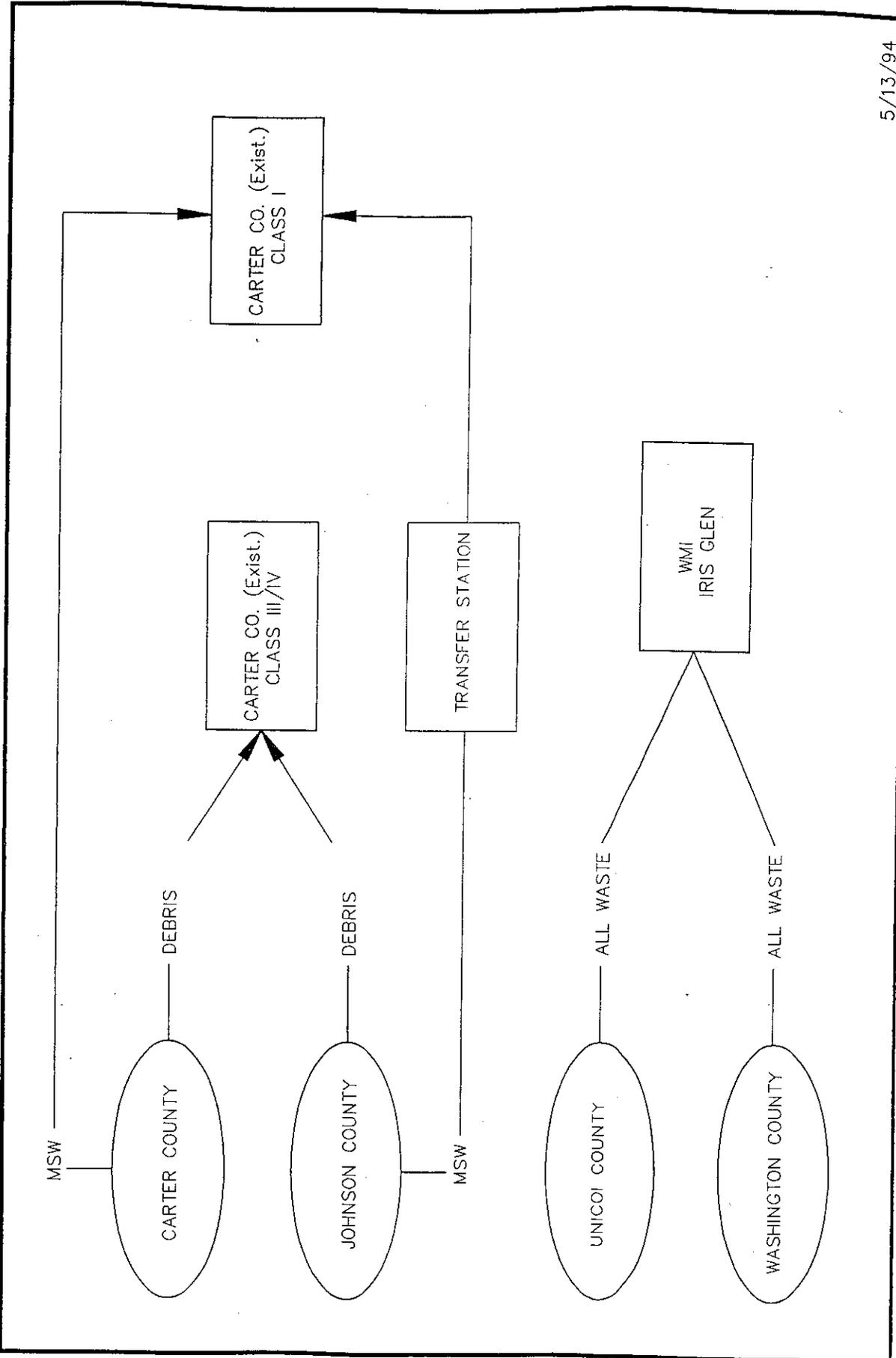
For all tonnages except Johnson Co. it is assumed that only MSW will be brought to the transfer station. Johnson County was not changed from their original transfer station study.

2. Costs for the transfer stations are extrapolated from those utilized by Johnson County in their ARC grant request.



APPENDIX 2

Figures



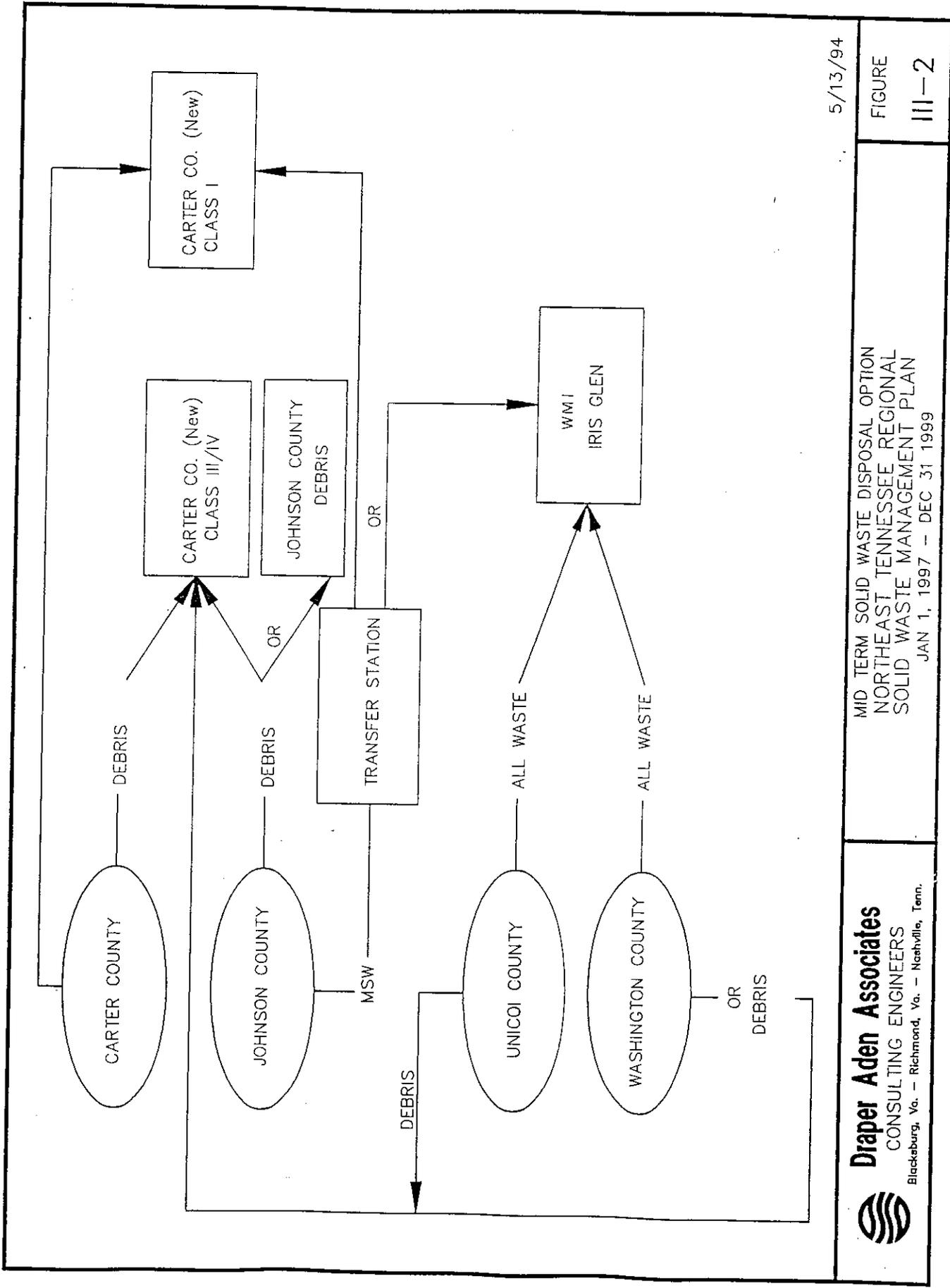
5/13/94

FIGURE III-1

SHORT TERM SOLID WASTE DISPOSAL OPTION
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN
 JAN 1, 1994 DEC 31 1996

Draper Aden Associates
 CONSULTING ENGINEERS
 Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.





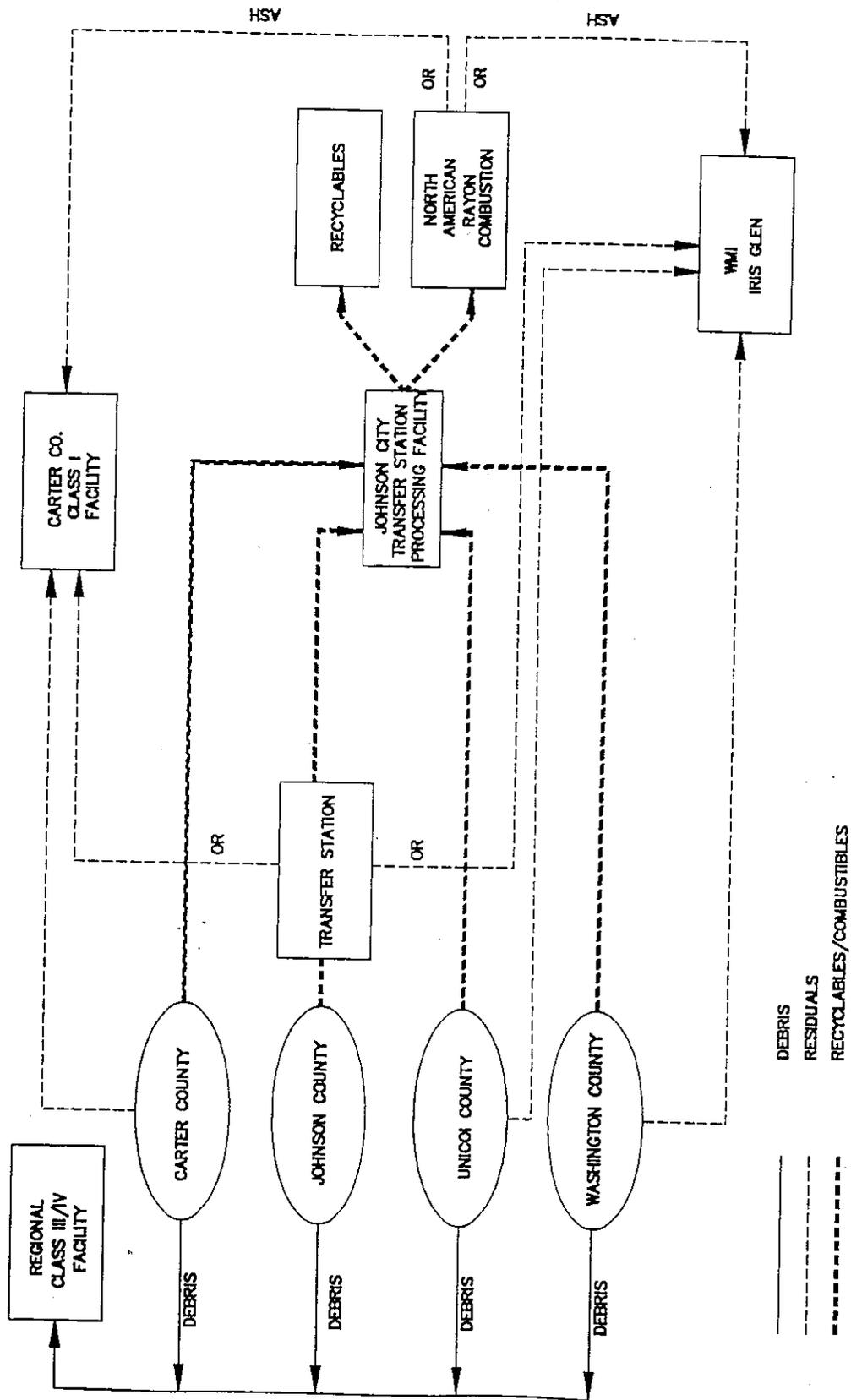
5/13/94

FIGURE
III-2

MID TERM SOLID WASTE DISPOSAL OPTION
NORTHEAST TENNESSEE REGIONAL
SOLID WASTE MANAGEMENT PLAN
JAN 1, 1997 - DEC 31 1999

Draper Aden Associates
CONSULTING ENGINEERS
Blackaburg, Va. - Richmond, Va. - Nashville, Tenn.





5/13/94

LONG TERM SOLID WASTE DISPOSAL OPTION
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN
 JAN 1, 2000 - JAN 1, 2003

FIGURE
 III-3

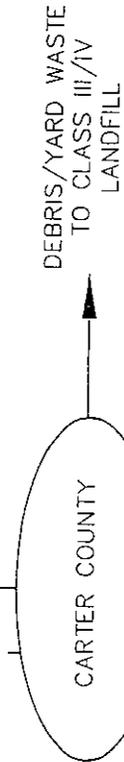
Draper Aden Associates
 CONSULTING ENGINEERS
 Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.



PROPOSED DROPOFFS AT
 * CONVENIENCE CENTERS (2)
 * SCHOOLS

POSSIBLE
 CURBSIDE
 PROGRAM

DROPOFF RECYCLING AT
 * LANDFILL



5/13/94

FIGURE

III-4

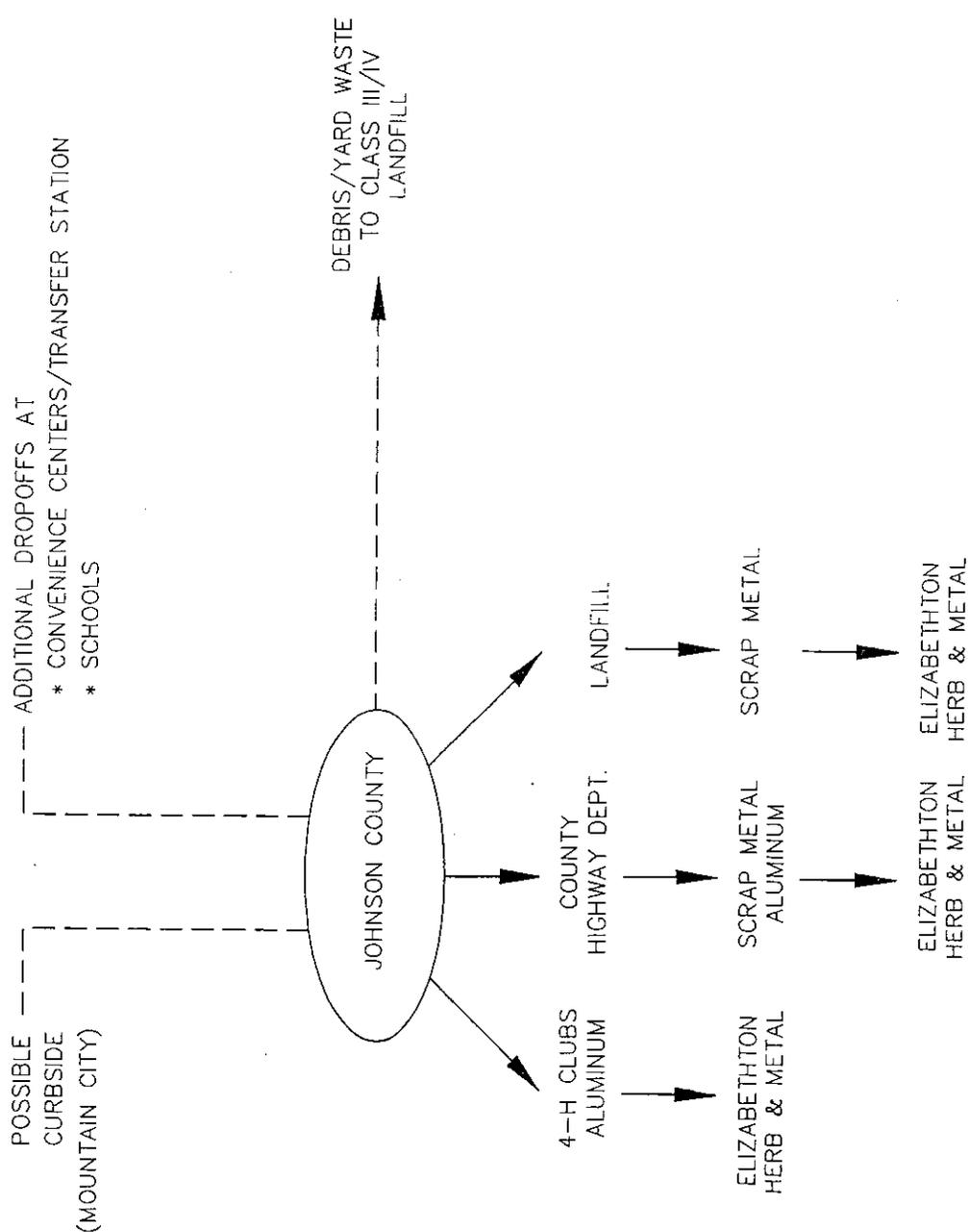
CARTER COUNTY DIVERSION PROGRAM
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN

Draper Aden Associates

CONSULTING ENGINEERS

Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.





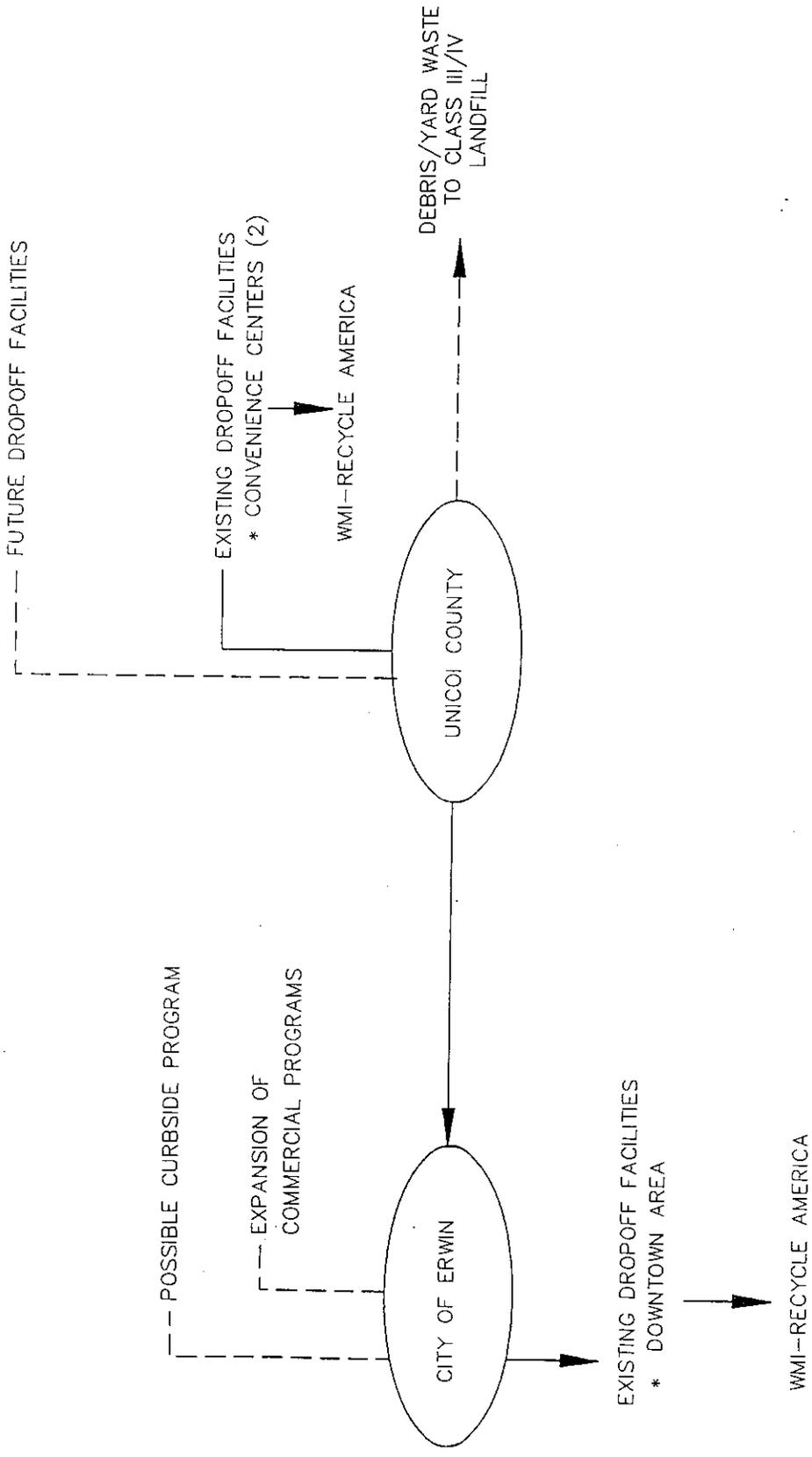
5/13/94

FIGURE III-5

JOHNSON COUNTY DIVERSION PROGRAM
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN

Draper Aden Associates
 CONSULTING ENGINEERS
 Blockaburg, Va. - Richmond, Va. - Nashville, Tenn.





5/13/94

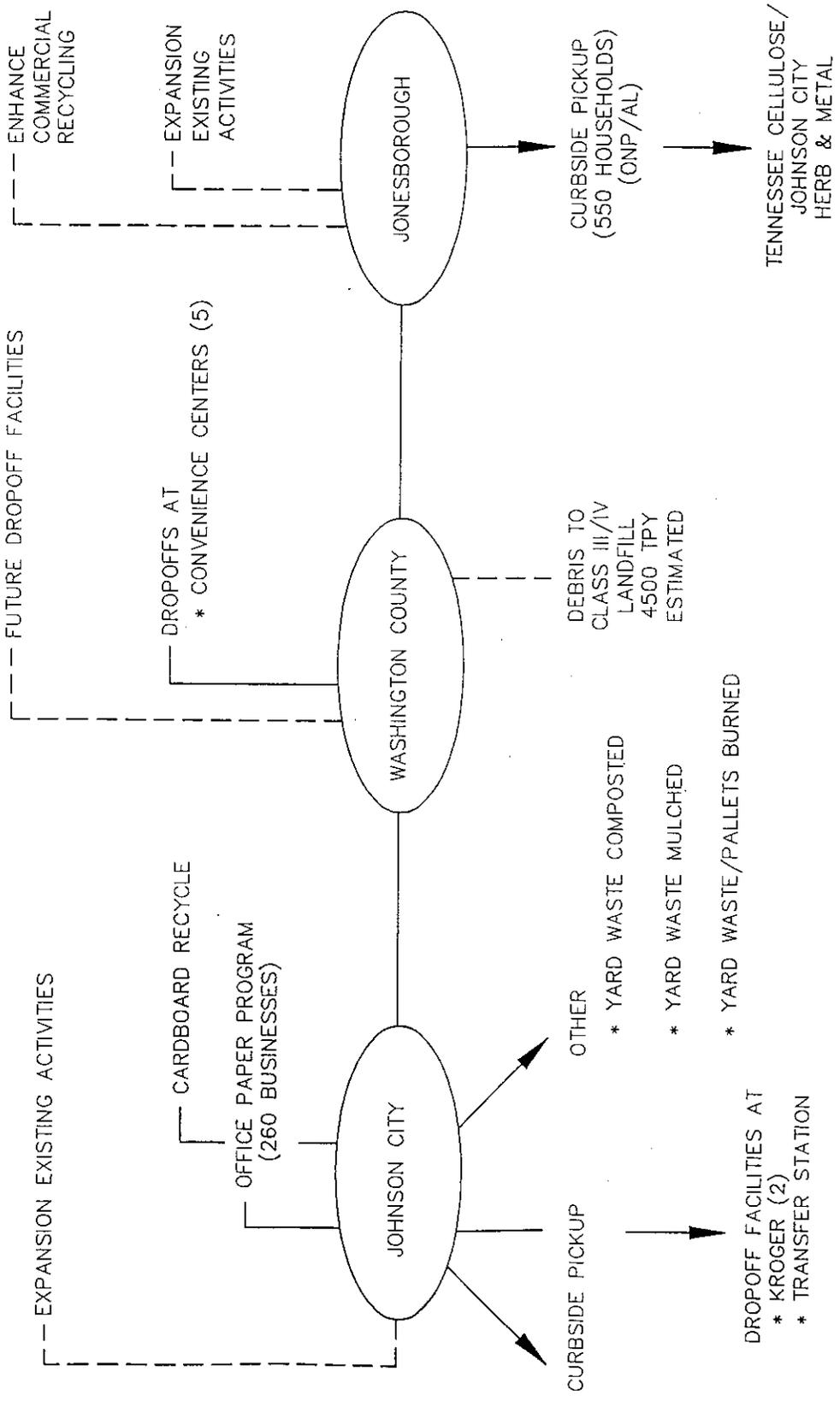
FIGURE

11-6

UNICOI COUNTY DIVERSION PROGRAM
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN

Draper Aden Associates
 CONSULTING ENGINEERS
 Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.





5/13/94

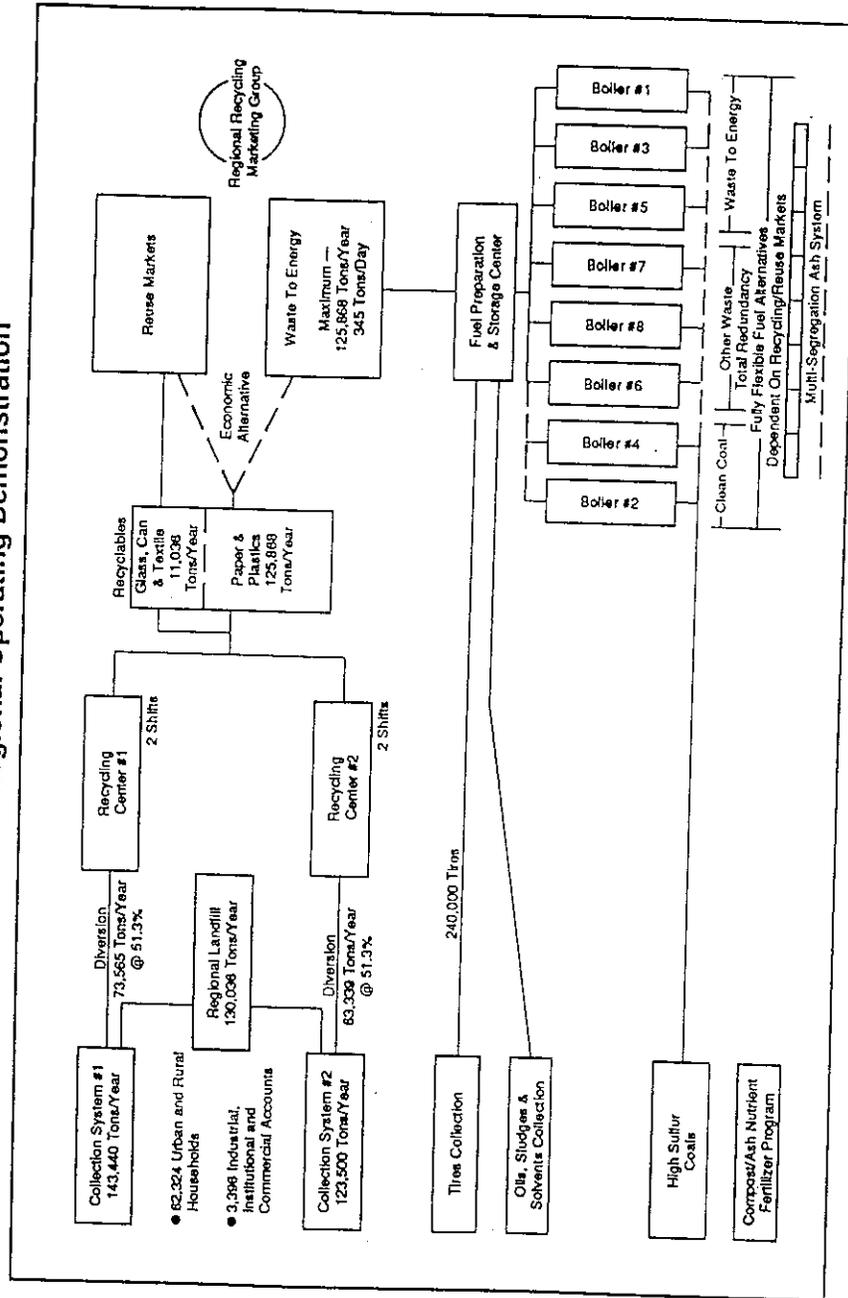
RESIDENTIAL RECYCLING 3,309 TPY

FIGURE III-7

WASHINGTON COUNTY DIVERSION PROGRAM
 NORTHEAST TENNESSEE REGIONAL
 SOLID WASTE MANAGEMENT PLAN

Draper Aden Associates
 CONSULTING ENGINEERS
 Blacksburg, Va. - Richmond, Va. - Nashville, Tenn.

Northeast Tennessee Regional Integrated Energy & Waste Management/Waste Utilization Program
Phase IV — Regional Operating Demonstration



APPENDIX 3
Conceptual Costs
Landfill Development

PROPOSED LANDFILL - COST ESTIMATE STUDY

CARTER COUNTY - 600 TPD

Conceptual Landfill Size
 Conceptual Landfill Development Costs
 Prepared by DRAPER ADEN ASSOCIATES
 May 9, 1994

Solid Waste Flow and Growth Estimates:

1980 Population Estimate	=	NA
1990 Population Estimate	=	NA
Future Growth Estimate (% per year)	=	0.00%
1994 Tonnage Estimate (7 Day Daily Avg)	=	600
1994 Tonnage Projected from Pop.	=	NA

Landfill Design Parameters:

State Design Requirements (TN, VA, etc.)	=	TN
Facility Class*	=	1
Type of Liner/Cap**	=	2
Liner Geonet: Conventional Drainage Ratio	=	0
Liner Subgrade: Cell Footprint Ratio	=	1
Avg Depth of Liner Subgrade Req'd (ft)	=	10
Avg Depth of Excavation (ft)	=	20
Avg Depth of Fill (ft)	=	110
Compaction Rate (lbs/cy)	=	1000

* 1 = Sanitary, II = Debris, IV = Inert Debris
 ** 0 = Synthetic, 1 = Clay, 2 = EPA Composite

Landfill Sizing/Planning Factors:

Reduce Number of Phases/Cells --> <ALT-W>	=	10
Usable/Non-usable Land Factor	=	10
Average Phase/Cell Life (Yrs)	=	1.0
Enter Known Land Purchase (acres)	=	345
1994 Maximum Average Phase/Cell Life Projected from Land Purchase --> <ALT-V>	=	1.0

Capital Funding Factors:

Known 1994 Annual Operations Cost	=	NA
Equipment Life Cycle (Yrs)	=	7
Long Term Amortization (Yrs)	=	10
Amortization Interest Rate (%)	=	7.00%
Sinking Fund Interest Rate (%)	=	5.00%
Inflation Rate (%)	=	3.50%

A. PER YEAR GROWTH ESTIMATES:

Growth Rate = 0.00%, Inflation Rate = 3.50%, Facility Size: 400-600 TPD

Phase/Cell	Year	Annual Population Average	Annual Waste Tonnage Average (7 Day Daily Avg in Tons)	Annual Average Operations Cost (in Actual \$)
1	1994	NA	600	\$2,681,384
2	1995-1995	NA	600	\$2,723,469
3	1996-1996	NA	600	\$2,806,499
4	1997-1997	NA	600	\$2,895,050
5	1998-1998	NA	600	\$2,986,700
6	1999-1999	NA	600	\$3,081,558
7	2000-2000	NA	600	\$3,179,736
8	2001-2001	NA	600	\$3,281,350
9	2002-2002	NA	600	\$3,461,799
10	2003-2003	NA	600	\$3,570,650
	2004-2004	NA	600	\$3,683,312

D. FIELD OR INCREMENTAL COSTS OF PHASED CONSTRUCTION (in Actual \$):

# of Layers or Depth	Component	Unit Cost	Phase 1 Quantities	Phase 1 Costs	Phase 2 Quantities	Phase 2 Costs	Phase 3 Quantities	Phase 3 Costs	Phase 4 Quantities	Phase 4 Costs
	Cleaning & Grub (ac)	\$1,500	3.6	\$5,430	3.6	\$5,430	3.6	\$5,430	3.6	\$5,430
	Excavation & Stock (cy)	\$4	106,182	\$424,727	106,182	\$424,727	106,182	\$424,727	106,182	\$424,727
	Subgrade Prep. (ac)	\$4,000	3.3	\$13,163	3.3	\$13,163	3.3	\$13,163	3.3	\$13,163
1 ft	Liner System									
	Cushion (cy)	\$2	5,575	\$11,149	5,575	\$11,149	5,575	\$11,149	5,575	\$11,149
1 layer	Filter Fabric/Grid (sf)	\$0.20	150,513	\$30,103	150,513	\$30,103	150,513	\$30,103	150,513	\$30,103
1 ft	Conventional Drainage (cy)	\$36	5,575	\$200,684	5,575	\$200,684	5,575	\$200,684	5,575	\$200,684
0	Geonet Drainage (sf)	\$0.30	0	\$0	0	\$0	0	\$0	0	\$0
1 layer	Liner 1 (60 mil) (sf)	\$0.65	150,513	\$97,833	150,513	\$97,833	150,513	\$97,833	150,513	\$97,833
0	Conventional Drainage (cy)	\$5	0	\$0	0	\$0	0	\$0	0	\$0
0	Geonet Drainage (sf)	\$0.30	0	\$0	0	\$0	0	\$0	0	\$0
2 ft	On-Site Clay Liner 2 (cy)	\$12.50	11,149	\$139,364	11,149	\$139,364	11,149	\$139,364	11,149	\$139,364
10 ft	Liner System Subgrade (cy)	\$3	55,745	\$167,236	55,745	\$167,236	55,745	\$167,236	55,745	\$167,236
	Leachate System									
	Leachate Collection (lf)	\$25	3,246	\$81,138	3,246	\$81,138	3,246	\$81,138	3,246	\$81,138
	Leak Detection (lf)	\$25	0	\$0	0	\$0	0	\$0	0	\$0
	Manholes (ea)	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500
	Road Extensions (lf)	\$10	379	\$3,786	379	\$3,786	379	\$3,786	379	\$3,786
	Road Ditches (lf)	\$5	757	\$3,786	757	\$3,786	757	\$3,786	757	\$3,786
	Fertil. & Seeding (ac)	\$2,000	0.8	\$1,645	0.8	\$1,645	0.8	\$1,645	0.8	\$1,645
	Gas Probes (lf)	\$19	80	\$1,536	80	\$1,536	80	\$1,536	80	\$1,536
	Quality Control (ac)	\$17,000	3.3	\$55,943	3.3	\$55,943	3.3	\$55,943	3.3	\$55,943
	Engineering (ls)	\$80,000	1	\$80,000	1	\$80,000	1	\$80,000	1	\$80,000
Subtotal				\$1,319,023		\$1,319,023		\$1,319,023		\$1,319,023
	Subtotal (inflation)			\$1,319,023		\$1,365,189		\$1,412,970		\$1,462,424
	Contingencies (15%)			\$197,853		\$204,778		\$211,946		\$219,364
TOTAL				\$1,516,877		\$1,569,967		\$1,624,916		\$1,681,788
	Amortized Over 1.0 Years At 7.00%			Per Year -->		\$1,579,865		\$1,624,916		\$1,799,513

E. LANDFILL CLOSE-OUT COSTS, FOR EACH PHASE (in Actual \$):

# of Layers or Depth	Component	Unit Cost	Phase 1 Quantities	Phase 1 Costs	Phase 2 Quantities	Phase 2 Costs	Phase 3 Quantities	Phase 3 Costs	Phase 4 Quantities	Phase 4 Costs
1 ft	Prep and Place Cap. Topsoil (cy)	\$10	5,575	\$55,745	5,575	\$55,745	5,575	\$55,745	5,575	\$55,745
1 ft	Upper Soil Buffer (cy)	\$17	5,575	\$94,767	5,575	\$94,767	5,575	\$94,767	5,575	\$94,767
2 layer	Filter Fabric/Grid (sf)	\$0.20	376,202	\$75,256	376,202	\$75,256	376,202	\$75,256	376,202	\$75,256
0	Geonet Drainage (sf)	\$0.30	0	\$0	0	\$0	0	\$0	0	\$0
1 layer	Cap Liner (40 mil) (sf)	\$0.50	150,513	\$75,256	150,513	\$75,256	150,513	\$75,256	150,513	\$75,256
1.5 ft	Infiltration Layer (cy)	\$17	8,362	\$142,151	8,362	\$142,151	8,362	\$142,151	8,362	\$142,151
0.5 ft	Intermediate Cover (cy)	\$2	2,787	\$5,575	2,787	\$5,575	2,787	\$5,575	2,787	\$5,575
	Fertil. & Seeding (ac)	\$1,000	3.6	\$3,620	3.6	\$3,620	3.6	\$3,620	3.6	\$3,620
	Gas Venting (lf)	\$50	392	\$19,580	392	\$19,580	392	\$19,580	392	\$19,580
	Fine Gr. & Eros. Cont. (ac)	\$2,500	3.3	\$8,227	3.3	\$8,227	3.3	\$8,227	3.3	\$8,227
	Quality Control (ac)	\$9,000	3.3	\$29,617	3.3	\$29,617	3.3	\$29,617	3.3	\$29,617
	Engineering (ls)	\$50,000	1	\$50,000	1	\$50,000	1	\$50,000	1	\$50,000
	Post Closure Care Fund (Yr)*	\$0	1	\$0	1	\$0	1	\$0	1	\$0
	Corrective Action Fund (Yr)*	\$0	1	\$0	1	\$0	1	\$0	1	\$0
Subtotal (incl. Funds*)				\$559,794		\$559,794		\$559,794		\$559,794
	Subtotal (w/ inflation; not applied to Funds*)			\$559,794		\$579,387		\$599,666		\$620,654
	Contingencies (15%; not applied to Funds*)			\$83,969		\$86,908		\$89,950		\$93,098
TOTAL (incl. Funds*)				\$643,764		\$666,295		\$689,616		\$713,752
	Sinking Fund Over 1.0 Years At 5.00% Plus Fund Pymts*			Per Year -->		\$666,295		\$689,616		\$713,752

I.D. FIELD OR INCREMENTAL COSTS OF PHASED CONSTRUCTION (in Actual \$): (Continued)

DRAPER ADEN ASSOCIATES
May 9, 1994

Phase 5 Quantities	Phase 5 Coats	Phase 6 Quantities	Phase 6 Coats	Phase 7 Quantities	Phase 7 Coats	Phase 8 Quantities	Phase 8 Coats	Phase 9 Quantities	Phase 9 Coats	Phase 10 Quantities	Phase 10 Coats
3.6	\$5,430	3.6	\$5,430	3.6	\$5,430	3.6	\$5,430	3.6	\$5,430	3.6	\$5,430
106,182	\$424,727	106,182	\$424,727	106,182	\$424,727	106,182	\$424,727	106,182	\$424,727	106,182	\$424,727
3.3	\$13,163	3.3	\$13,163	3.3	\$13,163	3.3	\$13,163	3.3	\$13,163	3.3	\$13,163
5,575	\$11,149	5,575	\$11,149	5,575	\$11,149	5,575	\$11,149	5,575	\$11,149	5,575	\$11,149
150,513	\$30,103	150,513	\$30,103	150,513	\$30,103	150,513	\$30,103	150,513	\$30,103	150,513	\$30,103
5,575	\$200,684	5,575	\$200,684	5,575	\$200,684	5,575	\$200,684	5,575	\$200,684	5,575	\$200,684
0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
150,513	\$97,833	150,513	\$97,833	150,513	\$97,833	150,513	\$97,833	150,513	\$97,833	150,513	\$97,833
0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
11,149	\$139,364	11,149	\$139,364	11,149	\$139,364	11,149	\$139,364	11,149	\$139,364	11,149	\$139,364
55,745	\$167,236	55,745	\$167,236	55,745	\$167,236	55,745	\$167,236	55,745	\$167,236	55,745	\$167,236
3,246	\$81,138	3,246	\$81,138	3,246	\$81,138	3,246	\$81,138	3,246	\$81,138	3,246	\$81,138
0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500	1	\$1,500
379	\$3,786	379	\$3,786	379	\$3,786	379	\$3,786	379	\$3,786	379	\$3,786
757	\$3,786	757	\$3,786	757	\$3,786	757	\$3,786	757	\$3,786	757	\$3,786
0.8	\$1,645	0.8	\$1,645	0.8	\$1,645	0.8	\$1,645	0.8	\$1,645	0.8	\$1,645
80	\$1,536	80	\$1,536	80	\$1,536	80	\$1,536	80	\$1,536	80	\$1,536
3.3	\$55,943	3.3	\$55,943	3.3	\$55,943	3.3	\$55,943	3.3	\$55,943	3.3	\$55,943
1	\$80,000	1	\$80,000	1	\$80,000	1	\$80,000	1	\$80,000	1	\$80,000
	\$1,319,023		\$1,319,023		\$1,319,023		\$1,319,023		\$1,319,023		\$1,319,023
	\$1,513,609		\$1,566,586		\$1,621,416		\$1,678,166		\$1,736,901		\$1,797,893
	\$227,041		\$234,988		\$243,212		\$251,725		\$260,535		\$269,654
	\$1,740,651		\$1,801,573		\$1,864,629		\$1,929,891		\$1,997,437		\$2,067,347
	\$1,862,496		\$1,927,684		\$1,995,153		\$2,064,983		\$2,137,257		\$2,212,061

I.E. LANDFILL CLOSE-OUT COSTS, FOR EACH PHASE (in Actual \$): (Continued)

Phase 5 Quantities	Phase 5 Coats	Phase 6 Quantities	Phase 6 Coats	Phase 7 Quantities	Phase 7 Coats	Phase 8 Quantities	Phase 8 Coats	Phase 9 Quantities	Phase 9 Coats	Phase 10 Quantities	Phase 10 Coats
5,575	\$55,745	5,575	\$55,745	5,575	\$55,745	5,575	\$55,745	5,575	\$55,745	5,575	\$55,745
5,575	\$94,767	5,575	\$94,767	5,575	\$94,767	5,575	\$94,767	5,575	\$94,767	5,575	\$94,767
376,282	\$75,256	376,282	\$75,256	376,282	\$75,256	376,282	\$75,256	376,282	\$75,256	376,282	\$75,256
0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
150,513	\$75,256	150,513	\$75,256	150,513	\$75,256	150,513	\$75,256	150,513	\$75,256	150,513	\$75,256
8,362	\$142,151	8,362	\$142,151	8,362	\$142,151	8,362	\$142,151	8,362	\$142,151	8,362	\$142,151
2,787	\$5,575	2,787	\$5,575	2,787	\$5,575	2,787	\$5,575	2,787	\$5,575	2,787	\$5,575
3.6	\$3,620	3.6	\$3,620	3.6	\$3,620	3.6	\$3,620	3.6	\$3,620	3.6	\$3,620
392	\$19,580	392	\$19,580	392	\$19,580	392	\$19,580	392	\$19,580	392	\$19,580
3.3	\$8,227	3.3	\$8,227	3.3	\$8,227	3.3	\$8,227	3.3	\$8,227	3.3	\$8,227
3.3	\$29,617	3.3	\$29,617	3.3	\$29,617	3.3	\$29,617	3.3	\$29,617	3.3	\$29,617
1	\$50,000	1	\$50,000	1	\$50,000	1	\$50,000	1	\$50,000	1	\$50,000
1	\$0	1	\$0	1	\$0	1	\$0	1	\$0	1	\$0
1	\$0	1	\$0	1	\$0	1	\$0	1	\$0	1	\$0
	\$559,794		\$559,794		\$559,794		\$559,794		\$559,794		\$559,794
	\$642,377		\$684,860		\$686,130		\$712,215		\$737,142		\$762,942
	\$96,357		\$99,729		\$103,220		\$106,852		\$110,571		\$114,441
	\$736,734		\$764,589		\$791,350		\$819,047		\$847,714		\$877,384
	\$736,734		\$764,589		\$791,350		\$819,047		\$847,714		\$877,384

F. TOTAL CONSTRUCTION COSTS AND COST PER ACRE (less financing) (in Actual \$):

Phase	Total Construction Costs & Costs Per Acre Developed (Operations Not Included)						Total Costs	
	Long Term Component		Development Costs		Closure Costs		Total \$	Cost/Acre
	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre
Phase 1 Total Years 1-1	\$4,509,152	\$137,025	\$1,516,877	\$460,950	\$643,764	\$195,628	\$6,669,792	\$793,603
Phase 2 Total Years 2-2	-	\$137,025	\$1,569,967	\$477,084	\$666,295	\$202,475	\$2,236,263	\$816,583
Phase 3 Total Years 3-3	-	\$137,025	\$1,624,916	\$493,782	\$689,616	\$209,581	\$2,314,532	\$840,389
Phase 4 Total Years 4-4	-	\$137,025	\$1,681,789	\$511,064	\$713,752	\$216,896	\$2,395,540	\$964,985
Phase 5 Total Years 5-5	-	\$137,025	\$1,740,651	\$528,951	\$739,734	\$224,467	\$2,479,384	\$890,463
Phase 6 Total Years 6-6	-	\$137,025	\$1,801,573	\$547,464	\$764,589	\$232,344	\$2,566,163	\$916,834
Phase 7 Total Years 7-7	-	\$137,025	\$1,864,629	\$566,626	\$791,350	\$240,476	\$2,655,978	\$944,127
Phase 8 Total Years 8-8	-	\$137,025	\$1,929,891	\$586,458	\$819,047	\$248,893	\$2,748,938	\$972,375
Phase 9 Total Years 9-9	-	\$137,025	\$1,997,437	\$606,094	\$847,714	\$257,604	\$2,845,151	\$1,001,613
Phase 10 Total Years 10-10	-	\$137,025	\$2,067,347	\$628,228	\$877,384	\$266,621	\$2,944,731	\$1,031,873
Year of Closure :	2005						Post-Closure Care Fund Value:	\$0
Post-Closure Period (yrs) :	30						Corrective Action Fund Value:	\$0

At Time of Closure >>>>

G. OPERATION COST COMPONENTS (in Actual \$): Facility Size: 400-800 TPD

EQUIPMENT:		Life Cycle (years)	Quantity	Unit Cost	Total Initial Cost	Total Long Term Cost	Initial Annual Payment
Compactor	7	3	\$250,000	\$750,000	\$1,500,000	\$139,165	
Loader	7	1	\$130,000	\$130,000	\$260,000	\$24,122	
Off Road Truck/Pan	7	1	\$260,000	\$260,000	\$520,000	\$48,244	
Wheeled Backhoe	7	0	\$0	\$0	\$0	\$0	
Pick-Up Truck	7	1	\$10,000	\$10,000	\$20,000	\$1,856	
Service Truck	7	0	\$0	\$0	\$0	\$0	
Water Truck	7	1	\$60,000	\$60,000	\$120,000	\$11,133	
Tire Splitter	7	0	\$0	\$0	\$0	\$0	
Utility Tractor	7	0	\$25,000	\$0	\$0	\$0	
Dump Truck	7	1	\$100,000	\$100,000	\$200,000	\$18,555	
Dozer	7	1	\$180,000	\$180,000	\$360,000	\$33,400	
			Subtotal	\$1,490,000	\$2,980,000	\$276,474	

PERSONNEL:		Quantity	Unit Annual Cost	Total Annual Cost
Supervisor	1	\$30,000	\$30,000	
Operator	5	\$18,000	\$90,000	
Attendant	2	\$17,000	\$34,000	
Labor	1	\$16,000	\$16,000	
Part-Time	2	\$8,000	\$16,000	
Mechanic	1	\$24,000	\$24,000	
Benefits		30%	\$63,000	
		Subtotal	\$273,000	

OPERATIONS & MAINTENANCE:		Component	Annual Cost
		Fuel & Utilities	\$102,960
		Maintenance	\$95,000
		Supplies	\$50,000
		Leach Treatment	\$1,303,000
		GW Monitoring	\$70,000
		Prof. Services	\$0
		Insurance	\$30,000
		Prof. Development	\$0
		State Maint. Fee	\$10,000
		State Sur Tax	\$145,860
		Contingencies (10%)	\$180,682
		Subtotal	\$1,987,502

TOTAL ANNUAL COSTS WITH INFLATION:		Year	Avg. Annual Soil Borrow Costs	Avg. Annual Equip. Cost Payment	Avg. Annual Personnel Costs	Avg. Annual O&M Costs	Total Average Annual Operations Cost
		1994	\$144,407	\$276,474	\$273,000	\$1,987,502	\$2,681,384
1		1995-1995	\$146,934	\$276,474	\$277,778	\$2,022,283	\$2,723,469
2		1996-1996	\$149,462	\$276,474	\$287,500	\$2,093,063	\$2,806,499
3		1997-1997	\$154,653	\$276,474	\$297,582	\$2,166,320	\$2,895,050
4		1998-1998	\$160,107	\$276,474	\$307,977	\$2,242,142	\$2,986,700
5		1999-1999	\$165,711	\$276,474	\$318,756	\$2,320,617	\$3,081,558
6		2000-2000	\$171,511	\$276,474	\$329,913	\$2,401,838	\$3,179,736
7		2001-2001	\$177,513	\$276,474	\$341,459	\$2,485,902	\$3,281,350
8		2002-2002	\$183,726	\$276,474	\$353,411	\$2,572,909	\$3,461,799
9		2003-2003	\$190,157	\$351,753	\$365,760	\$2,662,961	\$3,570,650
10		2004-2004	\$196,812	\$351,753	\$378,582	\$2,756,165	\$3,683,312

Soil Borrow Rate = \$4.00 per cy, Amortization Rate = 7.00%, Inflation Rate = 3.50%

Phase	Development			Operations			Total Costs		
	\$ / Ton Total \$	\$ / Ton Financed \$	Per Capita \$ Per Yr (Amort)	\$ / Ton	Per Capita \$ Per Year	\$ / Ton	\$ / Ton Financed	Per Capita \$ Per Year	
10.0 year Long Term Costs	\$2.06								
Develop Phase 1	\$6.93	\$7.41							
Closure Phase 1	\$2.94	\$2.94							
Total Years 1-1	\$11.92	\$13.28	NA	\$12.44	NA	\$24.36	\$25.72	NA	
Develop Phase 2	\$7.17	\$7.67							
Closure Phase 2	\$3.04	\$3.04							
Total Years 2-2	\$12.27	\$13.64	NA	\$12.82	NA	\$25.09	\$26.46	NA	
Develop Phase 3	\$7.42	\$7.94							
Closure Phase 3	\$3.15	\$3.15							
Total Years 3-3	\$12.63	\$14.02	NA	\$13.22	NA	\$25.85	\$27.24	NA	
Develop Phase 4	\$7.68	\$8.22							
Closure Phase 4	\$3.26	\$3.26							
Total Years 4-4	\$13.00	\$14.41	NA	\$13.64	NA	\$26.64	\$28.05	NA	
Develop Phase 5	\$7.95	\$8.59							
Closure Phase 5	\$3.37	\$3.37							
Total Years 5-5	\$13.38	\$14.81	NA	\$14.07	NA	\$27.45	\$28.88	NA	
Develop Phase 6	\$8.23	\$8.80							
Closure Phase 6	\$3.49	\$3.49							
Total Years 6-6	\$13.78	\$15.22	NA	\$14.52	NA	\$28.30	\$29.74	NA	
Develop Phase 7	\$8.51	\$9.11							
Closure Phase 7	\$3.61	\$3.61							
Total Years 7-7	\$14.19	\$15.66	NA	\$14.99	NA	\$29.17	\$30.64	NA	
Develop Phase 8	\$8.81	\$9.43							
Closure Phase 8	\$3.74	\$3.74							
Total Years 8-8	\$14.61	\$16.10	NA	\$15.81	NA	\$30.42	\$31.91	NA	
Develop Phase 9	\$9.12	\$9.76							
Closure Phase 9	\$3.87	\$3.87							
Total Years 9-9	\$15.05	\$16.56	NA	\$16.30	NA	\$31.35	\$32.87	NA	
Develop Phase 10	\$9.44	\$10.10							
Closure Phase 10	\$4.01	\$4.01							
Total Years 10-10	\$15.51	\$17.04	NA	\$16.62	NA	\$32.32	\$33.86	NA	

PROPOSED LANDFILL - COST ESTIMATE STUDY

UNKNOWN DEBRIS

Conceptual Landfill Size
 Conceptual Landfill Development Costs
 Prepared by DRAPER ADEN ASSOCIATES
 May 11, 1994

Solid Waste Flow and Growth Estimates:

1980 Population Estimate	=	NA
1990 Population Estimate	=	NA
Future Growth Estimate (% per year)	=	1.00%
[-> Growth Projected from Pop.	=	NA
1994 Tonnage Estimate (7 Day Daily Avg)	=	100
[-> 1994 Tonnage Projected From Pop.	=	NA

Landfill Design Parameters:

State Design Requirements (TN,VA,etc.)	=	TN
Facility Class*	=	IV
Type of Liner/Cap**	=	1
Liner Geomet:Conventional Drainage Ratio	=	0
Liner Subgrade:Cell Footprint Ratio	=	1
Avg Depth of Liner Subgrade Req'd (ft)	=	5
Avg Depth of Excavation (ft)	=	10
Avg Depth of Fill (ft)	=	40
Compaction Rate (lbs/cy)	=	800

* 1 = Sanitary, III = Debris, IV = Inert Debris
 ** 0 = Synthetic, 1 = Clay, 2 = EPA Composite

Landfill Sizing/Planning Factors:

Reduce Number of Phases/Cells --> <ALT-W>	=	10
Useable/Non-useable Land Factor	=	3
Average Phase/Cell Life (yrs)	=	2.0
Enter Known Land Purchase (acres)	=	NA
[-> Maximum Average Phase/Cell Life Projected from Land Purchase --> <ALT-V>	=	NA

Capital Funding Factors:

Known 1994 Annual Operations Cost	=	NA
Equipment Life Cycle (yrs)	=	7
Long Term Amortization (yrs)	=	20
Amortization Interest Rate (%)	=	7.00%
Sinking Fund Interest Rate (%)	=	5.00%
Inflation Rate (%)	=	3.50%

A. PER YEAR GROWTH ESTIMATES:

Growth Rate = 1.00%, Inflation Rate = 3.50%, Facility Size: 50-100 TPD

Phase/Cell	Year	Annual Population Average	Annual Waste Tonnage Average (7 Day Daily Avg in Tons)	Annual Average Operations Cost (in Actual \$)
1	1994	NA	100	\$300,539
2	1995-1996	NA	101	\$309,424
3	1997-1998	NA	103	\$327,829
4	1999-2000	NA	105	\$347,544
5	2001-2002	NA	107	\$375,610
6	2003-2004	NA	109	\$405,181
7	2005-2006	NA	112	\$429,416
8	2007-2008	NA	114	\$455,377
9	2009-2010	NA	116	\$500,663
10	2011-2012	NA	118	\$530,654
	2013-2014	NA	121	\$562,567

B. SOIL BALANCE SHEET:

Facility Size : 50-100 TPD

DRAPER ADEN ASSOCIATES
May 11, 1994

Landfill Phase/Cell	Daily Waste Tonnage	Depth of Fill (feet)	Depth of Exc. (feet)	Cell Acreage	Total Acreage Needed	Progressive Cover (cubic yds)	Clay Cap (cubic yds)	Cap Cover (cubic yds)	Total Soil Req. (cubic yds)	Soil Avail Per Phase (cubic yds)	Total Soil Bal (cubic yds)	Addit. Acreage Needed
Average Per Phase/Cell: Cover Waste to Soil Ratio = 90												
1	101	40	10	3.8	11.4	2,048	9,678	3,072	14,798	61,445	46,647	-2.9
2	103	40	10	3.9	11.7	2,069	9,872	3,134	15,085	62,680	47,584	-2.9
3	105	40	10	4.0	11.9	2,131	10,070	3,197	15,399	63,940	48,541	-3.0
4	107	40	10	4.0	12.1	2,174	10,273	3,261	15,708	65,225	49,516	-3.1
5	109	40	10	4.1	12.4	2,218	10,479	3,327	16,024	66,536	50,512	-3.1
6	112	40	10	4.2	12.6	2,262	10,690	3,394	16,346	67,873	51,527	-3.2
7	114	40	10	4.3	12.9	2,308	10,905	3,462	16,675	69,237	52,563	-3.3
8	116	40	10	4.4	13.1	2,354	11,124	3,531	17,010	70,629	53,619	-3.3
9	118	40	10	4.5	13.4	2,402	11,348	3,602	17,352	72,049	54,687	-3.4
10	121	40	10	4.6	13.7	2,450	11,576	3,675	17,701	73,497	55,796	-3.5
Cumulative Totals By End of Phase/Cell:												
1	73,734	NA	NA	3.8	11.4	2,048	9,678	3,072	14,798	61,445	46,647	-2.9
2	148,949	NA	NA	7.7	23.1	4,137	19,550	6,206	29,893	124,124	94,231	-5.8
3	225,677	NA	NA	11.7	35.0	6,269	29,620	9,403	45,292	188,064	142,772	-8.8
4	303,947	NA	NA	15.7	47.1	8,443	39,893	12,664	61,000	253,289	192,288	-11.9
5	383,790	NA	NA	19.8	59.5	10,661	50,372	15,991	77,024	319,825	242,800	-15.0
6	465,237	NA	NA	24.0	72.1	12,923	61,062	19,365	93,371	387,608	294,327	-18.2
7	548,322	NA	NA	28.3	85.0	15,201	71,267	22,847	110,045	456,935	346,890	-21.5
8	633,077	NA	NA	32.7	98.1	17,505	83,091	26,378	127,055	527,504	400,509	-24.8
9	719,536	NA	NA	37.2	111.5	19,987	94,439	29,981	144,407	599,613	455,206	-28.2
10	807,732	NA	NA	41.7	125.2	22,437	106,015	33,656	162,107	673,110	511,003	-31.7
Cumulative Averages By End of Phase/Cell:												
1	101	40	10	3.8	11.4	2,048	9,678	3,072	14,798	61,445	46,647	-2.9
2	102	40	10	3.8	11.5	2,069	9,775	3,103	14,947	62,062	47,116	-2.9
3	103	40	10	3.9	11.7	2,090	9,873	3,134	15,097	62,688	47,591	-2.9
4	104	40	10	3.9	11.8	2,111	9,973	3,166	15,250	63,322	48,072	-3.0
5	105	40	10	4.0	11.9	2,132	10,074	3,198	15,405	63,965	48,560	-3.0
6	106	40	10	4.0	12.0	2,154	10,177	3,231	15,562	64,616	49,055	-3.0
7	107	40	10	4.0	12.1	2,176	10,281	3,264	15,721	65,276	49,556	-3.1
8	108	40	10	4.1	12.3	2,198	10,386	3,297	15,882	65,946	50,064	-3.1
9	110	40	10	4.1	12.4	2,221	10,493	3,331	16,045	66,624	50,578	-3.1
10	111	40	10	4.2	12.5	2,244	10,601	3,366	16,211	67,311	51,100	-3.2

C. LONG-TERM COMPONENTS OF NEW LANDFILL CONSTRUCTION: 1 - 20.0 YEARS
(Initial construction activities that will serve all phases)

Component	Quantity	Unit Cost	Total Cost
Mob. & Land Prep			
Site Purchase (ac)	125.2	\$0	\$0
Clearing (ac)	7	\$1,500	\$10,500
Site Selection (lump sum)	1	\$0	\$0
Entrance Development			
Access Road (lf)	2,910	\$35	\$101,850
Excavate Road Ditch (lf)	5,820	\$5	\$29,100
Grade/Stone Ditch (lf)	5,820	\$10	\$58,200
Site Fencing (lf)	7,477	\$13	\$97,196
Equipment & Maint. Bld (sf)	1,500	\$30	\$45,000
Scale Facilities			
Scales & Equip (ls)	1	\$40,000	\$40,000
Attendant Bld (sf)	300	\$25	\$7,500
Utilities			
Well & Appurt. (ls)	1	\$6,000	\$6,000
Septic System (ls)	1	\$7,500	\$7,500
Power (ls)	1	\$10,000	\$10,000
Leachate Handling			
Storage Unit (ls)	0	\$150,000	\$0
Treatment Unit (ls)	0	\$400,000	\$0
Pump Station (ls)	0	\$45,000	\$0
Outfall Line (lf)	0	\$25	\$0
Manhole System (cm)	0	\$11,200	\$0
Erosion Control			
Sediment Pond (ls)	1	\$15,000	\$15,000
Fertil. & Seeding (ac)	5.6	\$2,000	\$11,200
Monitoring Wells/Pumps (ea)	0	\$7,500	\$0
Add'l 1st Yr Bkgrnd Mon Costs (ls)	0	\$16,000	\$0
Engineering Part 1 (ls)	1	\$50,000	\$50,000
Engineering Part 2 (ls)	1	\$50,000	\$50,000
State Application Fee (ls)	1	\$3,000	\$3,000
Subtotal			\$542,046
Contingencies (10%)			\$54,205
Total Capital Costs			\$596,250
Amortized Costs (per year)			\$56,282
Term in Years			20
Interest Rate			7.00%
Facility Size : 50-100 TPD			

D. FIELD OR INCREMENTAL COSTS OF PHASED CONSTRUCTION (in Actual \$):

# of Layers or Depth	Component	Unit Cost	Phase 1 Quantities	Phase 1 Costs	Phase 2 Quantities	Phase 2 Costs	Phase 3 Quantities	Phase 3 Costs	Phase 4 Quantities	Phase 4 Costs
0	Clearing & Grub (ac)	\$1,500	4.2	\$6,284	4.3	\$6,410	4.4	\$6,539	4.4	\$6,671
0	Excavation & Stock (cy)	\$2	61,445	\$122,889	62,680	\$125,359	63,940	\$127,879	65,225	\$130,450
0	Subgrade Prep (ac)	\$4,000	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
0	Liner System									
0	Cushion (cy)	\$2	0	\$0	0	\$0	0	\$0	0	\$0
0	Filter Fabric/Grid (sf)	\$0.20	0	\$0	0	\$0	0	\$0	0	\$0
0	Conventional Drainage (cy)	\$5	0	\$0	0	\$0	0	\$0	0	\$0
0	Geonet Drainage (sf)	\$0.30	0	\$0	0	\$0	0	\$0	0	\$0
0	On-Site Clay Liner 1 (cy)	\$6.00	0	\$0	0	\$0	0	\$0	0	\$0
0	Conventional Drainage (cy)	\$5	0	\$0	0	\$0	0	\$0	0	\$0
0	Geonet Drainage (sf)	\$0.30	0	\$0	0	\$0	0	\$0	0	\$0
0	On-Site Clay Liner 2 (cy)	\$6.00	0	\$0	0	\$0	0	\$0	0	\$0
0	Liner System Subgrade (cy)	\$5	0	\$0	0	\$0	0	\$0	0	\$0
	Leachate System									
	Leachate Collection (lf)	\$25	0	\$0	0	\$0	0	\$0	0	\$0
	Leak Detection (lf)	\$25	0	\$0	0	\$0	0	\$0	0	\$0
	Manholes (ea)	\$1,500	0	\$0	0	\$0	0	\$0	0	\$0
	Road Extensions (lf)	\$10	407	\$4,073	411	\$4,114	415	\$4,155	420	\$4,197
	Road Ditches (lf)	\$5	815	\$4,073	823	\$4,114	831	\$4,155	839	\$4,197
	Fertil. & Seeding (ac)	\$2,000	1.0	\$1,904	1.0	\$1,943	1.0	\$1,982	1.0	\$2,021
	Gas Probes (lf)	\$19	0	\$0	0	\$0	0	\$0	0	\$0
	Quality Control (ac)	\$8,000	3.8	\$30,468	3.9	\$31,081	4.0	\$31,706	4.0	\$32,343
	Engineering (ls)	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000	1	\$25,000
	Subtotal			\$104,692		\$108,071		\$110,416		\$112,878
	Subtotal (inflation)			\$194,692		\$212,125		\$231,129		\$251,847
	Contingencies (10%)			\$19,469		\$21,213		\$23,113		\$25,185
	TOTAL			\$214,162		\$233,308		\$254,242		\$277,032
	Amortized Over 2.0 Years At 7.00%			Per Year -->		\$117,154		\$127,121		\$138,516

E. LANDFILL CLOSE-OUT COSTS, FOR EACH PHASE (in Actual \$):

# of Layers or Depth	Component	Unit Cost	Phase 1 Quantities	Phase 1 Costs	Phase 2 Quantities	Phase 2 Costs	Phase 3 Quantities	Phase 3 Costs	Phase 4 Quantities	Phase 4 Costs
0.5 ft	Prep and Place Cap. Topsoil (cy)	\$10	3,226	\$32,258	3,291	\$32,907	3,357	\$33,568	3,424	\$34,243
0.5 ft	Upper Soil Buffer (cy)	\$2	3,226	\$6,452	3,291	\$6,581	3,357	\$6,714	3,424	\$6,849
0	Filter Fabric/Grid (sf)	\$0.20	0	\$0	0	\$0	0	\$0	0	\$0
0	Conventional Drainage (cy)	\$5.00	0	\$0	0	\$0	0	\$0	0	\$0
0	Cap Liner (40 mil) (sf)	\$0.50	0	\$0	0	\$0	0	\$0	0	\$0
1.5 ft	On-Site Clay Cap (cy)	\$6	9,878	\$58,065	9,872	\$58,232	10,070	\$60,423	10,273	\$61,637
0	Intermediate Cover (cy)	\$2	0	\$0	0	\$0	0	\$0	0	\$0
	Fertil. & Seeding (ac)	\$2,000	4.2	\$8,379	4.3	\$8,547	4.4	\$8,719	4.4	\$8,894
	Gas Venting (lf)	\$50	0	\$0	0	\$0	0	\$0	0	\$0
	Fine Gr. & Eros. Cont. (ac)	\$2,500	3.8	\$9,521	3.9	\$9,713	4.0	\$9,908	4.0	\$10,107
	Quality Control (ac)	\$5,000	3.8	\$19,043	3.9	\$19,426	4.0	\$19,816	4.0	\$20,214
	Engineering (ls)	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000	1	\$15,000
	Post Closure Care Fund (yr)*	\$0	2	\$0	2	\$0	2	\$0	2	\$0
	Corrective Action Fund (yr)*	\$0	2	\$0	2	\$0	2	\$0	2	\$0
	Subtotal (incl. Funds*)			\$148,718		\$151,406		\$154,148		\$156,945
	Subtotal (w/ Inflation; not applied to Funds*)			\$148,718		\$162,190		\$176,888		\$192,825
	Contingencies (10%; not applied to Funds*)			\$14,872		\$16,219		\$17,689		\$19,283
	TOTAL (incl. Funds*)			\$163,590		\$178,409		\$194,577		\$212,218
	Sinking Fund Over 2.0 Years At 5.00% Plus Fund Pymts*			Per Year -->		\$87,029		\$94,916		\$103,521

F. TOTAL CONSTRUCTION COSTS AND COST PER ACRE (less financing) (in Actual \$):

Phase	Total Construction Costs & Costs Per Acre Developed (Operations Not Included)												
	Long Term Component		Development Costs		Closure Costs		Total Costs						
	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre	Total \$	Cost/Acre	
Phase 1 Total Years 1-2	\$596,250	\$14,291	\$214,162	\$56,232	\$169,590	\$42,953	\$974,002	\$113,476					
Phase 2 Total Years 3-4		\$14,291	\$233,336	\$60,059	\$176,409	\$45,921	\$411,747	\$120,272					
Phase 3 Total Years 5-6		\$14,291	\$254,242	\$64,151	\$194,577	\$49,086	\$448,819	\$127,536					
Phase 4 Total Years 7-8		\$14,291	\$277,032	\$68,524	\$212,218	\$52,492	\$469,249	\$135,307					
Phase 5 Total Years 9-10		\$14,291	\$301,877	\$73,196	\$231,466	\$56,125	\$533,343	\$143,614					
Phase 6 Total Years 11-12		\$14,291	\$328,966	\$78,195	\$252,468	\$60,011	\$581,434	\$152,497					
Phase 7 Total Years 13-14		\$14,291	\$358,301	\$83,536	\$275,395	\$64,169	\$633,886	\$161,966					
Phase 8 Total Years 15-16		\$14,291	\$393,704	\$89,746	\$300,392	\$68,616	\$691,096	\$172,153					
Phase 9 Total Years 17-18		\$14,291	\$423,918	\$95,350	\$327,580	\$73,375	\$753,497	\$183,016					
Phase 10 Total Years 19-20		\$14,291	\$464,108	\$101,676	\$357,458	\$78,466	\$821,565	\$194,633					
Year of Closure : 2015			At Time of Closure >>>>									Post-Closure Care Fund Value: \$0	Corrective Action Fund Value: \$0
Post-Closure Period (Yrs) : 2													

G. OPERATION COST COMPONENTS (in Actual \$): Facility Size: 50-100 TPD

EQUIPMENT:				Life Cycle (years)	Quantity	Unit Cost	Total Initial Cost	Total Long Term Cost	Initial Annual Payment
Compactor	7	0	\$225,000	\$0	\$0	\$0	\$0	\$0	\$0
Loader	7	1	\$115,000	\$115,000	\$0	\$115,000	\$345,000	\$21,339	\$21,339
Off Road Truck/Pan	7	0	\$225,000	\$0	\$0	\$0	\$0	\$0	\$0
Wheeled Backhoe	7	0	\$35,000	\$0	\$0	\$0	\$0	\$0	\$0
Pick-up Truck	7	0	\$10,000	\$0	\$0	\$0	\$0	\$0	\$0
Service Truck	7	0	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0
Water Truck	7	1	\$60,000	\$60,000	\$60,000	\$180,000	\$180,000	\$11,193	\$11,193
Tire Splitter	7	0	\$15,000	\$0	\$0	\$0	\$0	\$0	\$0
Utility Tractor	7	0	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0
Dump Truck	7	1	\$100,000	\$100,000	\$100,000	\$300,000	\$300,000	\$18,555	\$18,555
Dozer	7	0	\$160,000	\$0	\$0	\$0	\$0	\$0	\$0
			Subtotal			\$275,000	\$825,000		\$51,027

PERSONNEL:				Quantity	Unit Annual Cost	Total Annual Cost
Supervisor	0.5		\$30,000	\$15,000	\$15,000	
Operator	1		\$18,000	\$18,000	\$18,000	
Attendant	1		\$17,000	\$17,000	\$17,000	
Laborer	1		\$16,000	\$16,000	\$16,000	
Part Time	0		\$4,000	\$0	\$0	
Mechanic	0		\$24,000	\$0	\$0	
Benefits		30%		\$19,800	\$19,800	
			Subtotal		\$85,800	

OPERATIONS & MAINTENANCE:				Component	Total Annual Cost
				Fuel & Utilities	\$52,500
				Maintenance	\$30,000
				Supplies	\$10,000
				Lunch Treatment	\$0
				Oil Maintenance	\$0
				Prof. Services	\$0
				Insurance	\$20,000
				Prof. Development	\$0
				Sinto Maint. Fee	\$2,000
				State Sur Tax	\$34,329
				Contingencies (10%)	\$14,883
				Subtotal	\$163,711

TOTAL ANNUAL COSTS WITH INFLATION:									
Phase/Cell	Year	Avg. Annual Sell Borrow Costs	Avg. Annual Equip. Cost Payment	Avg. Annual Personnel Costs	Avg. Annual O&M Costs	Total Average Annual Operations Cost	Amortization Rate = 7.00%	Inflation Rate = 3.50%	
1	1994	\$0	\$51,027	\$85,800	\$163,711	\$300,539			
2	1995-1996	\$0	\$51,027	\$86,856	\$169,542	\$309,424			
3	1997-1998	\$0	\$51,027	\$89,184	\$181,617	\$327,829			
4	1999-2000	\$0	\$51,027	\$101,964	\$194,553	\$347,544			
5	2001-2002	\$0	\$57,974	\$109,226	\$206,410	\$375,610			
6	2003-2004	\$0	\$64,921	\$117,006	\$223,254	\$405,181			
7	2005-2006	\$0	\$64,921	\$125,340	\$239,155	\$429,416			
8	2007-2008	\$0	\$64,921	\$134,267	\$256,189	\$455,377			
9	2009-2010	\$0	\$82,597	\$143,830	\$274,436	\$500,863			
10	2011-2012	\$0	\$82,597	\$154,074	\$293,963	\$530,654			
	2013-2014	\$0	\$82,597	\$165,048	\$314,922	\$562,567			

Phase	Development			Operations			Total Costs		
	\$ / Ton Total \$	\$ / Ton Financed \$	Per Capita \$ Per Yr (Amort)	\$ / Ton	Per Capita \$ Per Year	\$ / Ton	\$ / Ton Financed	Per Capita \$ Per Year	
20.0 year Long Term Costs	\$0.74								
Develop Phase 1	\$2.90	\$3.21							
Closure Phase 1	\$2.22	\$2.16							
Total Years 1-2	\$5.86	\$6.90	NA	\$9.39	NA	\$14.25	\$15.30	NA	
Develop Phase 2	\$3.10	\$3.43							
Closure Phase 2	\$2.37	\$2.31							
Total Years 3-4	\$6.21	\$7.24	NA	\$8.72	NA	\$14.93	\$15.96	NA	
Develop Phase 3	\$3.31	\$3.67							
Closure Phase 3	\$2.54	\$2.47							
Total Years 5-6	\$6.59	\$7.61	NA	\$9.06	NA	\$15.65	\$16.67	NA	
Develop Phase 4	\$3.54	\$3.92							
Closure Phase 4	\$2.71	\$2.65							
Total Years 7-8	\$6.99	\$8.00	NA	\$9.60	NA	\$16.59	\$17.60	NA	
Develop Phase 5	\$3.78	\$4.18							
Closure Phase 5	\$2.90	\$2.83							
Total Years 9-10	\$7.42	\$8.42	NA	\$10.15	NA	\$17.57	\$18.57	NA	
Develop Phase 6	\$4.04	\$4.47							
Closure Phase 6	\$3.10	\$3.02							
Total Years 11-12	\$7.88	\$8.87	NA	\$10.54	NA	\$18.42	\$19.42	NA	
Develop Phase 7	\$4.31	\$4.77							
Closure Phase 7	\$3.31	\$3.23							
Total Years 13-14	\$8.37	\$9.96	NA	\$10.96	NA	\$19.33	\$20.32	NA	
Develop Phase 8	\$4.61	\$5.10							
Closure Phase 8	\$3.54	\$3.48							
Total Years 15-16	\$8.89	\$9.89	NA	\$11.82	NA	\$20.71	\$21.70	NA	
Develop Phase 9	\$4.93	\$5.45							
Closure Phase 9	\$3.79	\$3.70							
Total Years 17-18	\$9.45	\$10.45	NA	\$12.28	NA	\$21.73	\$22.72	NA	
Develop Phase 10	\$5.26	\$5.82							
Closure Phase 10	\$4.05	\$3.95							
Total Years 19-20	\$10.05	\$11.05	NA	\$12.78	NA	\$22.81	\$23.81	NA	

APPENDIX B

Legal Documentation and Organization of the Region

This Appendix includes:

A description of the administrative board for the Region, the Northeast Tennessee Regional Solid Waste Planning Board.

Copies of the Meeting Minutes and/or Letters certifying appointments to the Planning Board.

A description of the structure and role of the Region's Advisory Board.

Letters from each County Executive and Mayor certifying that each jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874 (a), as amended.

A certified copy of the resolution adopted by each County Commission, establishing the region.

NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLANNING BOARD

Members were appointed to represent counties and cities within the region:

Carter County	Two members
Johnson County	Two members
Unicoi County	Two members
Washington County	Two members
Johnson City	One member
Elizabethton	One member
Erwin	One member
Watauga	One member
Jonesborough	One member
Mountain City	One member
At Large	One member

The initial terms of office are: one (1) member from Carter, Johnson, Unicoi, and Washington Counties for a six year term; one (1) member from Watauga, Jonesborough and one (1) member from Carter, Johnson, Unicoi, and Washington Counties for a two year term; one (1) member from Johnson City, Elizabethton, Erwin, Mountain City, and the at large member for a four year term.

C. INSTITUTIONAL STRUCTURE

Members of the Northeast Tennessee Regional Solid Waste Planning Board include:

MEMBER	COUNTY/CITY	TERM
1. Mr. Ed Buckles	- Carter County	6 years
2. Mr. Chris Schuettler	- Carter County	2 years
3. Mr. J.R. Junior Stanley	- Elizabethton	4 years
4. Mr. Charles Hagy	- Watauga	2 years
5. Mr. Ulis Miller	- Unicoi County	2 years
6. Mr. Jack Hawkins	- Unicoi County	6 years
7. Ms. Doris Hensley	- Erwin	4 years
8. Mr. Tom Taylor	- Johnson County	2 years
9. Mr. Bob Stout	- Johnson County	6 years
10. Ms. Connie Sharp	- At Large	4 years
11. Mr. Stedman Greever	- Mountain City	4 years
12. Mr. Roby McBride	- Washington County	6 years
13. Mr. Roy Fleming	- Washington County	2 years
14. Mr. Bob Browning	- Jonesborough	2 years
15. Mr. John Campbell	- Johnson City	4 years

The first organizational meeting of the Northeast Tennessee Regional Solid Waste planning Board was held on February 17, 1993 and at the March 11, 1993 meeting officers were elected.

Chairman - John Campbell
Vice-Chairman - Roby McBride
Secretary - Doris Hensley

MEETINGS

NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLANNING BOARD

1993

February 17, 1993

March 11, 1993

April 9, 1993

May 6, 1993

June 2, 1993

July 7, 1993

August 25, 1993

October 20, 1993

November 18, 1993

December 15, 1993

1994

January 25, 1994

February 23, 1994

March 17, 1994

April 14, 1994

May 12, 1994

June 28, 1994

CARTER COUNTY APPOINTMENTS

DENNA HARRISON
EDNA H. THOMAS
ROBERT W. HOFFMAN
JONNA L. AKERS
SANDY DAVIS

BETTY L. POTTER
ROBERT L. OAKS
RONALD E. VANCE
JERRY E. ARNOLD
JOHANNA DAVIS

ON MOTION BY JOHN D. SNYDER, SECONDED BY C.M."FIG" NEWTON, CHRIS SCHUETTLER AND ED BUCKLES WERE NOMINATED TO SERVE ON THE MUNICIPAL SOLID WASTE REGION COMMITTEE.

ON MOTION BY JOHN D. SNYDER, SECONDED BY C.M."FIG" NEWTON, THAT NOMINATIONS CEASE, AND ELECT CHRIS SCHUETTLER AND ED BUCKLES TO SERVE ON THE MUNICIPAL SOLID WASTE REGION COMMITTEE, BY VOICE ROLL CALL VOTE, MOTION CARRIED THIS JANUARY 11, 1993.

MOVED BY RALPH WATSON, SECONDED BY JOHN D. SNYDER, FOR THE HEALTH AND WELFARE COMMITTEE TO MEET WITH STATE HIGHWAY OFFICIALS TO DETERMINE IF THE STATE OR THE COUNTY OWNS THE RIGHT-OF-WAY WHERE THE STATE HAS FENCED NEXT TO MR. PAUL STOUT PROPERTY. THIS PROPERTY BEING IN THE HAMPTON SECTION OF THE COUNTY ADJOINING HWY. 67 AND HWY. 321. THE HEALTH AND WELFARE COMMITTEE TO REPORT THEIR FINDINGS AND RECOMMENDATIONS TO THE FULL COMMISSION NEXT COMMISSION MEETING. BY VOICE ROLL CALL VOTE, MOTION CARRIED THIS JANUARY 11, 1993.

CHRIS SCHUETTLER ADDRESSED THE COMMISSION IN REFERENCE TO THE PLANNING COMMISSION, REPORTING THEIR RECORDS FOR 1991 AND 1992, ALSO REPORTING THE NUMBER OF CONTACTS THE COMMISSION RECEIVED REQUESTING ZONING AND BUILDING PERMITS IN THE COUNTY.

ALBERT TEILHET, STATE PLANNING COMMISSION ALSO REPORTED TO THE COMMISSION IN REGARDS TO ZONING FOR CARTER COUNTY.

ON MOTION BY ZANE LOVELESS, SECONDED BY NORMAN TAYLOR, TO REQUEST THE STATE TO DO A STUDY OF CARTER COUNTY FOR ZONING AND REPORT THEIR FINDINGS TO THE HEALTH AND WELFARE COMMITTEE. ALSO REQUESTING THAT THE HEALTH AND WELFARE COMMITTEE GIVE THE FULL COMMISSION THEIR RECOMMENDATIONS FOR ZONING FROM THE STATES FINDINGS. BY VOICE ROLL CALL VOTE, MOTION DULY CARRIED THIS JANUARY 11, 1993.

ON MOTION BY JOHN D. SNYDER, SECONDED BY C.M."FIG" NEWTON, THE FOLLOWING RESOLUTION BE ADOPTED AND SPREAD UPON THE MINUTES, THIS 11TH., DAY OF JANUARY, 1993.
ROLL CALL VOTE:

AYES: CRUMLEY BUCKLES, BILL LANEY, NORMAN TAYLOR, WAYNE HOLTSCLAW, RALPH WATSON, RICHARD D. WINTERS, THOMAS HUGHES, HARRY SISK, PHILLIP NAVE, GEORGE BLANK-ENSHIP, ZANE LOVELESS, EDDIE ROBERTS, CONWAY HOPSON, JOHN D. SNYDER, BILL RICHARDSON, DEAN PERRY, JOHN TREADWAY, C.M."FIG" NEWTON, DON TREADWAY AND BILL ARMSTRONG.

NAYS: TERRY MONTGOMERY.

PASSED: 0

ABSENT: JIM BURROUGH AND CHUCK CULLER.

THERE BEING 20 AYES, 1 NAY, 0 PASSED WITH 2 ABSENT, CARRIED THIS JANUARY 11, 1993.

State of Tennessee:

JOHNSON COUNTY APPOINTMENTS

Johnson County:

COMPOSITE OF MEETING MINUTES

BE IT REMEMBERED that a Regular Session of the County Board of Commissioners of Johnson County, Tennessee, was begun and held in the Town of Mountain City, Tennessee, this the 21st day of January, 1993, at 7:00 p.m., present and presiding the Honorable Tom Taylor, Chairman of the County Board of Commissioners, Danny Cullop, County Clerk, Ed Casey, Sheriff, and a quorum of County Board of Commissioners, to wit: Bill Adams, Glenn Arney, Johnny Arney, Burl Brown, Clinton Dunn, Charles Fenner, Edward Fletcher, Haywood Forrester, Stedman Greever, Denver Gregg, A.D. Grindstaff, Joe Hill, Kevin Long, Wiley Lowe, Michael May, Emily Millsaps, David Pennington, Kenneth Sluder, Bobby R. Stout, Eric Taylor, and Tom Taylor.

(Roll Call)

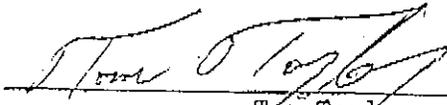
APPOINT TWO MEMBERS TO THE REGIONAL SOLID WASTE PLANNING BOARD:

Motion was made by Stedman Greever, seconded by Johnny Arney to approve the County Executive's appointment of Bobby Stout and Tom Taylor to the Regional Solid Waste Planning Board.

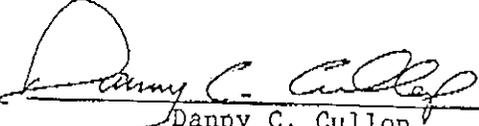
Upon roll call vote, the 16 Commissioners present voted aye.

The Chairman declared the motion carried.

Upon motion by Glenn Arney, seconded by Kevin Long this meeting of the County Board of Commissioners was adjourned.


Tom Taylor

Attest:


Danny C. Cullop

WASHINGTON COUNTY APPOINTMENTS 1 OF 2

meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

10. That the Municipal Solid Waste Region Board, in the furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the region, and to apply for and receive donations and grants from private corporations and foundations; and

11. That upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Washington County, Tennessee, shall transmit a copy of this Resolution to the Tennessee State Planning Office.

THIS RESOLUTION shall take effect from and alter its passage.

DULY PASSED, this the 23 day of November, 1992.

MOTION BY Kyle Shell

SECOND BY James Powell

VOTE:
FOR Resolution 23

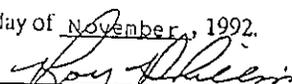
AGAINST Resolution 0

ABSENT 0



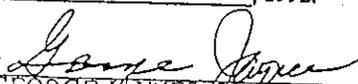
ROY PHILLIPS, County Clerk of
Washington County, Tennessee

REFERRED to County Executive this 23 day of November, 1992.



ROY PHILLIPS, County Clerk

APPROVED this 23 day of November, 1992.



GEORGE JAYNES, County Executive

Motion was made by James Powell and seconded by Kyle Shell to approve the resolution on solid waste program, with Gary Jones make a motion seconded by Rogers Carter to appoint Stanley Curtis to serve 2 yrs as a member of the solid waste, and Marion Light seconded by Bobby Hicks to approve the appointment of Roby McBride as second member to serve 6 yrs from Washington County with unanimous approval.

UNICOI COUNTY APPOINTMENTS

MONTHLY SESSION OF THE BOARD OF COMMISSION
OF UNICOI COUNTY, TENNESSEE
JANUARY 25, 1993

BE IT REMEMBERED that the Unicoi County Board of Commission met in the Unicoi County Courthouse in Erwin, Tennessee, in a regular session on Monday, January 25, 1993 at 5:00 p.m. Present and presiding the Honorable Lee Brown, Chairman, Ruby H. McLaughlin, County Clerk, Paul C. Monk, County Executive, Doug Shults, County Attorney, Bob Whitson, Sheriff of Said County and the following Commissioners:

ROLL CALL: Esq. Bobby Bailey, "yes", Esq. J.R. Booth, "absent", Esq. Ullis Miller, "yes", Esq. Jack Hawkins, "yes", Esq. Ken Lewis, "yes", Esq. Lee Brown, "yes", Esq. Jim Peterson, "yes", Esq. Dwight Shelton, "yes", Esq. George Wilson, "yes".

8-Members Present
1-Member Absent

Motion made by Esq. George Wilson, said motion seconded by Esq. Dwight Shelton that the minutes of the November meeting be approved as presented.

Motion unanimously approved.

Ms. Opal McCurry again addressed the Commission concerning the animal control issue. Ms. McCurry stated that at this time she realized there were more important issues facing the county and that she would no longer continue her efforts concerning the animal control issue.

Mr. Johnny Lynch, representing Citizens Promoting Responsible Government, requested the Commission to join them in a stand against any possible annexation by Johnson City into the Unicoi area of the county. He pointed out several potential fiscal problems including increased taxation. Mr. Lynch invited Commissioners and the public to join a town meeting at Unicoi Elementary School on February 1, 1993 at 7:00 p.m.

Mr. Charles McNabb, with Erwin Utilities, addressed the Commission concerning approval of a request from Erwin Utilities to drill one test well on the DeArmond Street right-of-way in Unicoi County. Mr. McNabb said an agreement would be worked out with adjoining property owner, Leonard Foster, if Erwin Utilities is granted premission to drill the test well at this site by the board of Commissioners. Mr. McNabb explained the test was part of a search for an additional supply of ground water for the utilities.

The Commission approved appointments by the County Executive of Ullis Miller and Jack Hawkins as members of the Municipal Solid Waste Planning Region Board.

WASHINGTON COUNTY APPOINTMENTS 2 OF 2

WASHINGTON COUNTY GOV

FAX NO. 6157539277

P. 01

Feb. 22, 1993

REPORT OF FINANCE COMMITTEE

ITEM VII

GENERAL FUND GRANTS

Motion was made by Marion Light and seconded by Ronnie Slagle to approve grants for Dare, Juvenile Services, Community Development Block Grants with the following roll call vote:

Those voting for were:

Rogers Carter, Bobby Hicks, Ken Green, Evert Jarrett, Marion Light, John Matthews, Gary Jones, W. C. Rowe, Kyle Shell, Jack Rutherford, Sue Chinouth, Mary Lee Gregory, Martha Nan Meredith, James T. Powell, Alpha Bridger, Michael Garland, J. L. Seehorn, John Little, Ronnie Slagle, Margaret Lindley, Wendell Messimer, and Canna Rutherford

Absent was: George Davis

ITEM VIII

CONSOLIDATION OF SCHOOL DISTRICTS

Motion was made by Marion Light and seconded by W. C. Rowe to continue with the same committee that was appointed several years ago with unanimous approval. A new committee will be appointed by the County Executive.

COUNTY EXECUTIVE REPORT

SOLID WASTE COMMITTEE

County Executive appointed Roy Flemming to be on the Solid Waste Committee. Motion was made by Gary Jones and seconded by Marion Light to approve the appointment of Roy Flemming with unanimous approval.

ELIZABETHTON APPOINTMENT



CITY OF ELIZABETHTON

136 S. SYCAMORE ST.
ELIZABETHTON, TN 37643-3328
(615) 543-3551

June 9, 1994

NOTICE

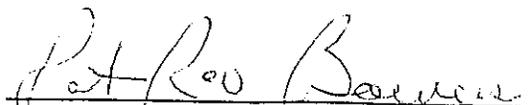
To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: Pat "Red" Bowers, Mayor
City of Elizabethton, Tennessee

Subject: Confirmation of Appointment to the
Solid Waste Board

I, Pat "Red" Bowers, Mayor of Elizabethton, Tennessee, certify that Mr. Junior Stanley was appointed as the Elizabethton representative to the Northeast Tennessee Regional Solid Waste Planning Board and that this appointment was approved by the City Council at their December 9, 1993 Regular Session.

Sincerely,


Pat "Red" Bowers, Mayor
City of Elizabethton, Tennessee

JOHNSON CITY APPOINTMENT



CITY OF JOHNSON CITY TENNESSEE

OFFICE OF THE MAYOR

June 13, 1994

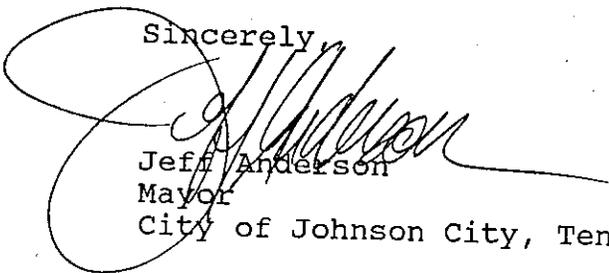
TO: The Northeast Tennessee Regional Solid Waste
Planning Board

FROM: Mayor Jeff Anderson

RE: Confirmation of appointment to the Solid Waste
Board

I, Jeff Anderson, Mayor of Johnson City, Tennessee, certify that Mr. John Campbell was appointed as the Johnson City representative to the Northeast Tennessee Regional Solid Waste Board and that this appointment was reviewed and approved by the Johnson City Board of Commission.

Sincerely,



Jeff Anderson
Mayor
City of Johnson City, Tennessee

JONESBOROUGH APPOINTMENT

MAYOR
KEVIN B. MCKINNEY

ALDERMEN
ROBERT M. CLARKE
HOMER GFELLERS
HUBERT C. MILLER
CHARLIE MOORE



TOWN ADMINISTRATOR
ROBERT E. BROWNIN

TOWN RECORDER
LAURA J. HAMILTON

Town of Jonesborough

NOTICE

TO: The Northeast Tennessee Regional Solid Waste
Planning Board

FROM: Mayor Kevin B. McKinney

RE: Confirmation of Appointment to the
Solid Waste Board

I, Kevin B. McKinney, Mayor of Jonesborough, Tennessee, certify that Mr. Bob Browning was appointed as the Jonesborough representative to the Northeast Tennessee Regional Solid Waste Planning Board and that this appointment was approved by the Board of Mayor and Aldermen.

Sincerely,

A handwritten signature in cursive script that reads "Kevin B. McKinney".

Kevin B. McKinney
Mayor
Town of Jonesborough

JONESBOROUGH, the OLDEST TOWN in TENNESSEE
123 BOONE STREET JONESBOROUGH, TENNESSEE 37659
FAX NUMBER (615) 753-6129

(615) 753-6128

MOUNTAIN CITY APPOINTMENT

The Town of Mountain City

THOMAS TODD GRAYSON
Mayor

210 SOUTH CHURCH STREET - TELEPHONE (615) 727-8005
MOUNTAIN CITY, TENNESSEE 37683
FAX (615) 727-8801

TERRY G. REECE
City Recorder

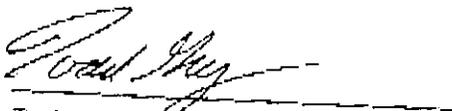
Aldermen
DANNY CUNNINGHAM
PAUL S. GOBBLE, JR.
JIM NORRIS
HARVEY BURNISTON

NOTICE:

TO: The Northeast Tennessee Regional Solid Waste Planning Board
FROM: Mayor Todd Grayson
RE: Confirmation of Appointment to the Solid Waste Board

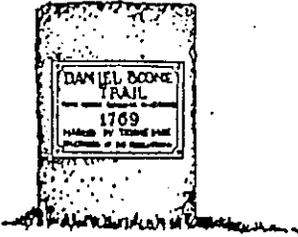
I, Todd Grayson, Mayor of Mountain City, Tennessee, certify that Mr. Stedman Greever was appointed as the Mountain City representative to the Northeast Tennessee Regional Solid Waste Planning Board and that this appointment was approved by the Town Council.

Sincerely,



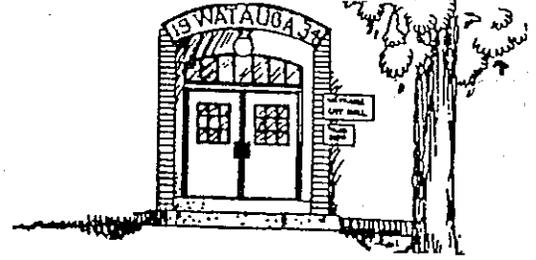
Todd Grayson
Mayor
Mountain City, Tennessee

WATAUGA APPOINTMENT



CITY OF WATAUGA

P. O. BOX 68 103 FOURTH AVENUE
WATAUGA, TENNESSEE 37694
(615) 928-3490 (615) 928-2631



Mayor: John Skeans
Vice Mayor: Edith Smalling
Commissioner: Charles Hagy
Commissioner: Kenneth Ray
Commissioner: Mary Phipps

City Manager: Herbert Keller
City Recorder: Ethel Wilhoit
City Attorney: Rick Beeson
Treasurer: Hattie Skeans

Notice

To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: Mayor, John Skeans

Re: Confirmation of Appointment to the Solid Waste
Board

I, John Skeans, Mayor of Watauga, Tennessee, certify that Mr. Charles Hagy was appointed as the Watauga representative to the Northeast Tennessee Regional Solid Waste Planning Board and that this appointment was approved by the City Council.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Skeans".

John Skeans
Mayor
Watauga, Tennessee

Erwin, Tennessee

REGULAR MEETING

November 9, 1992

ERWIN APPOINTMENT

The Board of Mayor and Aldermen of the Town of Erwin, Tennessee, met in Regular Session Monday, November 9, 1992, at 6:30 P.M., in the office of the Mayor.

Present and Presiding: Mayor Russell D. Brackins

Aldermen Present: Kent Harris
Lester Bailey
Glenn Tilson
Allen Cook
John McFadden

Invocation was given by Attorney Robert Manuel.

A motion was made by Alderman McFadden, seconded by Aldermen Tilson, to dispense with the reading of the minutes and they be approved as presented. The motion passed with all ayes.

Alderman Cook moved to approve the invoices as listed. Alderman Tilson seconded the motion. The motion passed with all ayes.

Ms. Becky Love and Ms. Debbie Smith, representing Unicoi County Education Association, were present to witness Mayor Brackins proclaim November 15-21, 1992, as "American Education Week" in the Town of Erwin. Mayor Brackins commended the teachers of Unicoi County and congratulated them on being ahead of many school systems in the state in test scoring.

Alderman McFadden suggested that garbage pickup be collected in front of houses instead of alleyways. He stated that several alleys were too narrow for the garbage truck to enter, making collection a hardship on the contractor and causing some property damage to residents. Mayor Brackins asked Recorder Frazier and Alderman McFadden to survey the alleys and list those that need to be closed to collection service.

Mayor Brackins appointed Ms. Doris Hensley to serve as a member of the Regional Solid Waste Planning Board.

After a recommendation from Recorder Frazier, Alderman McFadden moved to hire Mr. Earl Cooper as a laborer on the Street Department on a permanent basis. Alderman Harris seconded the motion. The motion passed with all ayes.



CITY OF JOHNSON CITY
TENNESSEE

OFFICE OF THE CITY MANAGER

NOTICE

TO: The Northeast Tennessee Regional Solid Waste
Planning Board

FROM: John G. Campbell, Planning Board Chairman

RE: Confirmation of Appointment to the Solid Waste
Board

I, **John G. Campbell**, Chairman of the Northeast Tennessee Regional Solid Waste Planning Board, certify that Mrs. Connie Sharp was appointed as the "At Large" member of the Planning Board on April 8, 1993. This appointment was approved by the Planning Board.

Sincerely,

A handwritten signature in cursive script that reads 'John G. Campbell'.

John G. Campbell, Chairman
Northeast Tennessee Regional Solid Waste Planning Board

Advisory Board

J. R. Stanley - Elizabethton

Dr. Creg Bishop - ETSU

Richard Lorge - North American Rayon

Gene Barnes - Waste Management Inc.

Don Wilson - Elizabethton Herb and Metal

Kent Koederitz - Siemens Industrial Automation

Jim McMackin - Unicoi County Hospital

Allen Rogers - Unicoi County Middle School

Maggie Hand - Shady Valley Elementary School

Todd Eastin - Shady Valley

Mike Long - Johnson County

County Executives and Mayors

Truman Clark - Carter County

George Lowe - Johnson County

Paul Monk - Unicoi County

George Jaynes - Washington County

Russell Brackins - Erwin

Jeff Anderson - Johnson City

Kevin McKinney - Jonesborough

Todd Grayson - Mountain City

John Skeans - Watauga

NORTHEAST TENNESSEE REGIONAL SOLID WASTE

ADVISORY BOARD

MISSION STATEMENT: The mission of the Advisory Board is: to review the Solid Waste Plan; to advise the Planning Board on corrections and improvements; to assist in educating public officials and community leaders in Solid Waste programs, costs, and options for handling; to serve as advocates for the Planning Board's Solid Waste Management Plan with local officials.

SUMMARY OF ACTIVITIES DURING PLAN DEVELOPMENT: The Advisory Board members were appointed by the Planning Board in November/December 1993. The first Advisory Board meeting was held on January 25, 1994. All Advisory Board members were issued or mailed copies of completed Solid Waste Plan chapters and related information. Members were asked to contact Planning Board members and/or the FTDD with comments and suggestions. The second meeting of the Advisory Board was held on March 31, 1994.

Throughout the planning process, Advisory Board members were mailed the notices and agendas of the Planning Board meetings, January through June 1994, and invited to attend. Several Advisory Board members regularly attended the Planning Board meetings. The draft and final versions of the completed Solid Waste Plan was mailed to all Advisory Board members and their comments were requested.

PROBABLE ROLE IN IMPLEMENTATION: Several Advisory Board members attended the County Commission meetings which reviewed and approved the Solid Waste Plan. During the implementation process, the Advisory Board members will continue to receive information on the status of the Solid Waste Plan and will be asked to advise the Planning Board members. The Advisory Board members will be notified of all future Planning Board meetings.

DUTIES OF ADVISORY BOARD MEMBERS

OF THE

NORTHEAST TENNESSEE REGIONAL SOLID WASTE PLANNING BOARD

The duties of the Advisory Board of the Northeast Tennessee Regional Solid Waste Planning Board are:

MEETING ATTENDANCE: Advisory Board members are urged to attend special called meetings of the Advisory Board. These meetings will be scheduled no more than once per month between now and the Fall of 1994. Advisory Board members are also welcome to attend whenever possible the regular Solid Waste Planning Board meetings.

PRACTICAL ADVISEMENT TO THE PLANNING BOARD: The members of the Advisory Board are expected to review the chapters of the 10-year Solid Waste Plan as they are completed, advise the Planning Board of errors and omissions, and to make suggestions for improvement and clarification. The Advisory Board members are not asked to approve or disapprove any Planning Board decisions, but will serve as a major consultation resource.

COMMUNICATION OF PLANNING BOARD PROGRESS: Advisory Board members are asked to become deeply involved in educating public officials and community leaders in Solid Waste programs, costs, and options for handling.

COMMITMENT TO THE SUCCESS OF THE PLANNING BOARD'S DEVELOPMENT OF THE 10-YEAR SOLID WASTE MANAGEMENT PLAN. Advisory Board members are urged to serve as advocates for the Planning Board's 10-year Plan with local officials. The final Plan must be reviewed by the County Commission prior to the July 1, 1994 submission to the State.

TRUMAN CLARK
County Executive



801 ELK AVENUE
(615) 542-1801

CARTER COUNTY
STATE OF TENNESSEE
ELIZABETHTON

Notice

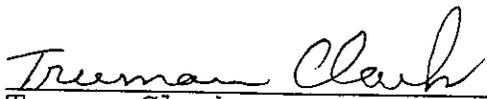
To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: County Executive Truman Clark

Subject: **Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended**

I, Truman Clark, County Executive of Carter County, Tennessee, certify that this jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan.

Sincerely,



Truman Clark
County Executive

JOHNSON COUNTY GOVERNMENT

George Lowe, County Executive
222 Main Street
Mountain City, Tenn. 37683
Phone (615) 727-9696



Notice

To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: County Executive George Lowe

Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, George Lowe, County Executive of Johnson County,
Tennessee, certify that this jurisdiction has complied
with the financial accounting requirements of T.C.A.
68-211-874(a), as amended. I understand that this
certification will be included as a required Appendix to
the Northeast Tennessee Regional Solid Waste Management
Plan.

Sincerely,


George Lowe
County Executive



Unicoi County

Post Office Box 169 • Erwin, Tennessee 37650 • (615) 743-9391, 743-3112

Paul C. Monk
County Executive

Notice

To: The Northeast Tennessee Regional Solid Waste Planning Board

From: County Executive Paul C. Monk

Subject: Certification of Financial Compliance with T.C.A. 68-211-874(a), as amended

I, Paul C. Monk, County Executive of Unicoi County, Tennessee, certify that this jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan.

Sincerely,

A handwritten signature in cursive script, appearing to read "Paul C. Monk".

Paul C. Monk
County Executive

The Town of Mountain City

210 SOUTH CHURCH STREET - TELEPHONE (615) 727-8005
MOUNTAIN CITY, TENNESSEE 37683
FAX (615) 727-8801

THOMAS TODD GRAYSON
Mayor

TERRY G. REECE
City Recorder

Aldermen
DANNY CUNNINGHAM
PAUL S. GOBBLE, JR.
JIM NORRIS
HARVEY BURNISTON

Notice

To: The Northeast Tennessee Regional Solid Waste
Planning Board

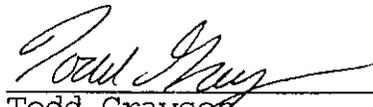
From: Mayor Todd Grayson

Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, Todd Grayson, Mayor of Mountain City, Tennessee,
certify that this jurisdiction has complied
with the financial accounting requirements of T.C.A.
68-211-874(a), as amended. I understand that this
certification will be included as a required Appendix to
the Northeast Tennessee Regional Solid Waste Management
Plan. The name of the special solid waste revenue fund
established by the Town of Mountain City is

Solid Waste Management Fund

Sincerely,



Todd Grayson
Mayor



George Jaynes
County Executive

Washington County, Tennessee

P.O. Box 219

Jonesborough, Tennessee 37659

Phone
(615) 753-3722
or 753-6211

Notice

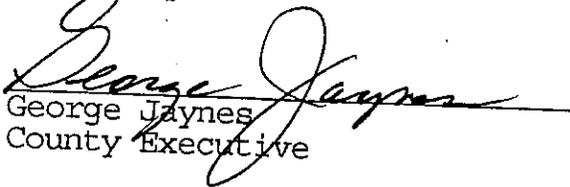
To: The Northeast Tennessee Regional Solid Waste
Planning Board

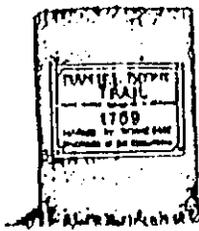
From: County Executive George Jaynes

Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, George Jaynes, County Executive of Washington County, Tennessee, certify that this jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan.

Sincerely,


George Jaynes
County Executive



CITY OF WATAUGA

WATAUGA, TENNESSEE 37604
(615) 278-1120
(615) 278-2611



MAYOR: JOHN SKEANS
VICE MAYOR: EDITH SMALLING
COMMISSIONER: CHARLES HAGY
COMMISSIONER: MARY THIPPS
COMMISSIONER: KENNETH RAY

CITY MANAGER: HERBERT KELLER
CITY ATTORNEY: RICK BEESON
CITY RECORDER: ETHEL WILHOLT
TREASURER: HATTIE SKEANS

May 27, 1994

NOTICE:

TO: The Northeast Tennessee Regional Solid Waste Planning Board.

FROM: Mayor, John Skeans

SUBJECT: Certification of Financial Compliance with T.C.A. 68-211-874(a), as amended.

I, John Skeans, Mayor of Watauga, Tennessee, certify that this jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan. The name of the special solid waste revenue fund established by the the City of Watauga is Public Works Project .

Sincerely,


John Skeans

Mayor

**MAYOR
KEVIN B. MCKINNEY**

**ALDERMEN
ROBERT M. CLARKE
HOMER G'FELLERS
HUBERT C. MILLER
CHARLIE MOORE**



**TOWN ADMINISTRATOR
ROBERT E. BROWNING**

**TOWN RECORDER
LAURA J. HAMILTON**

Town of Jonesborough

Notice

To: The Northeast Tennessee Regional Solid Waste Planning Board

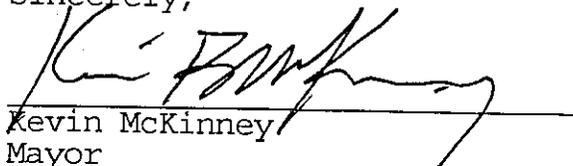
From: Mayor Kevin McKinney

Subject: Certification of Financial Compliance with T.C.A. 68-211-874(a), as amended

I, Kevin McKinney, Mayor of Jonesborough, Tennessee, certify that this jurisdiction has complied with the financial accounting requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan. The name of the special solid waste revenue fund established by the Town of Jonesborough is

Jonesborough Sanitation Fund

Sincerely,


Kevin McKinney
Mayor



CITY OF JOHNSON CITY
TENNESSEE

OFFICE OF THE MAYOR

Notice

To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: Mayor Jeff Anderson

Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, Jeff Anderson, Mayor of Johnson City, Tennessee,
certify that this jurisdiction has complied
with the financial accounting requirements of T.C.A.
68-211-874(a), as amended. I understand that this
certification will be included as a required Appendix to
the Northeast Tennessee Regional Solid Waste Management
Plan. The name of the special solid waste revenue fund
established by the City of Johnson City is
the Solid Waste/Sanitation Fund.

Sincerely,



Jeff Anderson
Mayor



CITY OF ELIZABETHTON

136 S. SYCAMORE ST.
ELIZABETHTON, TN 37643-3328
(615) 543-3551

June 1, 1994

NOTICE

To: The Northeast Tennessee Regional Solid Waste
Planning Board

From: Pat "Red" Bowers, Mayor
City of Elizabethton, Tennessee

Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, Pat "Red" Bowers, Mayor of Elizabethton, Tennessee, certify that this jurisdiction has complied with the financial account requirements of T.C.A. 68-211-874(a), as amended. I understand that this certification will be included as a required Appendix to the Northeast Tennessee Regional Solid Waste Management Plan. The name of the special solid waste revenue fund established by the City of Elizabethton is Sanitation and Solid Waste Fund (Fund #35).

Sincerely,


Pat "Red" Bowers, Mayor
City of Elizabethton, Tennessee

RUSSELL D. BRACKINS, Mayor
JOE E. FRAZIER, Administrator-Recorder
DORIS HENSLEY, Administrator Assistant
ROBERT MANUEL, City Attorney
JAMES H. HICKS, Chief-of-Police
R.J. WHITSON, Fire Chief

MUNICIPAL OFFICES
Town of Erwin

UNICOI COUNTY
ERWIN, TENNESSEE 37650
P.O. BOX 59

Aldermen
WARD HOWELL
JOHN McFADDEN
ALLEN D. COOK
KIM ENGLE
JAMES G. TH...

Notice

To: The Northeast Tennessee Regional Solid Waste
Planning Board
From: Mayor Russell Brackins
Subject: Certification of Financial Compliance with
T.C.A. 68-211-874(a), as amended

I, Russell Brackins, Mayor of Erwin, Tennessee,
certify that this jurisdiction has complied
with the financial accounting requirements of T.C.A.
68-211-874(a), as amended. I understand that this
certification will be included as a required Appendix to
the Northeast Tennessee Regional Solid Waste Management
Plan. The name of the special solid waste revenue fund
established by the Town of Erwin is
the Sanitation Fund.

Sincerely,


Russell Brackins
Mayor

A RESOLUTION
CREATING CARTER, JOHNSON, UNICOI AND WASHINGTON COUNTIES'
MUNICIPAL SOLID WASTE PLANNING REGION

WHEREAS, the adoption of the Subtitle D landfill regulations by the United State Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, provide an improved solid waste management system, better utilize our natural resources, and promote the education of the citizens of Tennessee in the areas of solid waste management including the need for and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management; and

WHEREAS, as per T.C.A. §68-211-811, the nine development districts in the State of Tennessee have completed district needs assessments which are inventories of the solid waste systems in Tennessee; and

WHEREAS, Carter County's Board of County Commissioners has given consideration to the needs assessment prepared by the First Tennessee Development District; and

WHEREAS, T.C.A. §68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions by the First Tennessee Development District; and

WHEREAS, the Act's stated preference is the formation of multi-county regions with counties having the option of forming single or multi-county municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to single county, two county, or three or more county municipal solid waste regions to assist these regions in developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Carter County.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Carter County, Tennessee; acting pursuant

to T.C.A. §68-211-801 et seq., that there is hereby established a Municipal Solid Waste Region for and by Carter, Johnson, Unicoi, and Washington Counties, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Boards of County Commissioners of Carter, Johnson, Unicoi, and Washington Counties evidences and constitutes the agreement of Carter, Johnson, Unicoi and Washington Counties in the joint formation of a multi-county solid waste region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813 (b) (1), a Municipal Solid Waste Region is hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be composed of fifteen (15) members; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813 (b) (1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the Municipal Solid Waste Region Board shall be composed of the following number of members representing their respective county and, in the instance of a city or town which collects or provides disposal services through its own initiative or by contract, the number of members representing the cities or towns:

Carter County	two members
Johnson County	two members
Unicoi County	two members
Washington County	two members
Johnson City	one member
Erwin	one member
Watauga	one member
Jonesborough	one member
Elizabethton	one member
Mountain City	one member
At Large	one member

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board members shall be appointed by the County Executive of the respective county the member shall represent and by the Mayor of the respective city or town the member shall represent and, that the members so appointed, shall be approved by the respective Board of County Commissioners and municipal governing bodies; and

BE IT FURTHER RESOLVED, that the members of the Board of the Municipal Solid Waste Region shall serve a six year term except that, as pursuant to T.C.A. §68-211-813 (b) (1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the following shall be the initial terms of office: one (1) member from Carter, Johnson, Unicoi and Washington Counties for a six year term, members from Watauga, Jonesborough and one (1) member from Carter, Johnson, Unicoi and Washington Counties for a two year term, members from Johnson City, Elizabethton, Erwin, Mountain City and the At Large member for a four year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region, Board shall have all powers and duties as granted it by T.C.A. §68-211-813 et seq., and, as part of the participating counties' agreement, as evidenced and constituted by this Resolution, it shall have the additional rights and is empowered to utilize existing governmental personnel, services, facilities, and records of the contract with persons, private consulting firms, and/or governmental,

quasi-governmental, and public entitles and agencies in the performance of its duty to cause a municipal solid waste region plan to be produced; and

BE IT FURTHER RESOLVED, that at the Municipal Solid Waste Region Board's initial organizational meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board, in the furtherance of its duly to produce a receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the government, the counties and municipalities that are within the region, and to apply for and receive donations and grants from private corporations and foundations; and

BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk for Carter County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF CARTER COUNTY, TENNESSEE, this the 14th day of December, 1992, the welfare of the citizens of Carter County requiring it.

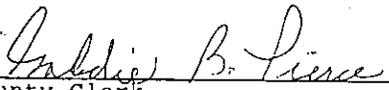
Sponsor


County Commissioner

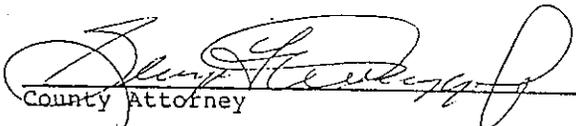
Approved:


County Executive

Attest:


County Clerk

Approved as to form:


County Attorney

DECEMBER TERM, 1992

STATE OF TENNESSEE
COUNTY OF CARTER

I, Goldie B. Pierce, Clerk of the County Court of
Carter County, Tennessee, do hereby certify that the fore-

going is a true and complete copy of the Resolution
adopted by Carter Commission
December 14, 1993

as the same appears of record in my office in Elizabethton,
Tennessee.

This the 2 day of June, 1994
Goldie B. Pierce

Goldie B. Pierce
County Court Clerk

Lou Eller, D.C.

A RESOLUTION
CREATING CARTER, JOHNSON, UNICOI AND WASHINGTON COUNTIES'
MUNICIPAL SOLID WASTE PLANNING REGION

WHEREAS, the adoption of the Subtitle D landfill regulations by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted T.C.A. §68-211-801 et seq. titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, provide an improved solid waste management system, better utilize our natural resources, and promote the education of the citizens of Tennessee in the areas of solid waste management including the need for and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management; and

WHEREAS, as per T.C.A. §68-211-811, the nine development districts in the State of Tennessee have completed district needs assessments which are inventories of the solid waste systems in Tennessee; and

WHEREAS, Johnson County's Board of County Commissioners has given consideration to the needs assessment prepared by the First Tennessee Development District; and

WHEREAS, T.C.A. §68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the Act's stated preference is the formation of multi-county regions with counties having the option of forming single or multi-county municipal solid waste regions; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to single county, two county, or three or more county municipal solid waste regions to assist these regions in developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Johnson County.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Johnson County, Tennessee, acting pursuant to T.C.A. §68-211-801 et seq., that there is hereby established a Municipal Solid Waste Region for and by Carter, Johnson, Unicoi and Washington Counties, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Boards of County Commissioners of Carter, Johnson, Unicoi, and Washington Counties evidences and constitutes the agreement of Carter, Johnson, Unicoi and Washington Counties in the joint formation of a multi-county municipal solid waste region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be composed of fifteen (15) members; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the Municipal Solid Waste Region Board shall be composed of the following number of members representing their respective county and, in the instance of a city or town which collects or provides disposal services through its own initiative or by contract, the number of members representing the cities or towns:

Carter County	two members
Johnson County	two members
Unicoi County	two members
Washington County	two members
Johnson City	one member
Erwin	one member
Watauga	one member
Jonesborough	one member
Elizabethton	one member
Mountain City	one member
At Large	one member

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board members shall be appointed by the County Executive of the respective county the member shall represent and by the Mayor of the respective city or town the member shall represent and, that the members so appointed, shall be approved by the respective Board of County Commissioners and municipal governing bodies; and

BE IT FURTHER RESOLVED, that the members of the Board of the Municipal Solid Waste Region shall serve a six year term except that, as pursuant to T.C.A. §68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the following shall be the initial terms of office: one (1) member from Carter, Johnson, Unicoi and Washington Counties for a six year term, members from Watauga, Jonesborough and one (1) member from Carter, Johnson, Unicoi and Washington Counties for a two year term, members from Johnson City, Elizabethton, Erwin, Mountain City and the At Large member for a four year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall have all powers and duties as granted it by T.C.A. §68-211-813 et seq., and, as part of the participating counties' agreement, as evidenced and constituted by this Resolution, it shall have the additional rights and is empowered to utilize existing governmental personnel, services, facilities, and records of the counties which are parties to this agreement and to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies in the performance of its duty to cause a municipal solid waste region plan to be produced; and

BE IT FURTHER RESOLVED, that at the Municipal Solid Waste Region Board's initial organizational meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board, in the furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the region, and to apply for and receive donations and grants from private corporations and foundations; and

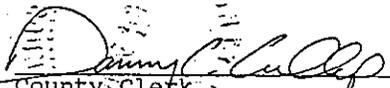
BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Johnson County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF JOHNSON COUNTY, TENNESSEE, this 19th day of November, 1992, the welfare of the citizens of Johnson County requiring it.

Sponsor


County Commissioner

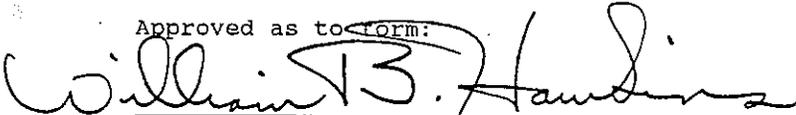
Attest:


County Clerk

Approved:


County Executive

Approved as to form:


County Attorney

IN THE COUNTY COMMISSION FOR WASHINGTON COUNTY, TENNESSEE

RESOLUTION NO. 92-_____

**RESOLUTION
CREATING A MUNICIPAL SOLID WASTE PLANNING REGION
FOR THE COUNTIES OF CARTER, JOHNSON, UNICOI
AND WASHINGTON COUNTY, TENNESSEE**

WHEREAS, the adoption of the Subtitle D landfill regulations by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted T.C.A. 68-211-801, et seq., titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, provide an improved solid waste management system, better utilize our natural resources, and promote the education of the citizens of Tennessee in the areas of solid waste management including the need for and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management, and

WHEREAS, as per T.C.A. 68-211-811, the nine development districts in the State of Tennessee have completed district needs assessments which are inventories of solid waste systems in Tennessee; and

WHEREAS, Washington County's Board of County Commissioners has given consideration to the needs assessment prepared by the First Tennessee Development District; and

WHEREAS, T.C.A. 68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the Act's stated preference is the formation of multi-county regions with counties have the option of forming single or multi-county municipal solid waste regions; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to single county, two county, or three or more county municipal solid waste regions to assist these regions in developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five (25%) percent by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Washington County.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COMMISSION OF WASHINGTON COUNTY, TENNESSEE, SESSION DULY ASSEMBLED, A QUORUM BEING PRESENT, AS FOLLOWS:

1. That there is hereby established a Municipal Solid Waste Region for and by the Counties of Carter, Johnson, Unicoi, and Washington County, Tennessee, pursuant to T.C.A. 68-211-801, et seq.; and

2. That this Resolution by the Boards of County Commissioners of Carter, Johnson, Unicoi and Washington Counties evidences and constitutes the agreement of Carter, Johnson, Unicoi and Washington Counties in the joint formation of a multi-county municipal solid waste region; and

3. That pursuant to T.C.A. 68-211-813(b)(1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this Region; and

4. That this Municipal Solid Waste Region Board shall be composed of fifteen (15) members; and

5. That pursuant to T.C.A. 68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the Municipal Solid Waste Region Board shall be composed of the following number of members representing their respective county and, in the instance of a city or town which collects or provides disposal services through its own initiative or by contract, the number of members representing the cities or towns:

Carter County	two members
Johnson County	two members
Unicoi County	two members
Washington County	two members
Johnson City	one member
Erwin	one member
Watauga	one member
Jonesborough	one member
Elizabethton	one member
Mountain City	one member
At Large	one member

6. That the Municipal Solid Waste Region Board members shall be appointed by the County Executive of the respective county the member shall represent and by the Mayor of the respective city or town the member shall represent and, that the members so appointed, shall be approved by the respective Board of County Commissioners and municipal governing bodies; and

7. That the members of the Board of the Municipal Solid Waste Region shall serve a six (6) year term except that, as pursuant to T.C.A. 68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the following shall be the initial terms of office: one (1) member from Carter, Johnson, Unicoi, and Washington Counties for a six (6) year term, members from Watauga, Jonesborough, and one (1) member from Carter, Johnson, Unicoi and Washington Counties for a two (2) year term, members from Johnson City, Elizabethton, Erwin, Mountain City and the At Large member for a four (4) year term; and

8. That this Municipal Solid Waste Region Board shall have all powers and duties as granted it by T.C.A. 68-211-813, et seq., and, as part of the participating counties' agreement, as evidenced and constituted by this Resolution, it shall have the additional rights and is empowered to utilize existing governmental personnel, services, facilities, and records of the counties which are parties to this agreement and to employ or contract with

entities and agencies in the performance of its duty to cause a municipal solid waste region plan to be produced; and

9. That at the Municipal Solid Waste Region Board's initial organizational meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

10. That the Municipal Solid Waste Region Board, in the furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the region, and to apply for and receive donations and grants from private corporations and foundations; and

11. That upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Washington County, Tennessee, shall transmit a copy of this Resolution to the Tennessee State Planning Office.

THIS RESOLUTION shall take effect from and after its passage.

DULY PASSED, this the 23 day of November, 1992.

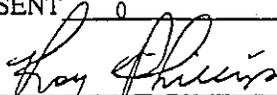
MOTION BY Kyle Shell

SECOND BY James Powell

VOTE:
FOR Resolution 23

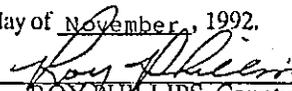
AGAINST Resolution 0

ABSENT 0



ROY PHILLIPS, County Clerk of
Washington County, Tennessee

REFERRED to County Executive this 23 day of November, 1992.



ROY PHILLIPS, County Clerk

APPROVED this 23 day of November, 1992.



GEORGE JAYNES, County Executive

Motion was made by James Powell and seconded by Kyle Shell to approve the resolution on solid waste program, with Gary Jones make a motion seconded by Rogers Carter to appoint Stanley Curtis to serve 2 yrs as a member of the solid waste, and Marion Light seconded by Bobby Hicks to approve the appointment of Roby McBride as second member to serve 6 yrs from Washington County with unanimous approval.

A RESOLUTION
CREATING CARTER, JOHNSON, UNICOI AND WASHINGTON COUNTIES'
MUNICIPAL SOLID WASTE PLANNING REGION

WHEREAS, the adoption of the Subtitle D landfill regulations by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted T.C.A. §68-211-801 et seq. titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, provide an improved solid waste management system, better utilize our natural resources, and promote the education of the citizens of Tennessee in the areas of solid waste management including the need for and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management; and

WHEREAS, as per T.C.A. §68-211-811, the nine development districts in the State of Tennessee have completed district needs assessments which are inventories of the solid waste systems in Tennessee; and

WHEREAS, Unicoi County's Board of County Commissioners has given consideration to the needs assessment prepared by the First Tennessee Development District; and

WHEREAS, T.C.A. §68-211-813, requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the Act's stated preference is the formation of multi-county regions with counties having the option of forming single or multi-county municipal solid waste regions; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to single county, two county, or three or more county municipal solid waste regions to assist these regions in developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions are the preparation of municipal solid waste regional plans which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995, and a planned capacity assurance of its disposal for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost effective and efficient management of municipal solid waste is in the best interest of the citizens of Unicoi County.

NOW, THEREFORE BE IT RESOLVED, by the Board of County Commissioners of Unicoi County, Tennessee, acting pursuant to T.C.A. §68-211-801 et seq., that there is hereby established a Municipal Solid Waste Region for and by Carter, Johnson, Unicoi and Washington Counties, Tennessee; and

BE IT FURTHER RESOLVED, that this Resolution by the Boards of County Commissioners of Carter, Johnson, Unicoi, and Washington Counties evidences and constitutes the agreement of Carter, Johnson, Unicoi and Washington Counties in the joint formation of a multi-county municipal solid waste region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this Region; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall be composed of eleven (11) members; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. §68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the Municipal Solid Waste Region Board shall be composed of the following number of members representing their respective county and, in the instance of a city or town which collects or provides disposal services through its own initiative or by contract, the number of members representing the cities or towns:

Carter County	two members
Johnson County	two members
Unicoi County	two members
Washington County	two members
Johnson City	one member
Erwin	one member
Watauga	one member
Jonesborough	one member
Elizabethton	one member
Mountain City	one member
At Large	one member

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board members shall be appointed by the County Executive of the respective county the member shall represent and by the Mayor of the respective city or town the member shall represent and, that the members so appointed, shall be approved by the respective Board of County Commissioners and municipal governing bodies; and

BE IT FURTHER RESOLVED, that the members of the Board of the Municipal Solid Waste Region shall serve a six year term except that, as pursuant to T.C.A. §68-211-813(b)(1) and as part of the participating counties' agreement, as evidenced and constituted by this Resolution, the following shall be the initial terms of office: members from Carter, Johnson, Unicoi and Washington Counties for a six year term, members from Watauga, Jonesborough and the At Large member for a two year term, members from Johnson City, Elizabethton, Erwin and Mountain City for a four year term; and

BE IT FURTHER RESOLVED, that this Municipal Solid Waste Region Board shall have all powers and duties as granted it by T.C.A. §68-211-813 et seq., and, as part of the participating counties' agreement, as evidenced and constituted by this Resolution, it shall have the additional rights and is empowered to utilize existing governmental personnel, services, facilities, and records of the counties which are parties to this agreement and to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies in the performance of its duty to cause a municipal solid waste region plan to be produced; and

BE IT FURTHER RESOLVED, that at the Municipal Solid Waste Region Board's initial organizational meeting it shall select from its members a chair, vice-chair, and secretary and shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Board and whose duties are to assist and advise the Board; and

BE IT FURTHER RESOLVED, that the Municipal Solid Waste Region Board, in the furtherance of its duty to produce a municipal solid waste region plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, the counties and municipalities that are within the region, and to apply for and receive donations and grants from private corporations and foundations; and

BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Unicoi County shall transmit a copy of this Resolution to the Tennessee State Planning Office.

RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF UNICOI COUNTY, TENNESSEE, this 30th day of November, 1992, the welfare of the citizens of Unicoi County requiring it.



Approved:

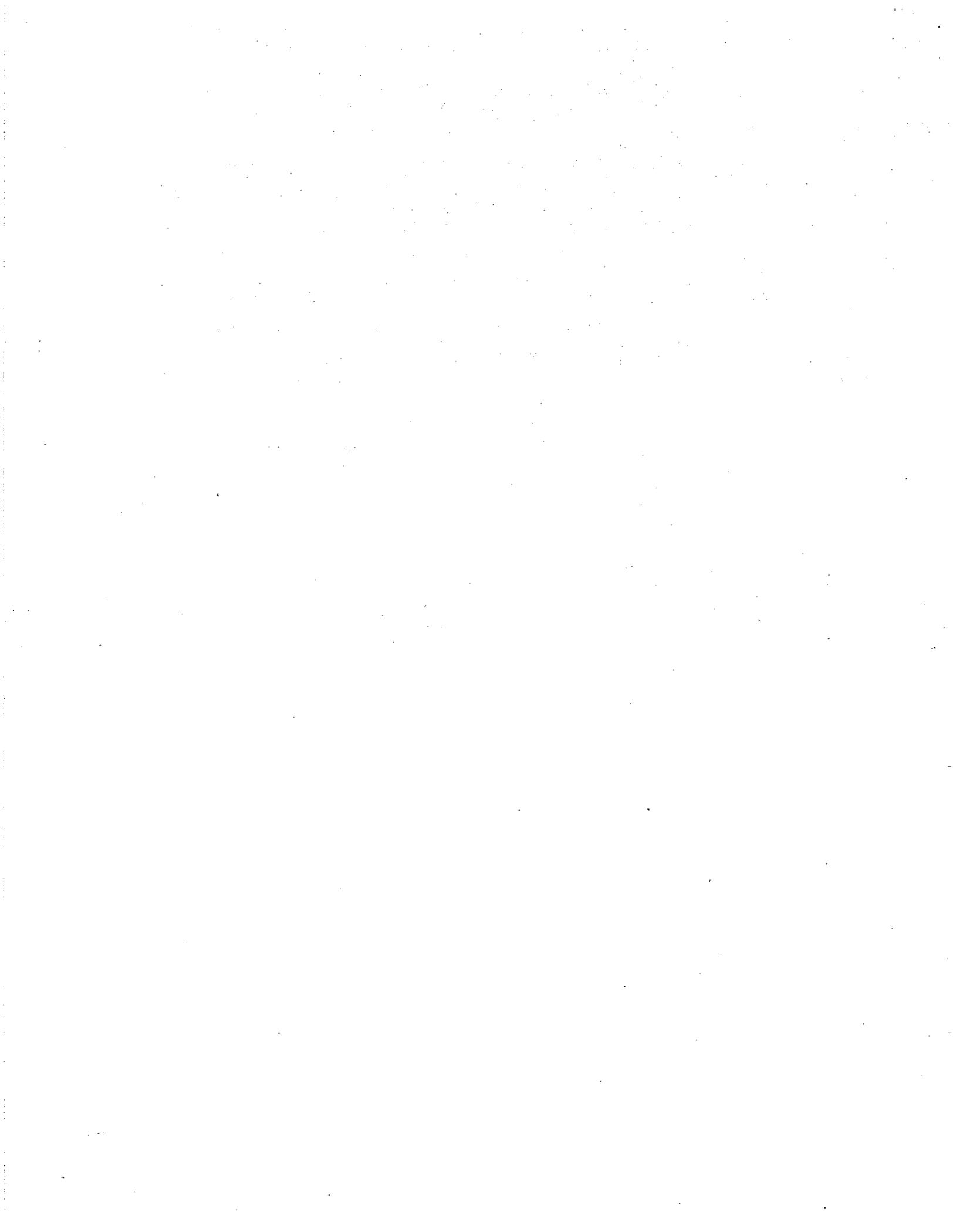
Lee H. Brown
County Commission Chairman

Attest:
Ruby McLaughlin
County Clerk

Paul C. Vant
County Executive

Approved as to form:

Douglas Shultz
County Attorney



APPENDIX C

Documentation for Adjustments to the Base Year Generation

This Appendix includes:

Copies of the Requests for Variance submitted by the Chairman of the Planning Board for Carter and Johnson Counties.

Copies of the letters from the Division of Solid Waste Assistance approving the variances.

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

NED McWHERTER
GOVERNOR

J. W. LUNA
COMMISSIONER

June 22, 1994

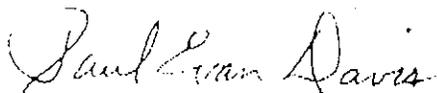
John Campbell, Chairman
Northeast Tennessee Regional
Solid Waste Planning Board
207 North Boone St., Suite 800
Johnson City, TN 37604

Dear Mr. Campbell:

We have received your request for a per capita disposal rate adjustment to Johnson County's solid waste base year data. From the documentation provided, it appears that you have a valid concern for adjusting the base year data. Therefore Johnson County's base year data is approved to reflect an annual per capita disposal rate of 0.64 tons.

If we can be of further assistance on this or any other matter, please do not hesitate to contact us.

Sincerely,



Paul Evan Davis
Director
Division of Solid Waste Assistance

PEID GHD dhm

cc: Chris Craig, FTDD

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

NED McWHERTER
GOVERNOR

J. W. LUNA
COMMISSIONER

June 22, 1994

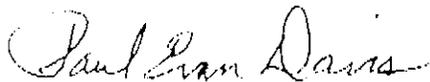
John Campbell, Chairman
Northeast Tennessee Regional
Solid Waste Planning Board
207 North Boone St., Suite 800
Johnson City, TN 37604

Dear Mr. Campbell:

We have received your request for a per capita disposal rate adjustment to Carter County's solid waste base year data. From the documentation provided, it appears that you have a valid concern for adjusting the base year data. Therefore, Carter County's base year data is approved to reflect an annual per capita disposal rate of 0.76 tons.

If we can be of further assistance on this or any other matter, please do not hesitate to contact us.

Sincerely,



Paul Evan Davis
Director
Division of Solid Waste Assistance

PEID:GHD:dhm

cc Chris Craig, FTDD

Northeast Tennessee Regional Solid Waste Planning Board
(Johnson County Variance Request Adjustment)

Carter
Elizabethton
Watauga

June 15, 1994

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Mr. Paul Evan Davis
Tennessee Division of Solid Waste Assistance
L&C Tower, 14th Floor - 401 Church Street
Nashville, TN 37243-0455

RE: **Adjustment** to Variance Request From 1990 UT Study Numbers for Calculation of
25% Reduction Requirements -- Johnson County Tennessee.

Hancock
Sneedville

Dear Mr. Davis:

Our original Request for Variance, dated May 23, 1994, presented an estimated 1993 annual tonnage of 7,400 tons. This total was estimated by the staff based on scale data. In compiling additional documentation for our Variance Request, we have discovered that the actual total of the monthly scale data for the Johnson County landfill equals **8,766 tons**. We are therefore requesting an adjustment of the original Variance.

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Surgoinville

A. Adjustment of Proposed Base Year Figures

Waste Generation and Population Figures for Johnson County

	Waste Generation (Tons Per Year)	Population	Per Capita Waste Generation (Tons Per Person Per Year)
From UT Study	6,470	13,766	.47
Variance Requested	8,766	13,694	.64

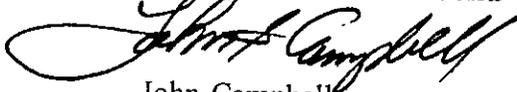
Johnson
Mountain City

Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

Please review this adjustment and call me with any questions or comments which you might have. Due to time constraints in meeting the July 1, 1994 deadline, we are proceeding with these numbers in the planning process until further notification from you. Thank you for your assistance.

Sincerely,
Northeast Tennessee Solid Waste Planning Board



John Campbell
Chairman

Washington
Johnson City
Jonesborough

To <i>TAMMY</i>	From <i>CLIFF</i>
Co.	Co.
Dept.	Phone #
Fax # <i>928-5209</i>	Fax # <i>727-7861</i>



Environment and Con
 Waste Assistance
 PING FEE SURCI
 e reverse for instruction

TOTAL TONS
1993
8,766

Facility ID Number:
 SNL 46-104-0061

For Quarter Ending:
 December 31, 1993

Facility Name and Address:
 Johnson County Sanitary
 Landfill
 Mr. Cliff Dunn
 211 N. Church Street
 Mountain City TN 37683
 (If incorrect, please change.)

1. Facility Location:
 Johnson County

2. Facility Owner/Operator:
 Johnson County Govt

3. Telephone No. (including area code)
 (615) 727-7929

4. Number of registered haulers using this facility during reporting period: 10

5. Amount of waste received during each month of reporting period:
 First month of quarter: 839
 Second month of quarter: 774
 Third month of quarter: 661

Please indicate whether
 amounts are measured in
 tons or cu. yds.

6. Total waste received during reporting period: 2,274

7. Convert cubic yards to tons (divide cu. yds. by 4): _____

8. Total tons 2,274 x \$0.85 = \$ 2,359.00

9. Outstanding debit or credit \$ -

10. Total due \$ 2,359.00

Make check or money order payable to the Tennessee Department of Environment and Conservation.
 Payments are due January 31, April 30, July 31, and October 31.

11. I certify that the information in this report is true and correct.

Cliff Dunn
 Signature of owner/operator

Landfill Director
 Title

1-10-94
 Date



Tennessee Department of Environment and Conservation
 Division of Solid Waste Assistance
QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT
 (Please type or print. See reverse for instructions.)

Facility ID Number:
 SNL 46-104-0061

For Quarter Ending:
 September 30, 1993

Facility Name and Address:
 Johnson County Sanitary
 Landfill
 Mr. Cliff Dunn
 211 N. Church Street
 Mountain City TN 37683
 (If incorrect, please change.)

1. Facility Location:
 Johnson County

2. Facility Owner/Operator:
 Johnson County Govt

3. Telephone No. (including area code)
 ()

4. Number of registered haulers using this facility during reporting period: 10

5. Amount of waste received during each month of reporting period:
 First month of quarter: 704
 Second month of quarter: 825
 Third month of quarter: 834

Please indicate whether amounts are measured in tons or cu. yds.

6. Total waste received during reporting period: 2363

7. Convert cubic yards to tons (divide cu. yds. by 4): _____

8. Total tons 2,363 x \$0.85 = \$ 2,008.55

9. Outstanding debit or credit \$ _____

10. Total due \$ 2,008.55

Make check or money order payable to the Tennessee Department of Environment and Conservation
 Payments are due January 31, April 30, July 31, and October 31.

11. I certify that the information in this report is true and correct.

Cliff Dunn Signature of owner/operator
Landfill Director Title
10-4-93 Date



QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT

See reverse for instructions.
Please type or print.

Facility ID Number: _____

For Quarter Ending:
6-30-93

Johnson County Sanitary Landfill
SNL 46-104-0061
Mr. Cliff Dunn
211 North Church Street
Mountain City, TN 37683

Facility Name and Address:
(If not correct, please change.)

Telephone No. (615) 722-7929

1. Facility Owner/Operator: _____

2. Facility Location:
Johnson County Tenn

- 3. Number of registered haulers using this facility during period: _____
- 4. Record of waste received for each month of quarter. Please indicate whether amounts are in tons or cubic yards: tons cubic yards.

Week	First month of quarter	Second month of quarter	Third month of quarter
1	58	177	200
2	158	181	219
3	175	194	194
4	164	171	283
5	133		131
Month Total	680	703	1026

5. Total waste received during quarter: _____

Surcharge Calculation

- 6. Convert cubic yards to tons: (Cubic yards + 4) = 2,409 tons
- 7. Total tons 2,409 x \$0.85 = \$ 2,047.65
- 8. Outstanding debit or credit \$ 0
- 9. Total due \$ 2,047.65

Make check or money order payable to the Tennessee Department of Environment and Conservation.
Payment due October 31, January 31, April 30, and July 31.

10. I certify that the information on this report is true and correct:

Cliff Dunn
Signature of owner/operator

Landfill Director
Title

6-30-93
Date

C. Waste Generation Figures - 1993

The most recent full year of scale data available for the Carter County Landfill is the calendar 1993 year. In 1993 39,280 tons per year were recorded at the scales for Carter County.

D. Population Figures

The estimated population for Carter County in 1993 as provided by the Department of Sociology UT as adjusted by the Division of Information Resources, TDH is 51,613.

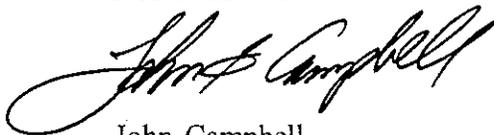
E. Synopsis of Proposed Base Year Figures

Waste Generation and Population Figures for Carter County

	Waste Generation (Tons Per Year)	Population	Per Capita Waste Generation (Tons Per Person Per Year)
From UT Study	30,387	51,505	.59
Variance Requested	39,280	51,613	.76

Please review the numbers in the preceding tables and call me with any questions or comments which you might have. Due to time constraints in meeting the July 1, 1994 deadline, we are proceeding with these numbers in the planning process until further notification from you. Thank you for your assistance with our variance request.

Sincerely,
Northeast Tennessee Solid Waste Planning Board



John Campbell
Chairman

XC: Geneil Hailey Dillehay

**CARTER COUNTY
SANITARY LANDFILL**



**ELIZABETHTON
DEMOLITION SITE**

Route 9, Box 2590 — Elizabethton, TN 37643

ED BUCKLES
Manager
615-543-6628

TONNAGE
JULY 1992 - JUNE 1993

JULY	3166.50
AUGUST	3030.62
SEPTEMBER	2819.04
OCTOBER	2650.76
NOVEMBER	2882.39
DECEMBER	3306.27
JANUARY	3367.05
FEBRUARY	2951.81
MARCH	3717.16
APRIL	3819.67
MAY	3736.56
JUNE	3832.84

TOTAL 39,280.67

THE ABOVE TONS REPRESENTS OUR FISCAL YEAR FROM JULY 1 THRU JUNE 30.

IF YOU NEED ANY FURTHER ASSISTANCE PLEASE CALL.

REGARDS,

Ed Buckles

ED BUCKLES
MANAGER - CCEL



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT

See reverse for instructions.
 Please type or print.

Facility ID Number:

Carter County/Elizabethton
 Sanitary Landfill
 SNL 10-104-0186
 Mr. Ed Buckles
 Route 9, Box 2590
 Elizabethton, TN 37643

For Quarter Ending:

JUNE 30, 1993

POSTED

Facility Name and Address:
 (If not correct, please change.)

Telephone No. 543-6626

1. Facility Owner/Operator:
 CARTER COUNTY/ELIZABETHTON LANDFILL
 ELIZABETHTON, TENN. 37643

2. Facility Location:
 ROUTE # 9 BOX 2590

3. Number of registered haulers using this facility during period: _____
4. Record of waste received for each month of quarter. Please indicate whether amounts are in tons or cubic yards: tons cubic yards.

Week	First month of quarter	Second month of quarter	Third month of quarter
1	298.85 APRIL	16.85 MAY	829.69 JUNE
2	794.59	931.06	890.05
3	883.81	924.76	919.64
4	842.14	967.81	787.73
5	1000.28	896.08	405.73
Month Total	3819.67	3736.56	3832.84

5. Total waste received during quarter: 11,389.07 Tons

SurchARGE Calculation

6. Convert cubic yards to tons: (Cubic yards ÷ 4) = _____ tons
7. Total tons 11389.07 x \$0.85 = \$ 9,680.07
8. Outstanding debit or credit \$ 0
9. Total due \$ 9,680.71

Make check or money order payable to the Tennessee Department of Environment and Conservation.
 Payment due October 31, January 31, April 30, and July 31.

10. I certify that the information on this report is true and correct:

Ed Buckles

Signature of owner/operator

MANAGER

Title

7/07/93

Date

DATE 7-8-93
 INT. *ELB*



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT

See reverse for instructions.
 Please type or print.

Facility ID Number: _____

Carter County/Elizabethton
 Sanitary Landfill
 SNL 10-104-0186
 Mr. Ed Buckles
 Route 9, Box 2590
 Elizabethton, TN 37643

POSTED

For Quarter Ending:
 01/93 THRU 03/93

Facility Name and Address:
 (If not correct, please change.)

Telephone No. 615-543-6626

1. Facility Owner/Operator:
 CARTER COUNTY / ELIZABETHTON LANDFILL

2. Facility Location: RT # 9 BOX 2590
 ELIZABETHTON, TENN. 37643

3. Number of registered haulers using this facility during period: _____
4. Record of waste received for each month of quarter. Please indicate whether amounts are in tons or cubic yards: tons cubic yards.

Week	First month of quarter	Second month of quarter	Third month of quarter
1	35.17 JAN.	734.93 FEB.	770.17 MAR.
2	879.87	805.30	834.03
3	826.61	700.33	629.96
4	849.27	681.25	920.83
5	776.13		562.17
Month Total	3367.05	2921.81	3717.16

5. Total waste received during quarter: 10,006.02

Surcharge Calculation

6. Convert cubic yards to tons: (Cubic yards ÷ 4) = _____ tons
7. Total tons 10,006.02 x \$0.85 = \$ 8,505.12
8. Outstanding debit or credit \$ 0
9. Total due \$ 8,505.12

Make check or money order payable to the Tennessee Department of Environment and Conservation.
 Payment due October 31, January 31, April 30, and July 31.

APPROVED FOR PAYMENT
 DATE: 4-7-93
 INC: [Signature]

10. I certify that the information on this report is true and correct:

Ed Buckles Signature of owner/operator [Signature] Title 4/6/93 Date



QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT

See reverse for instructions.
Please type or print.

Facility ID Number: _____

For Quarter Ending:
OCTOBER - DECEMBER 92

Carter County/Elizabethton
Sanitary Landfill
SNL 10-104-0186
Mr. Ed Buckles
Route 9, Box 2590
Elizabethton, TN 37643

POSTED

Facility Name and Address:
(If not correct, please change.)

Telephone No. 615-543-6626

1. Facility Owner/Operator:
CARTER COUNTY/CITY ELIZABETHTON

2. Facility Location:
CARTER COUNTY

- 3. Number of registered haulers using this facility during period: _____
- 4. Record of waste received for each month of quarter. Please indicate whether amounts are in tons or cubic yards: tons cubic yards.

Week	First month of quarter	Second month of quarter	Third month of quarter
1	256.62 OCT.	633.98 NOV.	583.22 DEC.
2	644.08	644.06	725.31
3	583.84	744.52	765.64
4	537.65	633.07	588.90
5	628.54	226.76	643.20
Month Total	2650.73	2,882.39	3306.27

5. Total waste received during quarter: OCTOBER, NOVEMBER, DECEMBER

Surcharge Calculation

POSTED

- 6. Convert cubic yards to tons: (Cubic yards ÷ 4) = _____ tons
- 7. Total tons 8839.39 x \$0.85 = \$ 7,513.48
- 8. Outstanding debit or credit \$ 0
- 9. Total due \$ 7,513.48

#517
PAID
DATE 1-8-93 (99)
INT. 04

Make check or money order payable to the Tennessee Department of Environment and Conservation.
Payment due October 31, January 31, April 30, and July 31.

10. I certify that the information on this report is true and correct:

Signature of owner/operator _____

MANAGER/CCEL
Title

1/7/93
Date



STATE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
QUARTERLY SOLID WASTE TIPPING FEE SURCHARGE REPORT

See reverse for instructions.
 Please type or print.

Facility ID Number: _____

Carter County/Elizabethton
 Sanitary Landfill
 SNL 10-104-0186
 Mr. Ed Buckles
 Route 9, Box 2590
 Elizabethton, TN 37643

For Quarter Ending:
JULY 1992 - SEPTEMBER 1992

Facility Name and Address:
 (If not correct, please change.)

Telephone No. 615-543-6626

1. Facility Owner/Operator: _____

2. Facility Location: _____

3. Number of registered haulers using this facility during period: _____
4. Record of waste received for each month of quarter. Please indicate whether amounts are in tons or cubic yards: tons cubic yards.

Week	First month of quarter	Second month of quarter	Third month of quarter
1	327.41 JULY	19.95 AUGUST	582.43 SEPTEMBER
2	718.74	772.33	563.69
3	666.77	756.58	642.92
4	690.88	684.28	629.77
5	696.50	667.55	403.23
6 Month Total	3,100.30	3,030.62	2822.04

5. Total waste received during quarter: 8952.96

Surcharge Calculation

6. Convert cubic yards to tons: (Cubic yards ÷ 4) = _____ tons
7. Total tons 6130.92 x .85 = \$ 7,610.02
8. Outstanding debit or credit \$ 0
9. Total due \$ 7,610.02

PAID
 10-2-92
 APPROVED FOR PAYMENT
 DATE 10-2-92
 INT.

Make check or money order payable to the Tennessee Department of Environment and Conservation
 Payment due October 31, January 31, April 30, and July 31.

10. I certify that the information on this report is true and correct:

Ed Buckles
 Signature of owner/operator

 MANAGER
 Title

10/02/92
 Date

Carter
Elizabethton
Watauga

Northeast Tennessee Regional Solid Waste Planning Board
John Campbell, Chairman
(Johnson County Variance Request)

May 26, 1994

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Mr. Paul Evan Davis
Tennessee Division of Solid Waste Assistance
L&C Tower, 14th Floor - 401 Church Street
Nashville, TN 37243-0455

Hancock
Sneedville

RE: Variance Request From 1990 UT Study Numbers for Calculation of 25% Reduction Requirements -- Johnson County Tennessee.

Dear Mr. Davis:

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Surgoinville

In development of the Regional Solid Waste Management Plan for Carter, Johnson, Unicoi and Washington Counties, the Planning Board has carefully scrutinized the waste generation figures and the population estimates for Johnson County given in the 1990 UT Study. Our analysis has shown that there are potential discrepancies in both the population figures and the waste generation figures, based upon updated census figures and scale data at the Johnson County Landfill. We are therefore requesting a revision of the base year data for calculating Johnson County's 25% diversion requirement. The following discussion outlines pertinent points of the variance request.

Johnson
Mountain City

A. 1989 Figures As Per University of Tennessee Study

The figures published in the UT Study are as follows:

Waste Generation in Tons Per Year (1989)	Estimated Population (1989)	Per Capita Waste Generation Rate (1989)
6,470	13,766	.47

Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

B. Data Not Available in 1989

Scales were in place at the Johnson County Landfill prior to 1989 but adequate records were not kept of the scale data until 1991, therefore there was no scale data available in 1989.

Washington
Johnson City
Greeneville

C. Waste Generation Figures - 1993

The most recent full year of scale data available for the Johnson County Landfill is the calendar 1993 year. In 1993 7,400 tons per year were recorded at the scales for Johnson County.

D. Population Figures

The estimated population for Johnson County in 1993 as provided by the Department of Sociology UT as adjusted by the Division of Information Resources, TDH is 13,694.

E. Synopsis of Proposed Base Year Figures

Waste Generation and Population Figures for Johnson County

	Waste Generation (Tons Per Year)	Population	Per Capita Waste Generation (Tons Per Person Per Year)
From UT Study	6,470	13,766	.47
Variance Requested	7,400	13,694	.54

Please review the numbers in the preceding tables and call me with any questions or comments which you might have. Due to time constraints in meeting the July 1, 1994 deadline, we are proceeding with these numbers in the planning process until further notification from you. Thank you for your assistance with our variance request.

Sincerely,
Northeast Tennessee Solid Waste Planning Board



John Campbell
Chairman

XC: Geneil Hailey Dillehay

APPENDIX D

Public Participation Activities

This Appendix includes:

A summary of workshops, public information meetings, informational and educational activities.

An attendance list, and summary of the Public Hearings.

Other activities.

Summary of Public Meetings

Johnson County

The Public Meeting for Johnson County was held at the Mountain City Town Hall from 5:30 p.m. to 6:30 p.m. on Tuesday, May 3, 1994. A public notice was placed in the Mountain City Tomahawk newspaper. Postings announcing the meeting were also displayed at the Johnson County Courthouse and at the Mountain City Town Hall. Representing the First Tennessee Development District and the Northeast Tennessee Regional Solid Waste Planning Board was Tamara Bowers, FTDD. Copies of the Draft Solid Waste Plan, a Question/Answer summary sheet, and related handouts were displayed and available to the public. A large map of the Region and the current solid waste facilities was also displayed. There were no attendees.

Carter County

The Public Meeting for Carter County was held at the Elizabethton City Hall from 6:00 p.m. to 7:00 p.m. on Thursday, May 12, 1994. A public notice was placed in the Elizabethton Star newspaper. Postings announcing the meeting were also displayed at the County Courthouse and at City Hall. Representing the First Tennessee Development District and the Northeast Tennessee Regional Solid Waste Planning Board was Tamara Bowers, FTDD. Copies of the Draft Solid Waste Plan, a Question/Answer summary sheet, and related handouts were displayed and available to the public. There were two attendees. Mr. Arch Holland and Mrs. Louise Holland from Washington County, Tennessee attended the public meeting and asked general questions concerning the Solid Waste Plan.

Washington County

The Public Meeting for Washington County was held at the City of Johnson City Municipal Building from 4:30 p.m. to 6:00 p.m. on Thursday, May 19, 1994. A public notice was placed in the Johnson City Press and Jonesborough Herald and Tribune newspapers. Postings announcing the meeting were also displayed at the Washington County Courthouse, Jonesborough Town Hall and the Johnson City Municipal Building. Copies of the Draft Solid Waste Plan, a Question/Answer summary sheet, and related handouts were displayed and available to the public. Representing the First Tennessee Development District and the Northeast Tennessee Regional Solid Waste Planning Board were: Pete Peterson, Jim Culbert, Mrs. Susan Reid, Chris Craig, Tamara Bowers, and Vice-Chairman Roby McBride. Mr. Jeff Crate and Mrs. Lynn Croy represented Draper Aden Associates. There were no attendees.

Unicoi County

The Public Meeting for Unicoi County was held at the City of Erwin City Hall from 5:30 p.m. to 6:30 p.m. on Monday, May 23, 1994. A public notice was placed in the Erwin Record newspaper. Postings announcing the meeting were also displayed at the Unicoi County Courthouse and at the Erwin City Hall. Copies of the Draft Solid Waste Plan, a Question/Answer summary sheet, and related handouts were displayed and available to the public. Representing the First Tennessee Development District and the Northeast Tennessee Regional Solid Waste Planning Board were Chris Craig and Doris Hensley. There were no attendees.

Summary of Public Participation Activities

- Notices to all area media (radio, newspaper, and television) were mailed announcing the meeting time and place for all Planning Board meetings.
- Notices to all area media were mailed announcing the meeting time and place for all Advisory Board meetings.
- Updates on the Solid Waste Plans were issued at each meeting of the First Tennessee Development District Board of Directors.
- Information on the status of the Plans were also summarized in each edition of the District newsletter, "Directions".
- Public Kick-Off meetings were held in three counties in the Region: Johnson County - November 22, 1993; Unicoi County - November 29, 1993; Carter County - December 13, 1993. Area media was invited. News releases were sent to local newspapers announcing the events.
- Presentations were made before each County Commission in November/December 1993.
- Advisory Board meetings were held on January 25, 1994 and March 31, 1994.
- A Press Conference was held on March 7, 1994 by seven Northeast Tennessee counties to announce and publicize the April Household Hazardous Waste Collection events.
- Posters, brochures, handout sheets, billboards, radio and television public service announcements and take-home sheets for elementary school children were used to promote the Regional Household Hazardous Waste Collection events.
- Interviews with area media were given and articles relating to the Solid Waste Planning Board were published.
- News releases were issued to area newspapers by the Planning Board on the required 25% reduction, the status of the Plan, and related solid waste subjects.

- Industrial Waste Reduction seminars were held in each of the Region's four counties in March 1994. Mr. Albert Tieche with the University of Tennessee Center for Industrial Services presented the programs. News releases were issued to all local newspapers. Industries in each county were mailed personal invitations from the Planning Board, the County Executives, and the Mayors. Area media representatives attended the seminars.

- Presentations on the Solid Waste Management Act of 1991 and the requirements of the Solid Waste Plan were made before each County Commission in April. Draft copies of the Plan were also issued to each Commissioner.

- Workshop sessions were conducted with the County Commissioners in Carter and Johnson Counties. The County Executives of Washington and Unicoi Counties did not feel a workshop session was needed in their counties due to the inclusion of several commissioners on the Planning Board.

- Presentations were made before each municipal governing body in the Region: the Elizabethton City Council - May 12, the Johnson City Commission - May 19, the Mountain City Town Council - May 3, the Jonesborough Town Council - May 9, the Erwin City Council - May 23, and the Watauga City Council - May 26. The Councilmen were given copies of the draft Solid Waste Plan and related handouts.

- Public Meetings were held in each of the four counties in the Region in May, 1994.

- Presentations were made before each County Commission in May, 1994. Final approval of the Plan was adopted by resolution in each county.

Johnson City Press

Johnson City, Tennessee

AFFIDAVIT OF PUBLICATION

DATES: May 5, 1994

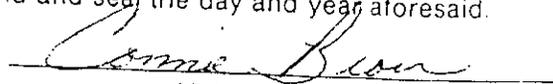
Pursuant to the Solid Waste Management Act of 1991, each solid waste region is required to develop a 10 year plan. A public meeting has been scheduled by Washington County to discuss the Northeast Tennessee Regional Solid Waste Management Plan. The meeting will be held from 4:30 p.m. to 6:00 p.m. on May 19, 1994 in the Johnson City Municipal/Safety Building, Council Room. The public meeting is being held one hour prior to the City Commission meeting. County residents will have the opportunity to ask questions or make comments on the Northeast Tennessee Regional Solid Waste Management Plan. The Plan will be available for review at the Washington County Courthouse, Jonesborough, Tennessee from 8:30 a.m. to 4:30 p.m. Monday - Friday. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

STATE OF TENNESSEE)
WASHINGTON COUNTY) SS.

Frank Hawkins makes oath that he is the Advertising Manager of the **JOHNSON CITY PRESS**, a daily newspaper published in Johnson City, in said County and State, and that advertisement was published in said newspaper for (1) one insertion commencing on the 5 day of May, 19 94, and ending on the 5 day of May, 19 94.


Signature

Sworn to and subscribed before me this 27 day of May, 19 94
In testimony whereof I have hereunto set my hand and seal the day and year aforesaid.


Notary Public

My commission Expires 129, 19 95.

STATE OF TENNESSEE
COUNTY OF CARTER

NOTICE

Pursuant to the Solid Waste Management Act of 1991, each solid waste region is required to develop a 10 year plan. A public meeting has been scheduled by Carter County to discuss the Northeast Tennessee Regional Solid Waste Management Plan. The meeting will be held at 6:00 p.m. on May 12, 1994 in the Elizabethton City Hall, Council Room. The public meeting is being held one hour prior to the City Council meeting. County residents will have the opportunity to ask questions or make comments on the Northeast Tennessee Regional Solid Waste Management Plan. The Plan will be available for review at the Carter County Executive's office in Elizabethton, Tennessee from 8:30 a.m. to 4:30 p.m. Monday - Friday. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

#59647 - 5/3

Kathy Hicks OF SAID COUNTY BEING DULY SWORN, DEPOSETH AND SAITH THAT SHE IS THE ASSISTANT TREASURER OF THE ELIZABETHTON STAR, A NEWSPAPER PUBLISHED AT ELIZABETHTON IN THE COUNTY OF CARTER, STATE OF TENNESSEE, AND THE ORDER AND NOTICE, OF WHICH IS ANNEXED IS A TRUE COPY, WHICH WAS PUBLISHED IN SAIL PAPER FOR one ^{insertion} CONSECUTIVE WEEKS,

COMMENCING ON THE 3rd DAY OF May, 19 94
AND ENDING ON THE _____ DAY OF _____, 19 _____

Kathy Hicks
Sworn to and subscribed before me this
the 23rd day of May 19 94
Glenn Hodge

NOTARY PUBLIC
My commission expires May 10, 1996

First TENN. Development District - #26.25
#6282

THE TOMAHAWK
MOUNTAIN CITY, TENN.

PROOF OF PUBLICATION

State of Tennessee
Johnson County, ss:

Personally appeared before me, a notary public in and for said county and state, DEIDRA J. SMITH, publisher and proprietor of THE TOMAHAWK, INC., a weekly newspaper of general circulation, printed and published in Mountain City, Johnson County, Tennessee, and who, being duly sworn, upon oath, says that the notice of which the attached is a true copy, was duly published in said newspaper for 1 successive times, the first publication being on the 27 day of April, 1994, second on _____ day of _____, 19____, third on _____ day of _____, 19____, fourth on _____ day of _____, 19____.

(Signed) Deidra J. Smith

Subscribed and sworn before me this 20 day of May, 1994.

Mabel Hodge
Notary Public

My commission expires 8-21, 1995

Publication Fee _____ \$ _____

Proof filed with Clerk _____, 19____

NOTICE
Pursuant to the Solid Waste Management Act of 1991, each solid waste region is required to develop a ten year plan. A public meeting has been scheduled by Johnson County to discuss the Northeast Tennessee Regional Solid Waste Management Plan. The meeting will be held at 5:30 p.m. on May 3, 1994 in the Mountain City Town Hall, Council Room. The public meeting is being held one hour prior to the Town Council meeting. County residents will have the opportunity to ask questions or make comments on the Northeast Tennessee Regional solid Waste Management Plan. The Plan will be available for review at the Johnson County Executive's office in Mountain City, Tennessee from 8:30 a.m. to 4:30 p.m. Monday-Friday. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224 (4-27-1c)

STATE OF TENNESSEE,
COUNTY OF UNICOI:

Thomas D. Harris of Erwin

County of Unicoi, State of Tennessee, deposes that he is Editor of The Erwin Record, a newspaper published at Erwin, Unicoi County, Tennessee, and that the notice hereto attached was published in said paper on the following dates:

January	19.....
February	19.....
March	19.....
April	19.....
May	<u>11,</u> 19 <u>94</u>
June	19.....
July	19.....
August	19.....
September	19.....
October	19.....
November	19.....
December	19.....

By Thomas D. Harris

Sworn to and subscribed before me.

this 20th day of May 1994

Edna Dempke

Notary Public.

Publisher's Fee \$..... Paid

Not Paid

NOTICE

Pursuant to the Solid Waste Management Act of 1991, each solid waste region is required to develop a 10 year plan. A public meeting has been scheduled by Unicoi County to discuss the Northeast Tennessee Regional Solid Waste Management Plan. The meeting will be held at 5:30 p.m. on May 23, 1994, in the Erwin City Council Meeting room. The public meeting is being held one hour prior to the City Council meeting. County residents will have the opportunity to ask questions or make comments on the Northeast Tennessee Regional Solid Waste Management Plan. The Plan will be available for review at the Unicoi County Executive's Office, Unicoi County Courthouse, Erwin, Tennessee from 8:30 a.m. to 4:30 p.m. Monday - Friday. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

1x5-11c

Affidavit of Publication of Legal Notice

in HERALD AND TRIBUNE, Jonesborough TN 37659
P.O. Box 277 Phone (615) 753-3136
FAX 753-6528

Kind of Notice

- Non-Resident
- Trustee's Sale
- Sale of Valuable Land
- Order of Publication
- Other: _____

STATE OF TENNESSEE
COUNTY OF WASHINGTON

I, H. Don Miller, General Manager of the Herald and Tribune, a weekly newspaper published in Jonesborough, County of Washington, State of Tennessee, do make oath that the Legal Notice adhered unto, entitled:

Notice of Public Meeting

vs.

Northeast TN Regional Solid Waste Management Plan

as published as ordered in said newspaper and charged hereon at the rates fixed by law for such notices as follows:

First Publication Wednesday, <u>5/4</u> 19 <u>94</u> , <u>5</u> inches @ \$3.09
Second Publication Wednesday, _____ 19____, _____ inches @ \$3.09
Third Publication Wednesday, _____ 19____, _____ inches @ \$3.09
Fourth Publication Wednesday, _____ 19____, _____ inches @ \$3.09

TOTAL CHARGED \$ 15.45

H. Don Miller
General Manager

Sworn to and subscribed before me this

May 11, 1994
Antonia L. Ball
Notary Public

(Seal)

Settlement Record:

NOTICE OF PUBLIC MEETING
Pursuant to the Solid Waste Management Act of 1991, each solid waste region is required to develop a 10-year plan. A public meeting has been scheduled by Washington County to discuss the Northeast Tennessee Regional Solid Waste Management Plan. The meeting will be held from 4:30 p.m. to 6:00 p.m. on May 19, 1994 in the Johnson City Municipal/Safety Building, Council Room. The public meeting is being held one hour prior to the City Commission meeting. County residents will have the opportunity to ask questions or make comments on the Northeast Tennessee Regional Solid Waste Management Plan. The Plan will be available for review at the Washington County Solid Waste and Recycling Office, Washington County Courthouse, Jonesborough, Tennessee from 8:30 a.m. to 4:30 p.m. Monday-Friday. For additional information contact Tamara Bowers, First Tennessee Development District, 928-0224.
May 4

COMPOSITE COPY OF PUBLIC MEETING SIGN-IN SHEETS

PUBLIC MEETING SIGN-IN SHEET - JOHNSON COUNTY - MAY 3, 1994

TAMARA Bowers First TN. Development District

PUBLIC MEETING SIGN-IN SHEET - CARTER COUNTY - MAY 12, 1994

Tamara Bowers FTDD

Louise Halland Washington Co.

Arch Halland Washington Co

PUBLIC MEETING SIGN-IN SHEET - WASHINGTON COUNTY - MAY 19, 1994

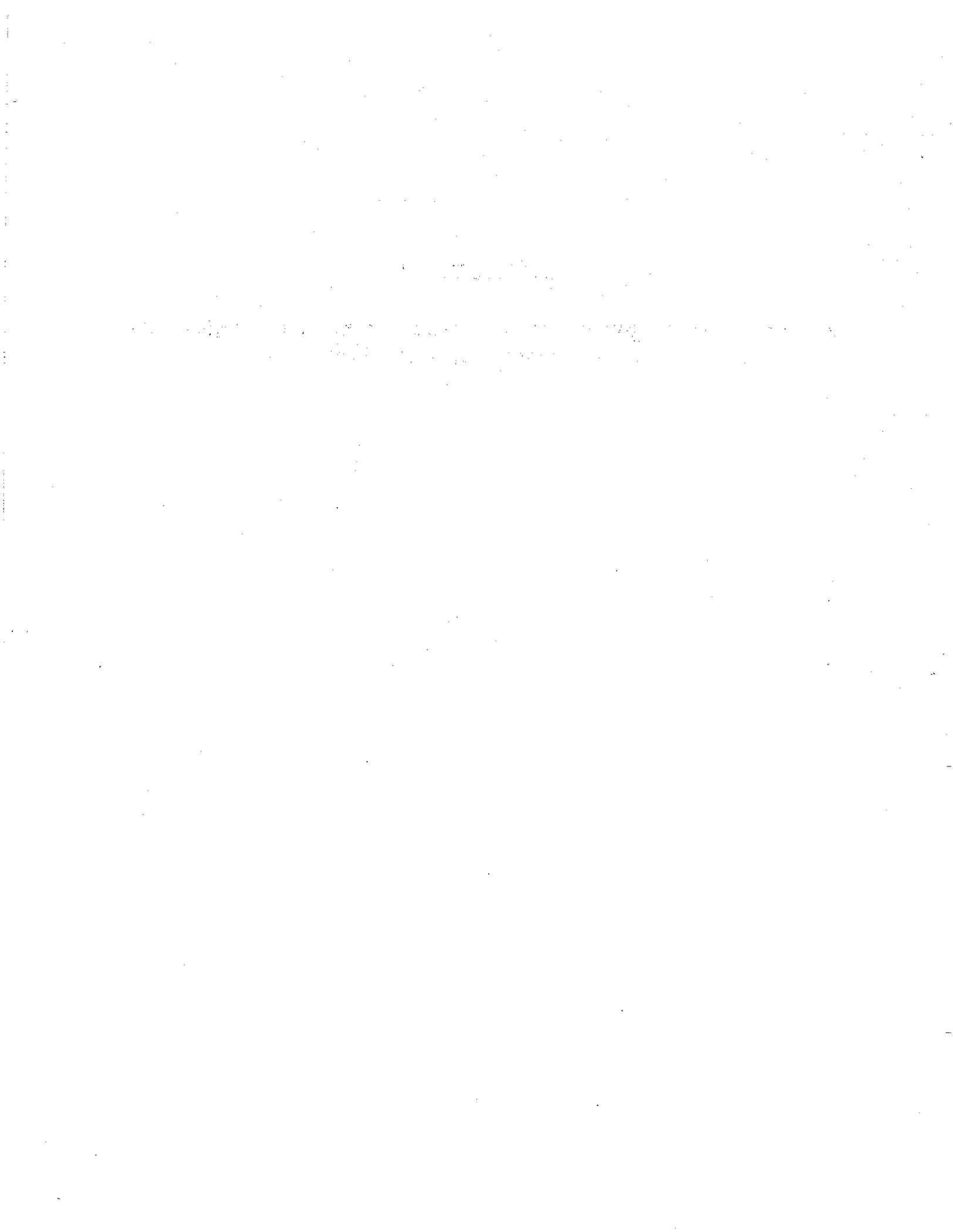
<u>NAME</u>	<u>Address</u>
1. Chels Cearq	Rt. 6 Box 523-1 Johnson City, TN 37601
2. TAMARA BOWERS	Rt 11 Box 1450 Elizabethton, TN 37643
3. Jim Culbert	Rt 5 Box 151A JC TN 37601
4. Lynn K. Craig	2206 S. Main St. Bibbuz

PUBLIC MEETING SIGN-IN SHEET - UNICOI COUNTY - MAY 23, 1994

TAMARA BOWERS - FTDD
Chris Craig - FTDD

APPENDIX E

**Review by Appropriate Municipal or Regional
Planning Commission**



First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. P.C. Snapp
Regional Director
Tennessee State Planning Office
207 N. Boone Street, Suite 1200
Johnson City, TN 37604

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Director Snapp:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Carmel
Fogersville
Garjainsville

The Planning Board is also required to make a copy of the Plan available for review by the local and Regional Planning Commissions. Enclosed is a copy of the Plan for your review. Similar letters have been sent to the Planning Commission Chairmen of: Johnson County, Mountain City, Carter County, Elizabethton, Unicoi County, Erwin, Washington County, Johnson City, and Jonesborough. The Solid Waste Planning Board representatives and advisors from Washington County are: Mr. John Campbell, Chairman; Mr. Roby McBride, Vice-Chairman; Mr. Bob Browning; Mr. Roy Fleming; Mr. Pete Peterson, and Mr. Jim Culbert.

Johnson
Mountain City

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

May 25, 1994

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

Carter
Elizabethton
Watauga

Mr. John Richardson, Chairman
Carter County Planning Commission
Rt. 3
Roan Mountain, Tennessee 37687

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Richardson:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Sargonsville

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Carter County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Carter County and Elizabethton have copies of the Plan. These representatives are: Mr. Ed Buckles, Mr. Chris Schuettler, and Mr. J.R. Junior Stanley.

Johnson
Mountain City

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. David Ornduff, Chairman
Elizabethton Planning Commission
136 S. Sycamore
Elizabethton, TN 37643

Greene
Baileyton
Greeneville
Cosheim
Sevier

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Ornduff:

Hancock
Sevier

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Carter
Sevier
Carter
Sevier

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Carter County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Carter County and Elizabethton have copies of the Plan. These representatives are: Mr. Ed Buckles, Mr. Chris Schuettler, and Mr. J.R. Junior Stanley.

Johnson
Johnson City

Sullivan
Sevier
Bristol
Sevier

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Unicoi
Sevier

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37601
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. George Cunningham, Chairman
Mountain City Planning Commission
P.O. Box 901
Mountain City, TN

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Cunningham:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Surgoinville

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Johnson County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Johnson County and Mountain City have copies of the Plan. These representatives are: Mr. Tom Taylor, Mr. Bob Stout, Mrs. Connie Sharp, and Mr. Stedman Greever.

Johnson
Mountain City

Sullivan
Bluff City
Bristol
Kingsport

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. Allen Snyder, Chairman
Johnson County Planning Commission
Rt. 5
Mountain City, TN

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Snyder:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Carmel
Copersville
Turbinville

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Johnson County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Johnson County and Mountain City have copies of the Plan. These representatives are: Mr. Tom Taylor, Mr. Bob Stout, Mrs. Connie Sharp, and Mr. Stedman Greever.

Johnson
Mountain City

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. Roland Bailey, Chairman
Erwin Planning Commission
605 S. Mohawk Drive
Erwin, TN 37650

Greene
Barayton
Greeneville
Moshannon
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Bailey:

Hancock
Shelby

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Sullivan
Sevier
Cannonville
Cannon
Knox

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Unicoi County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Unicoi County and Erwin have copies of the Plan. These representatives are: Ms. Doris Hensley, Mr. Ullis Miller, and Mr. Jack Hawkins.

Johnson
Mountaineer

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Sullivan
Bluff City
Blount
Knox

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Jonesborough

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. Doug Bowman, Vice-Chairman
Unicoi County Planning Commission
100 Ivers Hollow Road
Erwin, TN 37650

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Chairman Bowman:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Carmel
Logansville
Boonsville

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Unicoi County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives from Unicoi County and Erwin have copies of the Plan. These representatives are: Ms. Doris Hensley, Mr. Ullis Miller, and Mr. Jack Hawkins.

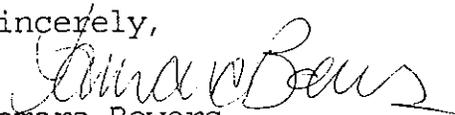
Johnson
Mountain City

Sullivan
Bluff City
Bristol
Kingsport

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Unicoi
Erwin

Sincerely,


Tamara Bowers

Washington
Johnson City
Newburgh

First
Tennessee
Development
District

207 North Boone Street, Suite 800 • Johnson City, Tennessee 37604
(615) 928-0224 • Fax (615) 928-5209

May 25, 1994

Carter
Elizabethton
Watauga

Mr. James D. Moody, Director
Johnson City Planning Commission
P.O. Box 2150
Johnson City, TN 37605

Greene
Baileyton
Greeneville
Mosheim
Tusculum

Re: Northeast Tennessee Regional Solid Waste Management
Plan: Carter, Johnson, Washington, and Unicoi
Counties

Dear Director Moody:

Hancock
Sneedville

The Northeast Tennessee Regional Solid Waste Planning Board has completed the development of a 10-year Solid Waste Management Plan which satisfies the requirements of the Solid Waste Management Act of 1991. We have worked closely with the County Commissions and City Councils in the Region throughout the planning process. The Planning Board has mandated approval by the County Commissions prior to submission of the Plan to the State of Tennessee.

Hawkins
Bulls Gap
Church Hill
Mount Carmel
Rogersville
Surgoinville

The Planning Board is also required to make a copy of the Plan available for review by the local Planning Commissions. The Northeast Tennessee Regional Solid Waste Management Plan is available for review at the Washington County Executive's office from 8:00 am to 4:30 p.m., Monday through Friday. The Plan may also be reviewed at the First Tennessee Development District office, 207 North Boone Street, Johnson City. Additionally, the Planning Board representatives and advisors from Washington County, Jonesborough, and Johnson City have copies of the Plan. These representatives and advisors are: Mr. John Campbell, Chairman; Mr. Roby McBride, Vice-Chairman; Mr. Bob Browning; Mr. Roy Fleming; Mr. Pete Peterson, and Mr. Jim Culbert.

Johnson
Mountain City

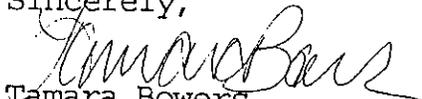
Sullivan
Bluff City
Bristol
Kingsport

Unicoi
Erwin

The Planning Board invites your comments. For additional information contact, Tamara Bowers, First Tennessee Development District, 928-0224.

Washington
Johnson City
Jonesborough

Sincerely,


Tamara Bowers

APPENDIX F

**Resolutions of the County Commissions'
Approval of the Northeast Tennessee
Regional Solid Waste Plan**

RESOLUTION TO THE COUNTY COMMISSION

OF WASHINGTON COUNTY, TENNESSEE

WHEREAS, The Tennessee Solid Waste Management Act of 1991 requires all solid waste regions adopt and submit a solid waste management plan to the State by July 1, 1994, and

WHEREAS, Washington County is a member of the Northeast Tennessee Solid Waste Planning Region, and

WHEREAS, A solid waste management plan has been prepared for the Northeast Tennessee Regional Solid Waste Planning Board, now

THEREFORE BE IT RESOLVED, That the Washington County Board of Commissioners, assembled in regular Session on the 23 day of May, 1994, approves the Northeast Tennessee Regional Solid Waste Management Plan as recommended by the Northeast Tennessee Regional Solid Waste Planning Board.

Attested Loy Phillips Date: 5/23/94 George Jaynes Date: 5/23/94
County Clerk County Executive

INTRODUCED BY COMMISSIONER Marion Light

SECONDED BY COMMISSIONER Evert Jarrett

Commission Action	Aye	Nay	Pass	Absent	Total
Roll Call					
Voice Vote	23				23

Comments: _____

Motion was made by Marion Light and second by Evert Jarrett to approve the resolution of the Tennessee Solid Waste Management Act of 1991 with unanimous approval.

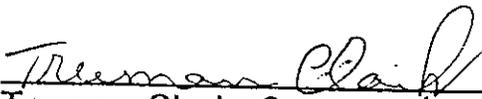
RESOLUTION TO THE COUNTY COMMISSION
OF CARTER COUNTY, TENNESSEE

WHEREAS, The Tennessee Solid Waste Management Act of 1991 requires all solid waste regions adopt and submit a solid waste management plan to the State by July 1, 1994, and

WHEREAS, Carter County is a member of the Northeast Tennessee Solid Waste Planning Region, and

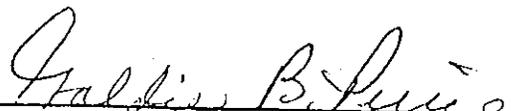
WHEREAS, A solid waste management plan has been prepared for the Northeast Tennessee Regional Solid Waste Planning Board, now

THEREFORE BE IT RESOLVED, That the Carter County Board of Commissioners, assembled in regular session on the 31st day of May, 1994, approves the Northeast Tennessee Regional Solid Waste Management Plan as recommended by the Northeast Tennessee Regional Solid Waste Planning Board.



Truman Clark, County Executive

Attest:



Goldie B. Pierce, County Clerk

Commission Action: Roll Call Vote

Ayes	Nays	Pass	Absent	Total
<u>20</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>20</u>

RESOLUTION NUMBER _____

RESOLUTION OF THE COUNTY COMMISSION
FOR JOHNSON COUNTY, TENNESSEE

WHEREAS, The Tennessee Solid Waste Management Act of 1991 requires all solid waste regions adopt and submit a solid waste management plan to the State by July 1, 1994, and

WHEREAS, Johnson County is a member of the Northeast Tennessee Solid Waste Planning Region, and

WHEREAS, A solid waste management plan has been prepared for the Northeast Tennessee Regional Solid Waste Planning Board, now

THEREFORE BE IT RESOLVED, That the Johnson County Board of Commissioners, assembled in regular Session on the 19th day of May, 1994, approves the Northeast Tennessee Regional Solid Waste Management Plan as recommended by the Northeast Tennessee Regional Solid Waste Planning Board.

Attested *Danny Kelly* Date: 5-24-94 *George Lane* Date: 5-24-94
County Clerk County Executive

INTRODUCED BY COMMISSIONER BOBBY R. STOUT

SECONDED BY COMMISSIONER JOHNNY ARNEY

Commission Action	Aye	Nay	Pass	Absent	Total
Roll Call	20	0	0	1	21
XXXXXX XXXX Voice Vote					

Comments: _____
