

**A RESOLUTION RE-AFFIRMING ORANGE COUNTY'S 10-YEAR SOLID WASTE
MANAGEMENT PLAN, INCLUDING A 61 PERCENT WASTE REDUCTION GOAL AND
AUTHORIZING ORANGE COUNTY TO SUBMIT THE SOLID WASTE PLAN TO THE STATE**

Resolution No. 126/2003-04

WHEREAS, Orange County adopted in 1997 a general waste reduction plan framework as part of its overall solid waste goals and adopted specific waste reduction goals of 45% per capita by 2001 and 61 % per capita by 2006, and

WHEREAS, Orange County achieved a 40% waste reduction rate in 2001-02 and 45% waste reduction rate in 2002-2003, thus meeting its interim waste reduction goal of 45% and the State goal of 40%, and

WHEREAS, this is recognized as the highest level of waste reduction in North Carolina, while during the same period the state overall has experienced a significant decrease in waste reduction, and

WHEREAS, participation in County waste reduction and recycling programs continue at a high level, and

WHEREAS, the State of North Carolina does not contribute in any meaningful manner to funding local government waste collection, waste disposal, or waste reduction programs or services, and

WHEREAS, Orange County is considering alternative means of financing its solid waste programs which it will likely implement in FY 2004-05, and

WHEREAS the Town of Carrboro is required by State regulation to adopt a resolution endorsing the plan update before submission by Orange County to the State;

NOW THEREFORE BE IT RESOLVED that Orange County is maintaining its long-term goal of 61 % waste reduction per capita.

BE IT FURTHER RESOLVED that the Town of Carrboro adopts the solid waste plan update attached hereto and authorizes the County Manager to submit the plan to the State.

Solid Waste Plan Update 2003

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Executive Summary

The Solid Waste Management Department, formerly part of the Town of Chapel Hill, was officially transferred to Orange County on April 17, 2000. This Department is still the lead agency for solid waste management and is responsible for operating the Orange County Landfill, Orange Community Recycling, and for providing solid waste planning and reporting county-wide. For FY2002-03, Orange County exceeded 40% waste reduction per capita for the second year in a row, at 45%, Table 1 below.

During fiscal 2002-03 year, the Orange County landfill accepted for burial 77,156 tons of waste, including 56,925 tons of MSW, 20,047 tons of C&D and LCID and 184 tons of other waste. (Chapter 1) Another 12,391 tons landfilled out-of-county are reported as generated in Orange County. (See attached County Waste Disposal report and landfill report, Chapter 1). The same out-of-county locations report receiving waste from Orange County during FY2002-03 as during FY2001-02.

Table 1: Waste generated from Orange County FY2002-03

	Tons	Comments
MSW landfilled in Orange County	56,925	
C&D landfilled in Orange County	20,231	Includes stumps, inerts mobile homes
MSW landfilled outside Orange County	4,586	
C&D landfilled outside Orange County	7,805	
Total waste disposed from Orange County	89,547	
Waste per Capita	0.748	Base year generation rate: 1.36 tons. Reduction rate: 45%

Ninety-percent of the Solid Waste Management Department revenues come from landfill tipping fees with the remainder from a combination of sales of recyclables, mulch, boiler fuel and scrap metal, grants, tire tax reimbursement and interest income. (See attached budget for FY2002-03, Chapter 1). In order to continue the current level of operations, additional predictable, stable sources of financing will be needed beginning in July 2004. Availability fees are under consideration as might be a potential tax increase. The Board of Orange County Commissioners (BOCC) will address these issues later this fiscal year. A more thorough analysis of financial conditions is part of Appendix G.

Changes in the Solid Waste Management Plan for MSW Reduction

Over the past three years, much of this department's effort to develop a long-term solid waste reduction plan had focused on two primary objectives. One objective focused on reducing municipal solid waste (MSW) through development and siting of a materials recovery facility (MRF) and expanding universal recycling services to increase waste reduction.

That MRF was the cornerstone of the original waste reduction plan that is now being modified. The County does not intend to build a MRF in the near future. Not building a MRF would also preempt expansion of the types of materials and the sectors served by the County-operated recycling program. The initial solid waste plan called for, in sequence, constructing a MRF then

expansion to universal rural curbside, universal multifamily recycling and universal commercial recycling coupled with commingling of materials. Commingling would increase collection efficiency and allow curbside collection of mixed paper and types of rigid plastic containers other than bottles. Instead, planned, near-term recycling program expansions will be limited to accommodating natural growth in residential and multifamily sectors and limited expansion of the current small scale commercial glass and food waste programs.

Construction and Demolition Waste Reduction Progress

The second objective has been reducing construction and demolition waste. In the past year the County has developed a construction and demolition waste recycling program at the landfill complemented by the implementation of a Regulated Recyclable Materials Ordinance banning disposal of scrap metal, wood waste and cardboard. Next year, this will be complemented by a new C&D landfill. In the first year of the new program C&D waste was reduced 23%. Recycling of source-separated clean C&D wood, scrap metal and corrugated cardboard at the County's facility as well as diverting mixed C&D to private recycling facilities in our region rose from 1,100 tons to 9,900 tons. (See table 2 below)

Table 2: Construction and Demolition Waste Reduction in Orange County FY2001-02 v. FY2002-03

Where Managed	FY 2001/ 2002 tonnage	FY 2002 /2003 tonnage
Disposed (Eubanks Rd)	27,729 tons	19,085 tons
Disposed (Elsewhere)	7,352 tons *	7,805 tons
Subtotal	35,081 tons	26, 890 tons (23% reduction)
Recycled (Eubanks Rd)	1,099 tons **	3,311 tons **
Recycled (Elsewhere)	0 tons	6,653 tons
Subtotal	1,099 tons	9,964 tons (9-fold increase)

Disposal

The lined portion of the landfill accepting MSW has a projected six years of life remaining at current rates of use and the current unlined C&D area approximately nine months. The new fourteen-acre C&D site now undergoing permitting procedures should last an additional fourteen years at projected rates of use.

At current rates of use, we estimate the portion of the Orange County Landfill used for MSW will be full in 2009 and we will then transfer solid waste out of county. A specific transfer station site has not yet been chosen

Planning Approach and Progress Towards Goals

Historically, Orange County has developed and maintained an integrated approach to solid waste management. In 1972, the County, Chapel Hill and Carrboro jointly purchased the land and equipment to operate the landfill. Since that time, the three governments, with addition of Hillsborough have used the same landfill, signed on to a single set of waste reduction goals, signed an interlocal agreement pledging their waste to the County's landfill, and created a solid waste advisory board that represents all four governments in providing policy recommendations to the BOCC.

The Solid Waste Advisory Board consists of two representatives from each of the four local governments and an ex-officio participant from UNC. This Advisory Board has worked further on the Solid Waste Management Plan and, last spring, endorsed the 61% goal, the original 1997 solid waste plan including a materials recovery facility, universal recycling collections and commingled collection program with an expanded list of materials.

In contrast to that endorsement, the BOCC has determined that, in the near term, the current source separated collection program will continue and no major recycling program expansions will be undertaken within the next fiscal year, given the current level of success in waste reduction activities and the long-term financial concerns for program stability. Once the financial analysis is completed and the fees implemented, the Board and the local governments may reconsider their options for further reducing waste.

The Solid Waste Department provides recycling services Countywide while each of the four governments provides some of its own waste collection services or enables contracted services to operate within its jurisdictions. All four governments have remained committed to reducing waste, supporting a single, integrated plan goal and otherwise responsibly managing solid waste.

The goal of 45% diversion by 2001-02 was actually met in 2002-03. The longer-term goal of 61% diversion was reaffirmed in 2000 and again in this 2003 planning cycle, although specific plans for meeting the goal are delayed past the original 2006 date until later in the ten year planning cycle. This postponement is due to changes in financing and other considerations by the local governments in Orange County.

Given the current level of success in waste reduction activities and the long-term financial concerns for program stability, no additional, major waste reduction activities are planned at this time. Current programs will be maintained and expanded incrementally to meet natural growth in rural areas now on the program and all the urban areas. Some minor expansion in the rural areas over and above growth in the already served areas is anticipated. Expansions to multifamily collections and commercial collections will occur as collection and processing capacity permits.

Program Additions

While the time frame has been extended, the County continues to make steady progress towards the goal. Throughout the 1990's, we conducted several intensive and extensive planning and study efforts to set the stage for further improvements in waste reduction. No major changes to reducing MSW were implemented as a direct consequence of those planning studies, however we have implemented several substantive programs over the past three years that have moved us towards our waste reduction adopted goals. Many existing programs have also had incremental improvements.

Over the past two years, new programs have included the following:

- Implementation of regulated recyclable materials ordinance and construction of C&D recycling processing center, that includes education, enforcement, permitting, licensing and processing and sale of clean loads of wood, scrap metal and corrugated cardboard.

- Oil filters and dry cell batteries added to recycling collections at solid waste convenience centers,
- Propane tanks now collected at the landfill,
- Permanent electronics recycling drop-off program established at the landfill including storage and processing facility and at solid waste convenience centers,
- Phone books, aerosol cans and all plastic bottles added to curbside, drop-off and multifamily recycling collections,
- Two new drop-off recycling sites built at Carrboro Plaza Shopping Center and Meadowmont, a new large-scale development in Chapel Hill,

Incremental program changes included:

- Increasing participation in our commercial food waste collection program to over 800 tons annually. Two UNC sites now on line and the largest Harris Teeter in Orange County. The Harris-Teeter is the first in North Carolina to be a permanent part of a commercial food waste diversion program,
- Taking over the multifamily collection program from a private firm, making collections more efficient, reducing complaint calls and lowering contamination,
- Expanding hazardous household waste collection from one day per month to four days per week and reducing cost per customer 45%,
- Expanding rural curbside recycling by 23% from 8,560 homes to 10,500 or over 50% of homes in the unincorporated area of Orange County.
- Improvement of mixed paper drop off recycling collection by seventy percent from an average 50 tons per month in FY1999-2000 to 85 tons per month last year from all twelve drop-off sites.

Waste Reduction Goals Calculations

In FY2002-03, we met the County's 2001 goal of 45% waste reduction. In FY2002-03, 89,547 tons of waste were generated in Orange County, including waste that was reported landfilled both in-county and out-of-county. The Orange County population as of June 2002, per the Office of State Planning is estimated at 119,746. The waste generation rate per capita is then calculated at 0.748 tons. That is 45% below the FY1991-92 waste generation baseline of 1.36 tons/capita. The waste reduction goal for FY2013-2014 is calculated on a separate sheet following this section. It is the same as for 2006, 61% per capita when compared with the base year of 1991-92.

Summary of Chapters 2-4

Orange Community Recycling program changes, landfill operational changes, and the various efforts for waste reduction and solid waste management have been incorporated into this report. They are summarized in Chapter 2 in Table 2a. Table 2b summarizes work by individual jurisdictions on solid waste issues. Additional details on work by the individual jurisdictions are included in Appendix G.

Chapter 3 summarized planning efforts and program evaluations highlighting recycling program performance including both solid waste and hazardous waste. Tonnages have increased annually overall. Costs per person and per pound for collecting and processing hazardous wastes have fallen 26% and 34% respectively. Future program financing will likely include some supplemental funding to balance expenses and revenues. Future disposal options will include a County owned C&D landfill and either public or private out of county disposal of MSW.

Chapter 4 shows the process for gaining plan approval from the local governments and submitting the plan.

WASTE REDUCTION GOAL FOR ORANGE COUNTY NORTH CAROLINA

Original ten-year waste reduction goal for FY2001-02: **45% per capita**

Original ten-year waste reduction goal for FY2005-06: **61% per capita**

After considering your government's current and projected solid waste activities, resources, population and economic growth, will the FY2005-06 goal change? **NO, but implementation is delayed until further into the ten year planning period.**

Why? N/A Delayed primarily due to fiscal constraints.

CALCULATING AND SETTING A NEW FY 2013-14 WASTE REDUCTION GOAL

FY2002-03 tonnage landfilled 56,925 tons MSW + 19,909 C&D + 137 LCID + 184 tons mobile homes + 1-ton alum sludge + (estimated out of county disposal (not including that recycled at certified C&D facilities 12,392): Total projected to be landfilled during

FY2002-03: 89,547

DIVIDED BY:

Projected population for Orange County 2002-2003: **119,746** (Office of State Planning)

Estimated tonnage per capita landfilled in FY2002-03: **0.748 tons per capita**

Using state data: waste reduction rate compared to FY1991-92 is 45%

Establish a FY2013-14 per capita waste reduction goal by determining:

FY2013-14 population projection (146,653) x per capita estimate for that year assuming no further waste reduction from FY2002-03 (0.748) = projected tons 109,696

FY2013-14 population projection (146,653) x per capita estimate (0.53) = 77,726
projected goal in tons.

Projected *additional* tons to be managed via recycling, reduction, composting, etc., not landfilled to meet 61% goal in that year 31,970

Chapter 1

Solid Waste Department Budget for FY2002-01, FY2001-02 and FY2002-03

Tables 1a through 1d

Table 1a: Summary of Revenues and Expenditures

Table 1b: Landfill Operations Expenditures

Table 1c: Administration Expenditures

Table 1d: Recycling Expenditures*

*This fund represents the Departmental expenditures on recycling and waste reduction programs for all programs, salaries, equipment, fuel, repairs, etc. Cost of solid waste education programs and planning are incorporated into the administration budget. The overall budget is reorganized into three categories: administration, landfill operations, and recycling operations.

Solid Waste Managed at Orange County Landfill 2002-03

Table 1e: Monthly disposal by type of waste compared to 2001-02

Table 1f: Monthly disposal by type of customer compared to 2001-02

Table 1g: Monthly revenues received 2002-03 compared to 2001-02

Table 1h: Monthly diverted tonnage including: yard waste, tires, white goods, construction materials, compared to 2001-02

Recycling Tonnage by Program and Material in Orange County

Table 1i: Annual tonnage of all materials by all programs operated by Orange Community Recycling and others within Orange County

Table 1a

Solid Waste/Landfill Operations

Summary

	2000-01 Actual Expenditures	2001-02 Actual Expenditures	2002-03 Original Budget	2002-03 Actual Expenditures	2003-04 Department Requested	2003-04 Commissioner Approved
By Program (Enterprise Fund)						
Administration	\$437,614	\$458,201	\$752,723	\$755,173	\$956,618	\$956,618
Landfill Operations	\$2,475,753	\$2,159,462	\$3,021,942	\$3,059,072	\$2,352,045	\$2,352,045
Recycling Operations	\$1,735,926	\$1,917,510	\$2,468,031	\$2,069,173	\$2,177,656	\$2,177,656
Total Expenditures	\$4,649,293	\$4,535,173	\$6,242,696	\$5,883,418	\$5,486,319	\$5,486,319
<i>Offsetting Revenue</i>	<i>\$4,649,293</i>	<i>\$4,535,173</i>	<i>\$6,242,696</i>	<i>\$5,883,418</i>	<i>\$5,486,319</i>	<i>\$5,486,319</i>
County Costs (net)	\$0	\$0	\$0	\$0	\$0	\$0
Authorized F.T.E.	30.000	34.000	38.000	38.000	38.000	38.000
Total Expenditures	\$4,649,293	\$4,535,173	\$6,242,696	\$5,883,418	\$5,486,319	\$5,486,319

Table 1b

Landfill Operations

	2000-01 Actual Expenditures	2001-02 Actual Expenditures	2002-03 Original Budget	2002-03 Actual Expenditures	2003-04 Department Requested	2003-04 Manager Recommended	2003-04 Commissioner Approved
<i>Fund: 50-Solid Waste/Landfill Operations</i>							
Personnel Services	\$740,861	\$770,038	\$951,416	\$968,363	\$971,744	\$971,744	\$971,744
Operations	\$589,271	\$547,272	\$812,830	\$750,000	\$1,272,898	\$1,252,265	\$1,252,265
Capital Outlay	\$1,145,621	\$12,337	\$1,257,696	\$56,211	\$77,736	\$127,736	\$127,736
Total Expenditures	\$2,475,753	\$1,329,647	\$3,021,942	\$1,787,815	\$2,322,378	\$2,351,745	\$2,351,745
<i>Offsetting Revenue</i>	<i>\$2,475,753</i>	<i>\$1,329,647</i>	<i>\$3,021,942</i>	<i>\$1,787,815</i>	<i>\$2,322,378</i>	<i>\$2,351,745</i>	<i>\$2,351,745</i>
County Costs (net)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Authorized F.T.E.	16.000	17.000	17.000	20.000	20.000	20.000	20.000
Total Landfill Operations Expenditures	\$2,475,753	\$1,329,647	\$3,021,942	\$1,787,815	\$2,322,378	\$2,351,745	\$2,351,745

Table 1c

Solid Waste Administration

	2000-01 Actual Expenditures	2001-02 Actual Expenditures	2002-03 Original Budget	2002-03 Actual Expenditures	2003-04 Department Requested	2003-04 Manager Recommends	2003-04 Commissioner Approved
<i>Fund: 50-Solid Waste/Landfill Operations</i>							
Personnel Services	\$313,451	\$246,698	\$377,539	\$385,080	\$398,153	\$398,153	\$398,153
Operations	\$122,949	\$211,323	\$373,984	\$356,285	\$572,905	\$557,465	\$557,465
Capital Outlay	\$1,214	\$180	\$1,200	\$481	\$1,000	\$1,000	\$1,000
Total Expenditures	\$437,614	\$458,201	\$752,723	\$755,173	\$972,058	\$956,618	\$956,618
<i>Offsetting Revenue</i>	\$437,614	\$458,201	\$752,723	\$755,173	\$972,058	\$956,618	\$956,618
County Costs (net)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Authorized F.T.E.	6.000	6.000	6.000	6.000	6.000	6.000	6.000
Total Solid Waste Administration Expenditures	\$437,614	\$458,201	\$752,723	\$755,173	\$972,058	\$956,618	\$956,618

Table 1d

Recycling Operations

	2000-01 Actual Expenditures	2001-02 Actual Expenditures	2002-03 Original Budget	2002-03 Actual Expenditures	2003-04 Department Requested	2003-04 Manager Recommends	2003-04 Commissioner Approved
<i>Solid Waste/Landfill Operations</i>							<i>Department: 863</i>
Personnel Services	\$248,500	\$251,823	\$457,308	\$411,998	\$535,584	\$535,584	\$535,584
Operations	\$1,440,511	\$211,340	\$1,582,325	\$1,204,742	\$1,596,112	\$1,596,112	\$1,596,112
Capital Outlay	\$47,139	\$59,708	\$428,598	\$238,120	\$45,960	\$45,960	\$45,960
Total Expenditures	\$1,736,150	\$522,871	\$2,468,231	\$1,854,860	\$2,177,656	\$2,177,656	\$2,177,656
<i>Offsetting Revenue</i>	<i>\$1,736,150</i>	<i>\$522,871</i>	<i>\$2,468,231</i>	<i>\$1,854,860</i>	<i>\$2,177,656</i>	<i>\$2,177,656</i>	<i>\$2,177,656</i>
County Costs (net)	\$0	\$0	\$8,000	\$0	\$0	\$0	\$0
Authorized F.T.E.	6.000	7.000	7.000	12.000	12.000	12.000	12.000
Total Recycling Operations Expenditures	\$1,736,150	\$522,871	\$2,468,231	\$1,854,860	\$2,177,656	\$2,177,656	\$2,177,656

Table 1e

	July	August	September	October	November	December	January	February	March	April	May	June	Total/ YTD	Ave/Mon
GARBAGE TYPE (tons)														
MSW	4,872	4,680	4,709	4,794	4,555	5,009	4,595	4,235	4,779	4,900	5,008	4,789	56,925	4,744
Tipping Fees-\$45/ton	218,242	212,682	213,612	217,263	205,994	226,677	207,331	191,438	215,375	221,148	226,900	216,064	2,572,728	
Revenue / Ton	\$ 44.80	\$ 45.45	\$45.37	\$45.32	\$45.22	\$ 45.25	\$ 45.12	\$ 45.20	\$ 45.07	\$ 45.13	\$ 45.31	\$ 45.12	\$ 45.20	\$ -
YTD	4872	9552	14260	19055	23610	28619	33214	37449	42228	47128	52136	56925	56925	
% of total tonnage	58.27%	58.46%	60.72%	68.73%	65.87%	35.21%	22.36%	47.72%	50.32%	56.99%	53.25%	50.22%	47.96%	56.34%
Year ago	5,006	5,197	4,454	4,891	4,715	4,663	4,766	4,304	4,469	4,972	4,891	4,249	56,577	4,715
Incr/Decr from last year (monthly)	-2.67%	-9.95%	5.73%	-1.97%	-3.40%	7.41%	-3.58%	-1.60%	6.93%	-1.45%	2.38%	12.71%	0.62%	0.88%
Construction & Demolition	2,462	2,423	2,122	1,254	1,456	1,081	1,490	1,160	1,542	1,637	1,509	1,772	19,909	1,659
Tipping Fees-\$41/ton	117,453	115,457	101,009	62,149	70,205	51,986	70,833	57,012	78,272	82,789	77,052	88,776	972,995	
Revenue / Ton	\$ 47.72	\$ 47.65	\$47.59	\$49.58	\$ 48.21	\$ 48.09	\$47.54	\$49.14	\$50.74	\$50.56	\$ 1.06	\$50.11	\$48.87	
YTD	2,461.51	4,884.66	7,007.08	8,260.61	9,716.95	10,798.06	12,287.98	13,448.20	14,990.68	16,628.12	18,137.14	19,908.89	19,908.89	
% of total tonnage	29.44%	30.27%	27.37%	17.97%	21.06%	7.60%	7.25%	13.07%	16.24%	19.04%	16.05%	18.58%	16.77%	20.06%
Year ago	2,700	3,064	2,903	2,548	2,187	2,152	1,715	1,786	1,993	2,185	2,342	2,134	27,710	2,309
Incr/Decr from last year (monthly)	-8.84%	-20.92%	-26.89%	-50.81%	-33.41%	-49.76%	-13.13%	-35.02%	-22.61%	-25.06%	-35.56%	-16.99%	-28.15%	-28.25%
Tires	94	104	78	98			98	73	99	102	114	81	1,087	91
Tipping Fees	-	-	-	-	-	-	32	-	-	98	-	-	-	-
Revenue / Ton	-	-	-	-	-	-	\$ 0.33	-	-	\$ 0.96	\$ -	\$ -	\$ -	
YTD	94	198	276	374	436	520	618	691	790	892	1,006	1,087	1,087	91
% of total tonnage	1.12%	1.30%	1.01%	1.40%	0.90%	0.59%	0.48%	0.82%	1.04%	1.19%	1.21%	0.85%	0.92%	1.07%
Year ago	101	105	108	67	103	69	82	71	70	109	91	106	1,083	90
Incr/Decr from last year (monthly)	-7.43%	-0.93%	-27.65%	46.73%	-39.64%	20.57%	19.61%	3.38%	40.42%	-6.04%	25.28%	-23.58%	0.41%	4.23%
Vegetative Waste/Clean Wood	658	562	589	615	599	7,822	14,023	3,123	2,716	1,593	2,446	2,510	37,255	3,105
Tipping Fees	12,546	11,112	11,070	11,297	11,159	133,400	228,540	53,009	46,126	29,009	41,990	43,472	632,730	
Revenue / Ton	\$ 19.06	\$19.77	\$18.79	\$18.38	\$18.64	\$17.06	\$16.30	\$ 16.97	\$16.98	\$18.21	\$17.16	\$17.32	\$ 16.98	
YTD	658	1,220	1,809	2,424	3,023	10,844	24,868	27,990	30,707	32,299	34,746	37,255	632,730	
% of total tonnage	7.87%	7.02%	7.60%	8.81%	8.66%	54.99%	68.23%	35.19%	28.60%	18.52%	26.01%	26.32%	31.39%	27.43%
Year ago	564	644	561	606	586	367	361	455	499	680	614	530	6,465	539
Incr/Decr from last year (monthly)	16.77%	-12.73%	4.99%	1.51%	2.15%	2033.04%	3789.04%	586.89%	444.78%	134.10%	298.56%	373.77%	476.27%	639.41%

Table 1e (continued)

Landclearing & Stumps	5	14	9	2	16	11	18	13	29	9	3	9	138	11
Tipping Fees	187	589	377	63	671	435	721	551	1,175	387	118	389	5,663	
Revenue / Ton	\$41.00	\$ 41.00	\$ 41.31	\$41.00	\$41.00	\$ 41.00	\$ 41.00	\$41.00	\$ 41.11	\$41.00	\$41.00	\$ 41.00	\$ 41.04	
YTD	5	19	28	30	46	57	74	88	116	126	128	138		
% of total tonnage	0.05%	0.18%	0.12%	0.02%	0.24%	0.07%	0.09%	0.15%	0.30%	0.11%	0.03%	0.10%	0.12%	0.13%
Year ago	3	10	1	-	-	-	-	27	-	-	-	2	42	4
Incr/Decr from last year (monthly)	72.08%	46.53%	1100.00%	NA	NA	NA	NA	-50.19%	NA	NA	NA	332.88%	225.40%	125.11%
Sludge	-	1	-	-	-	-	1	0						
Tipping Fees	-	-	-	-	-			63	-	-	-	-	63	
Revenue / Ton						\$-	\$-	\$-	\$-	\$-			\$45.00	
YTD							-	1	1	1				
% of total tonnage	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Year ago	5	9	-	-	8	-	-	-	-	-	-	-	23	2
Incr/Decr from last year (monthly)			NA	-93.91%	0.00%									
White Goods (Segregated)	38	36	36	35	30	31	27	27	32	41	39	35	406	34
YTD	38	74	110	145	175	206	233	260	292	333	371	406	2,643	
% of total tonnage	0.45%	0.45%	0.47%	0.50%	0.44%	0.22%	0.13%	0.30%	0.34%	0.47%	0.41%	0.37%	0.34%	0.41%
Year ago	34	46	33	42	36	35	38	44	38	44	43	33	467	39
Incr/Decr from last year (monthly)	10.66%	-22.55%	9.58%	-16.97%	-17.47%	-9.54%	-30.61%	-39.66%	-14.60%	-7.64%	-10.79%	7.16%	-13.03%	-11.87%
Clean Metal	74	49	48	46	58	41	51	52	74	72	70	75	710	59
YTD	74	123	171	217	275	317	368	420	493	565	635	710		
% of total tonnage	0.89%	0.61%	0.62%	0.66%	0.84%	0.29%	0.25%	0.59%	0.77%	0.84%	0.74%	0.78%	0.60%	0.71%
Year Ago	52	48	46	50	46	54	41	47	58	70	45	43	600	50
Incr/Decr from last year (monthly)	42.40%	1.00%	4.88%	-7.15%	26.53%	-23.18%	24.84%	10.98%	27.40%	2.85%	54.34%	72.11%	18.34%	19.75%

Table 1e (continued)

Mobile Homes	11	19	19	8	15	4	30	8	-	38	4	30	184	15
Tipping Fees	450	750	750	300	600	150	1,200	300	-	1,500	150	1,200	7,350	
Revenue / Ton	\$ 40.00	\$ 40.00	\$40.00	\$40.00	\$ 40.00	\$ 40.00	\$40.00	\$40.00	\$	\$ 40.00	\$40.00	\$40.00	\$440.00	
Number	3.00	4.00	3.00	2.00	4.00	1.00	7.00	2.00		10.00	1.00	5.00	42.00	
YTD	11	0	0	0	0	0	0	0	-	0	0	0	0	
% of total tonnage														
Year ago	-	15	4	4	8	8	8	4	8	15	19	8	98	
Inc/Decr from last year (month)													66.66%	
TOTAL	8,360	8,005	7,754	6,976	6,915	14,224	20,552	8,875	9,497	8,598	9,404	9,535	118,697	9,891
Tipping Fees	348,878	340,590	326,817	291,072	288,630	412,649	508,657	302,373	340,948	334,931	346,210	349,901	3,558,798	-
Revenue / Ton	\$41.73	\$42.55	\$ 42.15	\$ 41.72	\$ 41.74	\$29.01	\$ 24.75	\$34.07	\$ 35.90	\$ 38.96	\$36.81	\$36.70	\$29.98	\$
YTD	8,360	16,365	24,120	31,096	38,011	52,235	72,787	81,662	91,159	99,757	109,162	118,697	118,697	9,891
% of total tonnage	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Year ago	8,598	9,283	8,214	8,329	7,804	7,473	7,128	6,847	7,247	8,218	8,170	7,229	94,521	7,869
Inc/Decr from last year (monthly)	-2.76%	-13.76%	-5.60%	-16.25%	-11.39%	90.34%	188.32%	29.62%	31.05%	4.62%	15.11%	31.90%	25.55%	25.71%

Table 1f

GARBAGE SOURCE (tons)	July	August	September	October	November	December	January	February	March	April	May	June	Total/YTD	Ave/Mon
UNC Other (Cust #164,148,764)	98	51	36	30	42	9	31	57	74	57	43	55	583	
UNC Other YTD	98	148	184	215	257	266	297	354	428	485	528	583		
% of total tonnage	1.17%	0.63%	0.47%	0.44%	0.61%	0.06%	0.15%	0.64%	0.78%	0.67%	0.46%	0.57%		0.55%
Year ago	45	113	54	68	25	41	47	65	66	49	67	67	708	59
Incr/Decr from last year (monthly)	116.97%	-55.14%	-32.62%	-55.38%	67.08%	-78.29%	-34.86%	-12.94%	12.33%	17.57%	-36.05%	-18.69%	-17.69%	-9.17%
	6.05													
Hospital (Cont.#739,742/Cust#278)	4	6	3	2	-	1	5	3	4	6	6	6	45	4
Hospital YTD	4	10	13	15	15	16	21	24	28	34	40	45		
% of total tonnage	0.05%	0.07%	0.04%	0.03%	0.00%	0.01%	0.03%	0.03%	0.05%	0.06%	0.07%	0.06%		0.04%
Year ago	17	6	8	4	4	1	7	4	6	8	6	5	77	6
Incr/Decr from last year (monthly)	-76.32%	-5.62%	-59.95%	-50.00%		-6.09%	-25.75%	-37.27%	-29.65%	-29.94%	-0.95%	2.38%	-37.74%	-26.60%
Total UNC	102	56	39	32	42	10	36	60	78	63	49	60	628	52
Total UNC YTD	102	158	197	229	272	282	318	377	456	519	568	628		
% of total tonnage	1.22%	0.70%	0.51%	0.46%	0.61%	0.07%	0.18%	0.67%	0.83%	0.73%	0.52%	0.63%		0.59%
Year ago	49	119	61	72	29	42	54	70	72	57	74	73	771	64
Incr/Decr from last year (monthly)	107.96%	-52.62%	-36.05%	-55.11%	45.69%	-76.33%	-33.69%	-14.44%	8.64%	11.00%	-33.04%	-17.10%	-18.56%	-12.09%
County #107	1,178	1,171	1,151	1,139	1,159	1,994	1,624	1,282	1,755	1,348	1,350	1,346	16,497	1,375
County YTD	1,178	2,349	3,500	4,639	5,799	7,793	9,417	10,698	12,453	13,801	15,151	16,497		
% of total tonnage	14.09%	14.62%	14.84%	16.33%	16.76%	14.02%	7.90%	14.44%	18.48%	15.67%	14.36%	14.12%		14.64%
Year ago	1,286	1,232	1,101	1,164	1,162	1,180	1,070	1,031	1,148	1,292	1,155	1,104	13,924	1,160
Incr/Decr from last year (monthly)	-8.39%	-4.97%	4.56%	-2.07%	-0.28%	69.02%	51.75%	24.34%	52.91%	4.32%	5.00%	21.92%	18.48%	18.18%
Carrboro (Cust #142)	793	704	648	629	578	1,156	1,550	812	816	782	764	695	9,927	827
Carrboro YTD	793	1,496	2,144	2,773	3,351	4,508	6,058	6,870	7,686	8,469	9,232	9,927		
% of total tonnage	9.48%	8.79%	8.35%	9.02%	8.37%	8.13%	7.54%	9.15%	8.59%	9.10%	8.12%	7.29%		8.49%
Year ago	745	591	661	629	611	665	557	572	701	707	624	7,790		649
Incr/Decr from last year (monthly)	9.01%	-5.52%	9.65%	-4.76%	-8.07%	89.18%	133.05%	45.93%	42.63%	11.61%	8.01%	11.27%	27.44%	28.50%
Hillsborough (Cust #143)	467	460	199	178	173	192	154	141	161	153	246	254	2,779	232
Hillsborough YTD	467	928	1,127	1,305	1,478	1,670	1,824	1,965	2,126	2,279	2,525	2,779		

Table 1f (continued)

% of total tonnage	5.59%	5.75%	2.57%	2.56%	2.50%	1.35%	0.75%	1.59%	1.70%	1.77%	2.62%	2.67%		2.62%
Year ago	476	488	394	441	419	412	514	395	435	472	475	428	5,348	446
Incr/Decr from last year (monthly)	-1.80%	-5.62%	-49.43%	-59.52%	-58.78%	-53.38%	-70.10%	-64.28%	-62.95%	-67.66%	-48.23%	-40.57%	-48.04%	-48.53%
Chapel Hill (Cust #668.669,2047)	2,173	1,981	2,035	2,115	1,872	3,037	6,154	2,630	3,123	2,328	2,691	2,146	32,283	2,690
Chapel Hill YTD	2,173	4,154	6,189	8,304	10,176	13,212	19,366	21,996	25,119	27,447	30,137	32,283		
% of total tonnage	25.99%	24.75%	26.24%	30.31%	27.07%	21.35%	29.94%	29.63%	32.88%	27.08%	28.61%	22.50%		27.20%
Year ago	2,087	2,149	1,833	2,047	1,865	1,844	1,973	1,722	1,815	2,125	2,069	1,751	23,281	1,940
Incr/Decr from last year (monthly)	4.14%	-7.79%	11.00%	3.31%	0.38%	64.65%	211.94%	52.73%	72.01%	9.53%	30.02%	22.52%	38.67%	39.54%
Other	3,648	3,633	3,682	2,882	3,090	7,835	11,034	3,950	3,564	3,924	4,305	5,034	56,582	4,715
Other YTD	3,648	7,281	10,963	13,845	16,936	24,770	35,805	39,755	43,319	47,243	51,548	56,582		
% of total tonnage	43.63%	45.39%	47.49%	41.31%	44.69%	55.08%	53.69%	44.51%	37.53%	45.64%	45.78%	52.79%		46.46%
Year ago	3,952	4,539	4,223	3,940	3,695	3,382	2,839	3,066	3,193	3,558	3,678	3,238	43,304	3,609
Incr/Decr from last year (monthly)	-7.70%	-19.96%	-12.81%	-26.86%	-16.37%	131.70%	288.63%	28.84%	11.60%	10.30%	17.06%	55.48%	30.66%	38.33%
Total	8,360	8,005	7,754	6,976	6,915	14,224	20,552	8,875	9,497	8,598	9,404	9,535	118,697	9,891
Total YTD	8,360	16,365	24,120	31,096	38,011	52,235	72,787	81,662	91,159	99,757	109,162	118,697		
% of total tonnage	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%		100.00%
Year ago	8,598	9,283	8,214	8,329	7,804	7,473	7,128	6,847	7,247	8,218	8,170	7,229	94,540	7,878
Incr/Decr from last year (monthly)	-2.76%	-13.76%	-5.60%	-16.25%	-11.39%	90.34%	188.32%	29.62%	31.05%	4.62%	15.11%	31.90%	25.55%	28.43%

Table 1g

COSTS / REVENUES	July	August	September	October	November	December	January	February	March	April	May	June	Total/YTD	Ave/Mon
Cash	42,685	37,736	36,708	25,905	31,778	23,958	27,726	23,835	34,452	54,189	54,404	51,329	444,705	37,059
Cash YTD	42,685	80,421	117,129	143,034	174,812	198,770	226,496	250,331	284,783	338,972	393,376	444,705		
Tonnage	970.36	873.86	850.10	637.11	761.11	590.07	638.40	600.89	917.20	1,372.56	1,651.31	1,409.57	11,272.54	939.38
(Tonnage YTD)	970.36	1,844.22	2,694.32	3,331.43	4,092.54	4,682.61	5,321.01	5,921.90	6,839.10	8,211.66	9,862.97	11,272.54		
% of Month's Revenue	12.23%	11.08%	11.23%	8.90%	11.01%	5.81%	5.45%	7.64%	10.10%	14.97%	14.68%	13.75%		10.57%
Year ago	41,988	55,029	58,391	46,427	45,633	35,754	27,589	33,186	39,348	41,354	41,596	39,387	505,681	42,140
Incr/Decr from last year (monthly)	1.66%	-31.42%	-37.13%	-44.20%	-30.36%	-32.99%	0.50%	-28.18%	-12.44%	31.04%	30.79%	30.32%	-12.06%	-10.20%
Invoice	306,193	302,854	290,109	265,167	256,852	388,691	480,931	288,222	306,496	307,793	316,249	321,979	3,831,537	319,295
Invoice YTD	306,193	609,047	899,156	1,164,324	1,421,176	1,809,867	2,290,798	2,579,020	2,885,516	3,193,310	3,509,559	3,831,537		
(Tonnage)	7,389.94	7,131.31	6,904.16	6,339.10	6,153.83	13,634.16	19,913.09	8,708.30	8,579.97	7,492.23	8,581.42	9,220.95	110,048.46	9,170.71
(Tonnage YTD)	7,389.94	14,521.25	21,425.41	27,764.51	33,918.34	47,552.50	67,465.59	76,173.89	84,753.86	92,246.09	100,827.51	110,048.46		
% of Month's Revenue	87.77%	88.92%	88.77%	91.10%	88.99%	94.19%	94.55%	92.36%	89.90%	85.03%	85.32%	86.25%		89.43%
Year ago	319,103	332,342	284,077	303,160	279,771	280,162	272,389	251,684	265,453	298,769	301,078	262,977	3,450,964	287,580
Incr/Decr from last year (monthly)	-4.05%	-8.87%	2.12%	-12.53%	-8.19%	38.74%	76.56%	14.52%	15.46%	3.02%	5.04%	22.44%	11.03%	12.02%
Total Revenue Transacted	348,878	340,590	326,817	291,072	288,630	412,649	508,657	312,057	340,948	361,982	370,653	373,307	4,276,242	356,354
Year ago	361,091	387,371	342,467	349,587	325,404	315,916	299,978	284,871	304,801	340,123	342,674	302,364	3,956,645	329,720
Incr/Decr from last year (monthly)	-3.38%	-12.08%	-4.57%	-16.74%	-11.30%	30.62%	69.56%	9.54%	11.86%	6.43%	8.16%	23.46%	8.08%	9.30%
Cost per ton	\$41.73	\$42.55	\$42.15	\$41.72	\$41.74	\$29.01	\$24.75	\$33.52	\$35.90	\$40.83	\$36.22	\$35.12	\$35.25	2.94
Collections on Account	267,300.00	254,291.83	349,053.82	295,017.20	215,035.35	335,328.41	300,937.95	346,919.81	359,919.56	319,254.16	291,720.06	331,398.72		

Table 1g (continued)

Budgeted Landfill Fee Revenue	\$3,629,250	3,288,659.91	2,961,842.43	2,670,770.08	2,382,139.91	1,969,490.81	1,460,833.97	1,148,776.96	807,828.59	445,846.15	75,192.96	(298,114.42)		\$3,629,250.00
% of budget revenue	9.61%	9.38%	9.01%	8.02%	7.95%	11.37%	14.02%	8.60%	9.39%	9.97%	10.21%	10.29%		
% YTD	9.61%	19.00%	28.00%	36.02%	43.98%	55.35%	69.36%	77.96%	87.35%	97.33%	107.54%	117.83%		
Current fee revenue	\$348,878	\$689,468	\$1,016,286	\$1,307,358	\$1,595,988	\$2,008,637	\$2,517,294	\$2,829,351	\$3,170,299	\$3,532,282	\$3,902,935	\$4,276,242		
Needed to meet budget	\$3,280,372	\$2,939,782	\$2,612,964	\$2,321,892	\$2,033,262	\$1,620,613	\$1,111,956	\$799,899	\$458,951	\$96,968	(\$273,685)	(\$646,992)		
													0.00	
Other Revenues Not Above														
C&D Citations				150.00	50.00	50.00	0.00	0.00	50.00	150.00	0.00	50.00	\$500.00	\$750.00
C&D Permits/Licensing/Certifications			2,550.00	5,938.43	2,731.34	1,484.81	3,327.19	2,445.24	2,545.00	2,745.30	75.00	30.00	\$23,872.31	\$53,837.00
D.H. Griffin	\$203.20		\$1,398.00	\$1,568.70	\$547.90	\$1,317.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,034.97	
Atlantic Scrap Mixed Metal					\$3,363.60	\$2,517.00	\$7,341.55	\$1,725.10	\$1,126.05	\$3,523.00	\$7,440.65	\$3,749.20	\$30,786.15	\$12,000.00
Atlantic Scrap White Goods								\$938.00	\$864.15	\$1,297.10	\$868.15	\$421.75	\$4,389.15	\$12,000.00
TT & E Iron & Metal, Inc.												\$2,769.12	\$2,769.12	
Mulch Sales-MO	\$0.00	\$0.00	\$486.00	\$6,066.00	5,166.00	\$1,548.00	\$2,322.00	\$5,126.00	\$12,618.00	\$13,466.00	\$14,634.00	\$9,166.00	\$70,598.00	\$85,000.00
Red Mulch Sales-RD	\$0.00	\$25.00	\$0.00	\$75.00	50.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$150.00	\$300.00	\$75,000.00
Glass, Plastic, Paper													\$0.00	\$73,150.00
Chatham Salvage														
Federal Waste Paper							\$367.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$367.50	
CRT			\$450.00	\$96.00	\$0.00	\$0.00	\$96.00	\$12.00	\$60.00	\$0.00	\$1,000.65	\$198.00	\$1,912.65	
Paperstock Dealer	\$8,275.82	\$11,553.91	\$10,903.04	\$10,096.73	\$6,743.16	\$9,781.07	\$8,254.88	\$4,858.82	\$6,325.82	\$8,174.22	\$0.00	\$7,413.66	\$92,381.13	
Wise Recycling, LLC	\$3,266.80	\$0.00	\$3,307.20	\$3,584.40	\$0.00	\$3,290.82	\$3,156.80	\$2,751.60	\$2,340.80	\$4,961.60	\$0.00	\$3,109.20	\$29,769.22	
Container RCY All	\$1,313.70	\$1,297.01	\$1,198.06	\$1,063.95	\$980.39	\$1,212.85	\$819.17	\$0.00	\$925.55	\$1,198.73	\$802.40	\$1,148.54	\$11,960.35	
Shimar Recycling										\$42.40	\$0.00	\$0.00	\$42.40	
Waste Management														
RecyAm		\$1,422.80		\$1,431.25		\$1,751.74	\$831.38	\$3,035.34	\$817.70	\$1,680.45	\$931.28	\$1,983.15	\$13,885.09	
J&M Recycling and		\$199.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$196.74	\$0.00	\$0.00	\$0.00	\$395.82	

Tabl 1g (contiued)

Consulting															
Boiler Fuel Sierra Pine LTD													\$2,558.80	\$2,558.80	\$5,000.00
Multifamily Revenues														\$0.00	\$23,725.00
Total Budget Recyclables														\$0.00	\$125,875.00
Landfill Fines MLPs	\$3,556.22	\$6,393.16	\$2,895.24	\$12,741.03	\$6,275.72	\$2,502.67	\$5,366.94	\$2,528.10	\$5,061.65	\$8,739.42	\$3,879.04	\$8,944.42	\$68,883.61	\$100,000.00	
Tarp Sales	\$288.00	\$212.00	\$216.00	\$234.00	\$244.00	\$116.00	\$0.00	\$0.00	\$8.00	\$200.00	\$178.00	\$244.00	\$1,940.00		
Late Charges	\$81.88	\$109.85	\$100.27	\$96.84	\$98.33	\$103.99	\$94.05	\$848.67	\$1,994.49	\$2,350.83	\$2,391.58	\$2,072.46	\$10,343.24		
White Goods Tax Reimb.	\$0.00	\$11,458.29	\$0.00	\$0.00	\$14,140.92	\$0.00	\$0.00	\$10,880.60	\$0.00	\$0.00	\$9866.49	\$0.00	\$36,479.81	\$45,000.00	
White Goods Grant	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$89,708.78	\$89,708.78		
Scrap Tire Grant													\$0.00		
Tire Tax Reimbursement		\$27,735.43	\$0.00	\$0.00	\$31,087.93	\$0.00	\$0.00	\$27,679.32	\$0.00	\$0.00	\$24,030.31	\$0.00	\$110,532.99	\$95,000.00	
Sale Compost	\$275.00	\$225.00	\$500.00	\$2,500.00	\$550.00	\$100.00	\$75.00	\$0.00	\$1,450.00	\$2,050.00	\$1,675.00	\$950.00	\$10,350.00	\$40,000.00	
Recycling Grants	\$2,200.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2,200.00		
Interest Income													\$0.00	\$130,000.00	
Other Misc. Revenues										\$500.00	\$0.00	\$0.00	\$500.00	\$500.00	
Recycling Boxes	\$84.00	\$161.00	\$91.00	\$49.00	\$84.00	\$28.00	\$0.00	\$14.00	\$35.00	\$42.00	\$35.00	\$98.00	\$721.00		
Returned Check Fee		\$25.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.00		
TOTAL - Other Revenues	\$19,544.62	\$60,631.53	\$21,453.81	\$39,553.90	\$69,247.95	\$24,241.31	\$28,725.27	\$60,383.55	\$33,788.95	\$48,183.75	\$57,831.06	\$134,587.08	\$598,088.78	\$4,380,212.00	
Total Landfill Revenues	\$368,422.69	\$401,221.62	\$348,271.29	\$330,626.25	\$357,878.12	\$436,890.41	\$537,382.11	\$372,440.56	\$374,737.32	\$410,166.19	\$428,484.25	\$507,894.46	\$4,874,415.27		

Table 1h

Materials Diverted from Landfill (shaded areas)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-2001	2001-02	02-03YTD	02-03 Budget/Tons
MSW	63,422	65,149	61,059	57,889	58,590	57,800	59,990	62,404	58,955	56,577	56,925.03	56,500.00
C&D	34,502	26,771	32,287	31,207	33,858	29,700	33,577	30,514	33,471	27,710	19,908.89	19,900.00
Vegetative Waste	2,304	3,925	4,231	4,917	33,577	6,500	6,535	6,847	6,927	6,465	37,255.43	40,000.00
Tires	267	755	1,515	916	1,055	1,079	1,108	1,232	1,237	1,083	1087..34	
Stumps		310	654	135	3,970	189	90	62	78	42	137.97	
Sludge	29		284	72	89	3	305	59	74	23	1.39	
White Goods			231	337	424	431	494	447	416	467	406.24	
Clean Metal	0	0	0	0	0	0	0	11	241	600	709.86	
Recycling Waste	0	0	0	0	0	0	0	988	1,342	1,456	2,080.63	
Mobile Homes	0	0	0	0	0	0	0	56	94	98	183.75	
TOTALBudTon	100,227	95,844	97,577	94,013	126,025	94,000	100,102	99,765	99,353	94,520.52	117,609	116,400

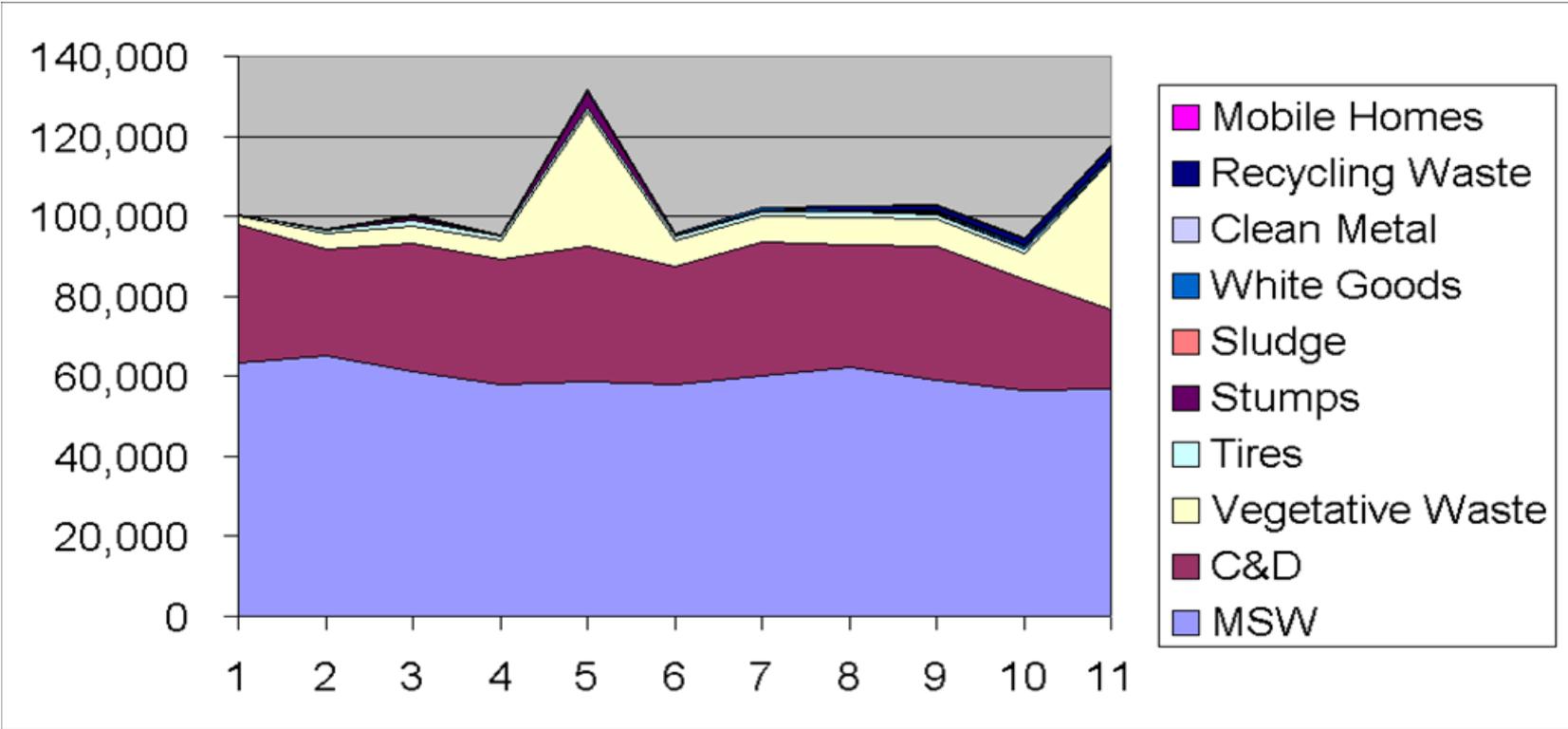


Table 1i**Orange County Recycling Collection By Program and Material Type FY2002-03**

	Dropoff/Comm/MFU	MFU Contractor	Curb	Total
Plastics	158	32	292	482
Glass	1,236	236	1,165	2,637
Metal Cans				
AL	37	8	44	89
Steel	114	25	134	273
News	1,857	261	2,882	5,000
Mags	318			318
OCC	1,155			1,155
Mixed	1,024			1,024
Food Waste	811			811
Electronics	30			30
Dry-cell	3			3
Lead Acid	67			67
HHW (by contractor)	80			80
Paint (OC)	4			4
Oil	109			109
Oil Filters	8			8
Wood Chips	1,368			1,368
Scrap Metal	710			710
Totals	9,089	562	4,516	14,168

Chapter 2

Solid Waste Management Activity Summary 2000-2003

A summary of solid waste management activities undertaken in the past three years, specifically by the Orange County Solid Waste Management Department. Table 2a

Where an individual jurisdiction has taken the lead on a particular issue, that is noted in Table 2b. Additional details are provided in Appendix G for each Town.

e.g. Town of Chapel Hill converted its residential collection from backyard manual to semi-automated curbside in FY2001-02

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**Table 2a Summary of Work led by Orange County Solid Waste Dept.
July 2000 -- June 2003**

Date	Landfill Operation	Landfill Siting, design, permitting and study	Waste Reduction & Recycling Operations	Waste Reduction Study
2000-01	Financed construction of water line for Rogers Road neighborhood.	Initiated Solid Waste Advisory Board. Began study of alt. Landfill cap design using only soil, not liner. Potential to save \$1.1 million. Actively began seeking markets for landfill gas.	Built covered area for recycling processing area.	Began consideration of regulating C&D wastes to extend life of C&D landfill.
2001-02	Construction of water line completed.	Begin consideration of wildlife habitat enhancement at closed landfill.	Passed Regulated Recyclable Materials Ordinance (RRMO). New recycling drop off site.	
2002-03	Constructed C&D recycling area for wood, scrap metal and mulch sales. Purchased industrial waste wood grinder to handle yard waste & C&D. Ground 36,000 tons of wood due to ice storm. Began sales of red mulch & boiler fuel made from C&D wood. Purchase tractor and trailer to haul wood, metal, mulch and other recyclables.	Condemned land for new 14 acre C&D landfill adjoining current landfill site and began permitting process. Began consideration of sewer line for transferring leachate to WWTP. Instead of pump and haul as we now do.	Implemented and enforced RRMO banning disposal of OCC, scrap metal & clean wood waste along with licensing of haulers and requiring solid waste plan from permittees. Promoted deconstruction throughout county. Took over MFU recycling from contractor. Switched HHW to 4 days/week. Permanent electronics collection began at new facility. New recycling drop-off site.	Began study of solid waste financing alternatives. Presented fee and tax funding options to BOCC.

Table 2b Work on Solid Waste by Individual jurisdictions.

Date	Town of Carrboro	Town of Chapel Hill	Town of Hillsborough	Orange County Sanitation (Public Works Dept.)
2000-01			Converted residential collection to fully automated for 90% of households.	
2001-02		<p>Converted residential waste collection to semi-automated once-a-week cart collection from 2x/week backyard. Reduced collection labor 50% & allowed for schedule brush collection.</p> <p>Converted commercial collection to fee for service for 1-5x week from 2x/week 'free'.</p> <p>Converted multifamily to one free collection weekly from 2x.</p> <p>Reduced commercial. Collection labor 20%.</p>	Bid out commercial waste collection for all non-single family residential units, instead of public collection. Collection now privately funded and exclusively franchised.	
2002-03	Initiated unit based pricing for commercial waste collection. Oct. 2002 50% of customers opted out. Did not include multifamily that's still tax based and 2x/week.		Waste Industries begins commercial waste hauling from Hillsborough, August 2002.	<p>Began separate collection of clean wood and scrap metal at SWCC's to comply with County ban on landfilling these materials.</p> <p>Electronics, oil filters and batteries at SWCCs.</p> <p>Installed roll-off containers at Hwy 57 and High Rock Road for clean wood, yard waste, and C&D.</p>

Chapter 3

Solid Waste Planning Update

Planning

In this section, we will follow the outline shown in the guidance document. Thus we will start with the general planning guidelines in this chapter. Appendix F contains the planning elements listed element-by-element with source reduction etc, review of the work by the Solid Waste Management Department on each plan element, and include a recommendation for the coming fiscal year and, in some cases, years beyond.

Orange County's long term solid waste planning process established a waste reduction goal of 61% per capita consistent with its goals of environmental protection, conservation of landfill space and creating a technically achievable goal based on the contents of the waste stream and ability to divert recyclable materials. While implementation of the plan to achieve that goal has been delayed until later into the ten-year planning period, the County's progress towards the goal has remained steady. In FY2001-02, we exceeded the State's 40% recycling rate and in FY2002-03 increased our rate to 45%. MSW generation rates remain steady while population increases. **NOTE:** State demographics show a reduction in population in Orange County from 120,952 in June 2001 to 119,746 in June 2002. This is incorrect, population did not decline but grew. However, 119,746 is the divisor that the State has declared must be used to calculate waste reduction.

In response to the County's regulated recyclable materials ordinance and development of a recycling processing area for wood, metal and cardboard, construction waste that originated in Orange County and was landfilled has fallen 23% since FY2001-02.

Other recycling programs have experienced incremental improvements in efficiency and amounts collected (in some cases). As is shown in the public education section and recycling elements in Appendix F, the County strives for continual program improvement under current guidelines. Until further revisions to the long-term plan, Orange County will continue its incremental program growth to accommodate population growth and modest increased demand for services in rural areas adjoining those being served.

Evaluation of Program Performance

Overall evaluation of program performance is conducted in an ongoing manner in relation to the 61% overall waste reduction goal as well as the annual internal Departmental goals for safety, recycling rates in various programs, number and type of education and outreach efforts, landfill operation, etc. Program goals are adjusted according to performance feedback e.g. pounds of recyclables collected per household, tons of food waste collected from restaurants and areas for improvement targeted accordingly.

Program goals are established each year as part of the budgeting process and performance compared with the previous years. (see Appendix H Departmental Goals) The table below was prepared to illustrate two or three-year performance in some recycling programs. The data are useful overall and as a rough measure of performance but individual program

tonnages vary up and down from year to year may differ as a single contractor allocated weights differently among urban curbside, rural curbside and multifamily recycling.

Table 3a Recycling Collections for selected programs in Orange County FY2000-01 through FY2002-03

Program	2000-01		2001-02		2002-03	
	Tons Collected	Average Tons/Unit Served	Tons Collected	Average Tons/Unit served	Tons Collected	Average Tons/Unit Served
Urban Curbside	3,350	0.22	3,302***	0.21	3,315	0.20
Rural Curbside	445	0.05	1,056***	0.12	1,201	0.13
MultiFamily	1,140		919***		(561+516)* 1,077	0.09
DropOff/ Commercial	5,331	0.045**	5,318	0.044**	5,004	0.042**
Food Waste	669	48	752	50	811	45
Total	10,935		11,347		11,408	

* Half year by contractor, half by in-house

Population in each year: 2000-01  2001-02  2002-03

** divided by Orange County pop: 118,237  120,433  119,746

*** reaudit of tonnage distribution among programs in 2001-02

We have also made continuous improvements in the participation and cost of the hazardous household waste collection program. The most dramatic change came near the end of FY2002-03 with the conversion of the program from one Saturday per month to a permanent program operated four days a week. The table below summarizes some of the improvements in cost per person, amount collected and participation.

Table 3b Orange County Household Hazardous Waste Program Performance

Household Hazardous Waste Program Cost Analysis FY 2001-02 v. 2002-03.

Annual Totals					
	# Customers	Waste Handled by Contractor	Cost	Cost/lb	Cost/Customer
FY 2001-2002	2,200	108,188	\$ 123,458	\$ 1.14	\$ 56.12
FY 2002-2003	2,868	159,009	\$ 119,885	\$ 0.75	\$ 41.80

FY 0102 v FY 0203

% increase in waste handled in 0203= 47.0%
 % increased participation in 0203 = 30.4%
 % decrease in Cost from 0102 = -2.9%
 % decrease cost/household from 0102 = -25.5%
 % decrease in cost/pound from 0102 = -33.9%

Table 3c Other Hazardous Wastes

	2000-01	2001-02	2002-03
Motor oil	107	122.2	108.5
Oil Filters	7.3	7.7	8.2
Batteries	52	43.7 (wet) + 1(dry)	67.2 (wet) + 3.2 (dry)
Electronics	NA	16.7	30

Financing

Departmental operations are now financed 90% by landfill fees and ten percent by other revenues, see Table 1a. The County plans to add needed supplemental financing through levying an availability fee or tax increase as current income will not permit us to continue the current level of operation past June 2004.

For the past two years, we have worked with the UNC School of Government's Center for Environmental Finance to develop financial models that will meet the County's solid waste fiscal needs. The financial model takes into account various capital and operational needs over the ten-year period. (A draft of the model results is attached as Appendix I, supporting documentation) Future proposed funding is from the current sources of landfill tipping fees, recycling and mulch sales revenue, reimbursements from the State for white goods and tire management, and other sources as well as the proposed availability fee or, alternatively a tax increase earmarked to fund solid waste programs.

The model was reviewed by the Solid Waste Advisory Board in spring 2003 and used by them as a basis for endorsing a three-part availability fee and the overall waste reduction plan in a report they made to the BOCC at that time. The proposed fee structure included a universal services fee to be paid equally by all dwelling units and non-residential improved properties, a program-based availability fee tied to the particular recycling program offered to each sector and a prepaid landfill tipping fee based on estimated weight generated by each sector. The landfill tipping fees at the gate would have been eliminated under this proposal.

While the BOCC has not explicitly endorsed any fee and has changed the plan, they do support continuing at least the current level of waste reduction efforts and the concept of providing long term stable financing for that effort. As such, the BOCC will consider a two-part availability fee which provides financing for universal residential recycling services such as hazardous waste, drop-off sites and education services through a universal service fee levied equally on all improved properties. A second part of the fee could be levied at different rates to finance particular recycling services in each sector - urban curbside, rural curbside and multifamily recycling. Units receiving no particular service from the County would not be subject to this second fee. It is anticipated a decision will be made contingent with the FY04-05 budget process.

During winter 2004 the financial model and specific fees will again be presented to the BOCC for decision-making on how to best implement the supplemental financing. This information was initially made public using the 2003 issue of Waste Matters, local newspaper columns

and meetings with the Chamber of Commerce. Further information will be provided to the public throughout the spring of 2004.

Disposal Options and Intergovernmental Cooperation

The County is committed to maximizing use of its current disposal sites by recycling as much as possible, using alternate daily cover, high compaction rates and other available technologies. Once the current MSW landfill is full, projected in 2009, the County will build a transfer station and send waste to another location. As part of the Triangle J Council of Governments, Orange County is now participating in a multicounty search for a publicly owned regional landfill site. Because the projected fill date is 2009, the County has not begun the transfer station siting, design and construction process nor has it begun negotiating for new landfill space.

While each individual jurisdiction remains responsible for collection of solid waste, brush and bulky items, there is ongoing collaboration with the solid waste department on operational decisions such as access to the landfill during special events such as ice storms and other feedback such as where recycling program participation needs boosting. The high level of communication and cooperation, which has been a hallmark of program success in Orange County, will continue.

Chapter 4

Process for Development of the Plan

Plan development was initiated in 1997 and finalized in 2000 with adoption and reconfirmation of a solid waste reduction goal and a plan to achieve the goal. During the past year, the County Board has reviewed the original plan and determined that it wishes to retain the goal but reconsider the timetable and means for achieving that goal.

As expected in the 2000 update, Orange County has taken the lead in re-examining the adopted plan now that they are the lead government in solid waste management. The Solid Waste Advisory Board appointed by the BOCC and the Towns has provided review and recommendations on various solid waste management issues. While the Solid Waste Advisory Board supported the initial plan calling for development of a Materials Recovery Facility and universal recycling collections, the BOCC has not decided to endorse that approach at this time. Instead, they have endorsed an approach that incrementally expands the recycling program to accommodate growth in existing programs, but does not further expand either the type of materials collected or the sectors from which it is collected. Plans to develop a materials recovery facility have been suspended and may be reconsidered in the future.

The long-term goal for waste reduction remains the same at 61% per capita; the timetable for reaching that goal is within the ten-year planning period ending in 2014. As of this year, Orange County has continued its progress by reaching a waste reduction rate of 45%. We will likely submit another follow-up report next fiscal year that contains greater detail about our plans for fiscal stability, facility siting and long-term waste reduction/recycling efforts.

Our plan development process included the following steps:

- Submittal of the draft plan to the Solid Waste Advisory Board and then to the Board of Orange County Commissioners via County's Manager's office from the Solid Waste Management Department. Following submittal to the BOCC, the Department will also submit this report to the three municipal governments outlining the process and timeline for commenting and finalization of the report.
- Completion of the draft report, internal review and elected official review from each of the four governing bodies.
- Issuance of the draft for public comment.
- Holding a public hearing with attendant publicity and education on behalf of all four local governments. It is possible each of the governments may hold its own public hearing or public information meeting on the plan in addition to the planned formal public hearing to be scheduled by the County.
- Collecting public comment, integrating it into the report.
- Getting resolutions from the local governments adopting the report.
- Submitting the report to the State.

The following memoranda will be sent out to enlist cooperation of the local governments in completing this report.

Memorandum

To: Town Managers
From: Gayle Wilson, Orange County Solid Waste Management Director
Subject: Update of Ten Year Solid Waste Management Plan
Date:

We are required by statute every three years to update our state solid waste management plan. The County, through the Solid Waste Management Department, has taken the lead in development and submittal of this report. We are late as the submittal was due in June 2003. We need help from each of the local governments in the county to gain Town and citizen input and prepare as thorough, comprehensive and useful an update as possible

We view this update as not simply a state requirement, but a real opportunity to reaffirm our County's aggressive waste reduction goals, chart our progress towards those goals and place in front of the public a view of the challenges we face to get there. Given the pressure we are all under to resolve our solid waste management financing issues and the ongoing large public investment, the original plan plus the updates provide us with internal guidance and a roadmap of our own for achieving our waste reduction goals and establishing the facilities and financing we need to do that.

This report represents a change in thinking that reflects both the County's profound progress towards the goal and a recognition of the constraints presented by the current fiscal climate. The Board of County Commissioners is recommending that the long-term goal of 61% waste reduction be retained, but the original means for reaching that goal as put forth in the 1997 and 2000 versions of the report, be changed. The recommendation is to delay any major expansions of recycling collection programs and suspend the concept of constructing a materials recovery facility to handle mixed loads of recyclables. Instead, the BOCC is recommending that the recycling programs be maintained at their current levels and expanded to meet natural growth in housing and population. The goal is still to be achieved within the ten year planning horizon of this report, that is by 2014.

The Board is considering alternative means of financing solid waste management operations, including the recycling program, as the current landfill tipping fee revenues no longer are sufficient to finance the existing programs or any of the initially planned recycling expansions. Over the next several months, the BOCC will develop a more formal approach to financing that may include either an availability fee or some type of property tax increase to provide supplemental financing. As projected, such a fee or tax would become effective in FY2004-05 . The magnitude and scope of the fee or tax will be calculated in February 2004 and the Board will proceed from that point.

We have completed the draft of the plan update document and are submitting it to the Board of Commissioners for review January 26, 2004. In order to complete the draft report, hold a public hearing, incorporate public comments and submit our report to the local governments for final adoption, we request that you consider your meeting schedule for including this report and, if you choose, establishing additional public meetings on the solid waste plan. The plan was due June 30, 2003 but we hope to now submit it in March 2004.

Your staff has already assisted by helping complete the report data required from the municipalities. We expect the draft report to come to you for your consideration in early February. The BOCC projects holding a public hearing at its February 17 meeting. Only one public hearing is required as part of the plan preparation.

Please contact me at 968-2885 or by email as soon as possible after reviewing this memorandum and timetable and let me know your ability to get this report on the Town Council or Board of Aldermen's agenda.

Potential timetable follows for development of the report:

January 9: Review by Solid Waste Advisory Board

January 26: Review of report by Board of Orange County Commissioners and establishment of date for public hearing.

Following January 26: Circulation of revised report to three Towns and establishment of dates for presentation to elected boards.

Following presentations to Boards: Additional public information meetings may be scheduled by individual Towns (NOTE: the County will hold the one required public meeting on the plan February 17.)

Following public hearing: Resolutions sent to the four elected boards adopting the three-year update.

Following passage of the four resolutions: Submittal to the State of North Carolina.

Appendix A

Resolutions supporting the plan from each jurisdiction

These will be available after each government reviews plan and holds public hearing

Appendix B

Notification of Public Hearing(s) Published In News of Orange 2/11/04 and
Chapel Hill News 2/11/04

Public Hearing

to discuss
Orange County's
Three Year Solid Waste
Plan Update

Board of County Commissioners Meeting
February 17, 2004
7:30 PM

Southern Human Services Center
2501 Homestead Road
Chapel Hill, NC

A draft copy of plan is available for review
at all three public libraries in Orange
County and on the County web site.



Orange County Solid Waste Management
968-2788 or email recycling@co.orange.nc.us
www.co.orange.nc.us/recycling/

Appendix C Location of Disposal Sites



Map of Disposal Sites used by local governments in plan

Appendix D

EXHIBIT 4-1

ORANGE COUNTY WASTE CHARACTERIZATION STUDY COMPARISON OF COMMERCIAL WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Paper		
Newspaper/Print	6.1%	4.7%
Glossy Magazines	2.8%	2.5%
Recyclable Corrugated Cardboard	10.7%	3.5%
Non-Recyclable Corrugated Cardboard	N/A	1.8%
Phone Books	N/A	<0.1%
Coated Containers	0.7%	1.5%
Paperboard	N/A	3.5%
Hard Back Books	N/A	0.8%
Other Books	N/A	1.1%
White Ledger	N/A	2.6%
Mixed Office Paper	3.3%	3.2%
Other paper	24.4%	7.9%
Total Paper	48.0%	33.1%
Plastics		
PET Bottles (#1)	1.0%	2.0%
HDPE Bottles (#2)	1.2%	1.4%
Film	4.8%	7.8%
PVC (#3)	0.2%	0.6%
Expanded Polystyrene (#6)	N/A	1.8%
All Rigid Containers	0.8%	2.9%
All Other Plastics	6.0%	2.0%
Total Plastics	14.0%	18.5%
Organics		
Food Waste	12.2%	20.4%
Textiles/Leather	2.7%	5.0%
Rubber	N/A	1.0%
Diapers	1.4%	2.1%
Other Organics	4.5%	3.2%
Total Organics	20.8%	31.7%
Ferrous Metal		
Food Containers/Bi-metal	1.6%	1.2%
Aerosols	N/A	0.5%
White/Enameled	N/A	<0.1%
Auto Parts	N/A	<0.1%
Other Ferrous	3.2%	1.6%
Total Ferrous Metal	4.8%	3.3%
Non Ferrous Metal		
Aluminium Cans	0.7%	1.2%
Aluminium Foil	N/A	0.8%
Other Non-Ferrous	N/A	0.2%
Total Non Ferrous Metal	0.7%	2.2%

EXHIBIT 4-1 (continued)
ORANGE COUNTY WASTE CHARACTERIZATION STUDY
COMPARISON OF COMMERCIAL WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Glass		
Bottles & Jars	4.0%	N/A
Container Glass-Clear	N/A	2.0%
Container Glass-Green	N/A	0.7%
Container Glass-Brown	N/A	1.1%
Other Glass	0.4%	0.8%
Total Glass	4.2%	4.6%
Wood		
Pallets	N/A	0.5%
Lumber	1.6%	1.7%
Painted/Treated	1.2%	0.3%
Stumps/Heavy Sections	N/A	<0.1%
Total Wood	2.8%	2.5%
Inert		
Asphalt	N/A	<0.1%
Concrete/Brick/Rock	N/A	0.2%
Dirt	N/A	0.6%
Other Inert	N/A	0.6%
Total Inert	1.4%	1.4%
Yard Waste	0.8%	1.3%
Special Waste		
Lead Acid Batteries	N/A	<0.1%
Dry Cell Batteries	N/A	0.2%
Oil Filters	N/A	<0.1%
Other Hazardous Waste	1.5%	<0.1%
Infectious Waste	0.7%	N/A
Reusable Waste	N/A	<0.1%
Total Special Waste	2.2%	0.2%
Brown Goods		
Electronic Goods	N/A	0.6%
TOTALS	100%	100.0%

NOTES: 1. Individual numbers may not total exactly, due to rounding

EXHIBIT 4-2
ORANGE COUNTY WASTE CHARACTERIZATION STUDY
COMPARISON OF RESIDENTIAL WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Paper		
Newspaper/Print	5.3%	4.8%
Glossy Magazines	6.1%	4.4%
Recyclable Corrugated Cardboard	4.5%	4.7%
Non-Recyclable Corrugated Cardboard	N/A	1.2%
Phone Books	N/A	0.3%
Coated Containers	0.7%	1.5%
Paperboard	N/A	5.1%
Hard Back Books	N/A	0.2%
Other Books	N/A	0.2%
White Ledger	N/A	2.0%
Mixed Office Paper	1.7%	4.5%
Other paper	23.9%	7.6%
Total Paper	42.2%	36.5%
Plastics		
PET Bottles (#1)	1.3%	1.6%
HDPE Bottles (#2)	1.3%	1.3%
Film	4.3%	5.7%
PVC (#3)	0.5%	0.2%
Expanded Polystyrene (#6)	N/A	1.4%
All Rigid Containers	0.7%	2.7%
All Other Plastics	3.9%	3.0%
Total Plastics	12.0%	15.9%
Organics		
Food Waste	11.2%	17.8%
Textiles/Leather	3.3%	5.4%
Rubber	N/A	0.6%
Diapers	3.5%	3.5%
Other Organics	8.3%	4.0%
Total Organics	26.3%	31.3%
Ferrous Metal		
Food Containers/Bi-metal	2.7%	1.8%
Aerosols	N/A	0.4%
White/Enameled	N/A	0.2%
Auto Parts	N/A	0.3%
Other Ferrous	2.9%	1.5%
Total Ferrous Metal	5.6%	4.2%
Non Ferrous Metal		
Aluminium Cans	0.8%	1.0%
Aluminium Foil	N/A	0.9%
Other Non-Ferrous	N/A	0.2%
Total Non Ferrous Metal	0.8%	2.1%

EXHIBIT 4-2 (continued)
ORANGE COUNTY WASTE CHARACTERIZATION STUDY
COMPARISON OF RESIDENTIAL WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Glass		
Bottles & Jars	5.8%	N/A
Container Glass-Clear	N/A	1.9%
Container Glass-Green	N/A	0.5%
Container Glass-Brown	N/A	1.8%
Other Glass	0.5%	0.8%
Total Glass	6.3%	5.0%
Wood		
Pallets	N/A	0.2%
Lumber	1.9%	1.3%
Painted/Treated	1.1%	<0.1%
Stumps/Heavy Sections	N/A	<0.1%
Total Wood	3.0%	1.5%
Inert		
Asphalt	N/A	<0.1%
Concrete/Brick/Rock	N/A	<0.1%
Dirt	N/A	0.1%
Other Inert	N/A	0.4%
Total Inert	2.6%	0.5%
Yard Waste	1.0%	0.9%
Special Waste		
Lead Acid Batteries	N/A	<0.1%
Dry Cell Batteries	N/A	0.2%
Oil Filters	N/A	<0.1%
Other Hazardous Waste	0.3%	0.6%
Infectious Waste	0.0%	N/A
Reusable Waste	N/A	<0.1%
Total Special Waste	0.3%	0.2%
Brown Goods		
Electronic Goods	N/A	0.9%
TOTALS	100%	99.0%

NOTES: 1. Individual numbers may not total exactly, due to rounding

EXHIBIT 4-3
ORANGE COUNTY WASTE CHARACTERIZATION STUDY
COMPARISON MULTI-FAMILY WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Paper		
Newspaper/Print	7.3%	5.6%
Glossy Magazines	5.0%	4.1%
Recyclable Corrugated Cardboard	7.2%	2.8%
Non-Recyclable Corrugated Cardboard	N/A	2.0%
Phone Books	N/A	0.5%
Coated Containers	1.0%	1.6%
Paperboard	N/A	4.6%
Hard Back Books	N/A	<0.1%
Other Books	N/A	0.4%
White Ledger	N/A	3.8%
Mixed Office Paper	1.3%	5.5%
Other paper	22.6%	5.2%
Total Paper	44.4%	36.1%
Plastics		
PET Bottles (#1)	1.4%	2.4%
HDPE Bottles (#2)	1.2%	1.9%
Film	5.5%	4.8%
PVC (#3)	0.5%	0.8%
Expanded Polystyrene (#6)	N/A	1.8%
All Rigid Containers	1.0%	1.9%
All Other Plastics	4.0%	1.4%
Total Plastics	13.6%	15.0%
Organics		
Food Waste	9.7%	21.2%
Textiles/Leather	3.3%	4.9%
Rubber	N/A	0.5%
Diapers	2.8%	2.5%
Other Organics	7.8%	1.7%
Total Organics	23.6%	30.8%
Ferrous Metal		
Food Containers/Bi-metal	2.6%	2.0%
Aerosols	N/A	<0.1%
White/Enameled	N/A	<0.1%
Auto Parts	N/A	<0.1%
Other Ferrous	1.9%	1.9%
Total Ferrous Metal	4.5%	3.9%
Non Ferrous Metal		
Aluminium Cans	1.0%	1.3%
Aluminium Foil	N/A	1.7%
Other Non-Ferrous	N/A	0.4%
Total Non Ferrous Metal	1.0%	3.4%

EXHIBIT 4-3 (continued)
ORANGE COUNTY WASTE CHARACTERIZATION STUDY
COMPARISON OF MULTI-FAMILY WASTE COMPOSITION – 1995 VS. 2000¹

Material Components	Mean Composition 1995	Mean Composition 2000
Glass		
Bottles & Jars	5.8%	N/A
Container Glass-Clear	N/A	3.10%
Container Glass-Green	N/A	0.9%
Container Glass-Brown	N/A	3.0%
Other Glass	0.4%	1.2%
Total Glass	6.2%	8.2%
Wood		
Pallets	N/A	0.2%
Lumber	0.6%	1.2%
Painted/Treated	0.8%	<0.1%
Stumps/Heavy Sections	N/A	<0.1%
Total Wood	1.4%	1.4%
Inert		
Asphalt	N/A	<0.1%
Concrete/Brick/Rock	N/A	<0.1%
Dirt	N/A	0.2%
Other Inert	N/A	0.3%
Total Inert	3.2%	0.5%
Yard Waste	2.2%	0.3%
Special Waste		
Lead Acid Batteries	N/A	<0.1%
Dry Cell Batteries	N/A	0.3%
Oil Filters	N/A	<0.1%
Other Hazardous Waste	0.1%	<0.1%
Infectious Waste	0.0%	N/A
Reusable Waste	N/A	<0.1%
Total Special Waste	0.1%	0.2%
Brown Goods		
Electronic Goods	N/A	0.8%
TOTALS	100%	101.0%

NOTES: 1. Individual numbers may not total exactly, due to rounding

Appendix E

WASTE REDUCTION GOAL FOR ORANGE COUNTY NORTH CAROLINA

Original ten-year waste reduction goal for FY2001-02: **45% per capita**

Original ten-year waste reduction goal for FY2005-06: **61% per capita**

After considering your government's current and projected solid waste activities, resources, population and economic growth, will the FY2005-06 goal change? **NO, but implementation is delayed until further into the ten year planning period.**

Why? N/A Delayed primarily due to fiscal constraints.

CALCULATING AND SETTING A NEW FY 2013-14 WASTE REDUCTION GOAL

FY2002-03 tonnage landfilled 56,925 tons MSW + 19,909 C&D + 137 LCID + 184 tons mobile homes + 1-ton alum sludge + (estimated out of county disposal (not including that recycled at certified C&D facilities 12,392): Total projected to be landfilled during

FY2002-03: 89,547

DIVIDED BY:

Projected population for Orange County 2002-2003: **119,746** (Office of State Planning)

Estimated tonnage per capita landfilled in FY2002-03: **0.748 tons per capita**

Using state data: waste reduction rate compared to FY1991-92 is 45%

Establish a FY2013-14 per capita waste reduction goal by determining:

FY2013-14 population projection (146,653) x per capita estimate for that year assuming no further waste reduction from FY2002-03 (0.748) = projected tons 109,696

FY2013-14 population projection (146,653) x per capita estimate (0.53) = 77,726
projected goal in tons.

Projected **additional** tons to be managed via recycling, reduction, composting, etc., not landfilled to meet 61% goal in that year 31,970

Appendix F

Planning Element Sheets

Guide to Plan of Action

Element 1: Reduction at the source: See narrative in Program Recommendations for Solid Waste Updates. Page F-2 through F-5. This is organized by sector --residential and commercial.

Element 2: Solid Waste Collection: F-6 through F-9

Element 3: Recycling and Reuse: F-10 through F-18

Element 4: Composting and mulching: See narrative, page F-19 through F-20

Element 5: Incineration with or without energy recovery: Orange County has no plans to implement incineration facilities for management of solid waste. F-21

Element 6: Transfer outside geographic area covered by the plan: Preliminary siting and cost work has been done pertaining to the concept of locating a transfer station at the current landfill site on Eubanks Road. Additional sites may be considered by BOCC. F-21

Element 7: Disposal capacity: At current rates of use, the disposal capacity at Orange County Landfill is 18 months for C&D (winter 2001-02) and six years for MSW (2009). No other decisions pertaining to future disposal capacity have been made yet. F-21

Element 8: Education with the Community and through the Schools: See narrative page F-22 through F-27.

Element 9: Special Waste: tires, white goods, yard waste, septage, HHW): see narrative page F-28 through F-29

Element 10: Illegal disposal, litter: See narrative, page F-30.

Element 11: Purchasing recycled products: See narrative, page F-31.

Element 12: Disaster Response: See narrative, page F-32.

Element 1: Waste Reduction at the Source

Subelement Residential

Backyard composting

Orange Community Recycling continues to maintain and support four compost demonstration sites at: the Chapel Hill Community Center, Cooperative Extension in Hillsborough, Scroggs Elementary School and one at the UNC Botanical Gardens. These sites are used for school tours, education and demonstration programs. All sites, except that at the Community Center, are operated by the occupants of the location. The Community Center site is operated by Orange Community Recycling.

Sales of backyard compost bins are conducted annually. The last three sales were held in Spring 2001, Spring 2002 and Spring 2003. We typically cooperate with Chatham County in advertising, scheduling and conducting the sales in order to meet the vendor's threshold of 400 bin sales before they are willing to come to our site with a truck. During the past three sales, we have used the "Earth Machine" as they have been willing to absorb all risk of selling the bins, i.e. we do not have to first buy bins then resell them. That is much more convenient for us than the requirements of other vendors that we buy the bins from them and resell to the public.

The County-wide MSW waste characterization, conducted in October and March of 1999-2000, showed that food waste was 17.8% of total residential waste by weight. Although this is a higher percentage of residential waste than five years ago (11.2%), total residential waste has not generally increased during that period. We conclude that more diversion is taking place; with the average 2% growth in Orange County population we would have expected a commensurate rise in MSW, which has not happened based on known landfill tonnage, which has remained flat for the past two years. Recycling tonnage does not account for all the difference in tonnage between that projected based on a population growth and what was actually landfilled. The rest is presumed to be due to reduction.

Compost bin sales in Orange County average about 300 per event. Customer surveys showed that about 50% of the customers were not composting food waste prior to buying the bin and about half of that 50% state they intend to begin food waste composting with the new bin.

Recommendation: We will continue our demonstration sites and annual sale of backyard composting bins at cost plus \$2 (\$39 last year). That additional \$2 helps defray our bin sale's advertising costs. Based on our sales history, an annual sale seems to meet the demand level for new bins at a lower cost than retail stores which report selling few bins at about \$75/each. We plan the annual countywide compost bin sale in the spring of 2004. We encourage those who cannot make the annual sale to buy at Durham or Wake, which have permanent sales sites. Orange County will consider permanent sales at its planned new administration building to be sited at the landfill.

Grasscycling

In our waste sorts and at the curb, we see very little grass in the MSW waste stream. Casual observation is generally grass is left on the lawn, and/or not collected in municipal yard waste programs. We have not conducted a formal grasscycling program.

Recommendation: We see no need for a formal grasscycling program at this time.

Xeriscaping

Landscaping with less water. Water and sewer services are managed separately by Orange Water and Sewer Authority in southern Orange, the Town of Hillsborough and several private water companies. The Solid Waste Management Department is not responsible for any water conservation activities but we do produce and sell an average of over 7,000 tons of landscape mulch annually. (Last year due to the ice storms, we took in 36,000 tons). Following the drought last year, the County Emergency Management Department, with advertising assistance from the Solid Waste Department, conducted a sale of rain barrels to enhance use of rainwater for outdoor irrigation. At that event, eighty-five barrels were sold directly by a private vendor to Orange County residents.

Orange Water and Sewer Authority's new conservation efforts include promotion of outdoor water use conservation, use of more efficient water-using devices, seasonal water use rates reflecting a higher cost in summer when demand is higher and reduced cost in winter. In addition, the Authority plans to offer outdoor use water audits to large-scale users who are on city water. Town of Hillsborough's water and wastewater department instituted a conservation program during the drought.

Recommendation: Provide support to xeriscaping projects by others and continue to provide high quality mulch at a reasonable price. Conduct study of revegetating closed portions of landfill with native plants during 2003 and beyond.

Junk Mail Reduction

Orange Community Recycling was one of the first in North Carolina to produce a "junk mail terminator kit" that has been widely copied by others. We have simplified this 'kit' to a single card that goes to a single vendor and publicize the national opt-out of junk mail programs on our web site and through other promotions such as in the annual Waste Matters newsletter.

Recommendation: Continue to publicize and promote junk mail reduction by citizens and local government offices. According to recent audits of County government buildings, some junk mail reduction efforts are in place.

Enviroshopping

Through our display boards and presentations, we promote reduction in packaging and consumer use of own bags, etc. During each year, at least one of our monthly articles in the local newspaper cover purchasing of recycled products. In 2001, we conducted a statewide

buy recycled promotional conference that was well received and well attended. We publish a "Wasteline" guidance sheet on buying recycled products.

Recommendation: Provide more information to the public on enviroshopping and during FY2004-05 explore the concept of getting "shelf talkers" in local grocery stores to promote this program.

Use of Non-toxics

As a part of the household hazardous waste collection program, we promote the use of non-toxic alternatives and the use of smaller amounts of hazardous materials, i.e. use only the amount of paint necessary.

Recommendation: Continue to promote the use of non-hazardous alternatives for pesticides and other highly toxic/expensive to dispose products more cooperatively with Triangle J Council of Governments during 2001-2002. TJ COG prepared a series of inserts to the regional HHW materials promoting waste reduction and use of alternatives for paint and pesticides that our office routinely distributes to citizens.

End sub-section on residential waste reduction at the source.

Subelement - Commercial/Industrial

General C&I Source Reduction

We periodically promote those businesses and institutions that have successfully reduced waste through both our newspaper articles and in our annual newsletter. At least once a year, we write a piece for the Chapel Hill Herald (circ 14,000) and/or Chapel Hill News (circ. 22,000) spotlighting those businesses. We also spotlight waste reducing businesses in our annual newsletter (see 2003 newsletter attached). We provide a monthly set of waste reduction and recycling tips published in the newsletter (circulation 50,000) from Weaver Street Market grocery cooperative. We have ongoing contact with the Chapel Hill-Carrboro Chamber of Commerce and the Hillsborough/Orange County Chamber of Commerce on waste reduction concepts.

Our "Waste Watcher" program publicly recognizing waste reducing businesses was dropped due to lack of interest and lack of cost-effective recycling alternatives to low cost public waste collection services available to commercial sector.

In FY2000-01, we conducted a successful Buy Recycled workshop that attracted a statewide audience that was predominantly public sector but with some private sector participation. In-house waste audits of 38 local government buildings were initiated in all four governments in Orange County during FY2002-03 and follow-ups are being conducted in FY2003-04 promoting waste reduction through use of double-sided, copying, use of used paper in fax machines and junk mail reduction (see sample audit report) and rank progress.

During the FY1999-2000 fiscal year, we solicited all the known 140 Conditionally Exempt Small Quantity Hazardous Waste Generators (CESQGs) in Orange County to participate in a

hazardous waste collection to be conducted in conjunction with our monthly HHW program at the landfill. We got no positive responses from the mailing. We hope to open our current HHW program to CESQGs at a very low disposal cost later this fiscal year.

Waste Assessments

We performed only one commercial (church) waste audit last year and none in several of the preceding years although we continue to promote the option for requesting a waste audit in our annual newsletter which is mailed to all businesses and residences in Orange County.

Recommendations: Use Waste Matters newsletter and Chambers of Commerce to continue to promote waste audits throughout the County and get more businesses interested in waste reduction activities especially through the newspaper articles focusing on businesses that successfully reduce waste.

Write at least two pieces during FY2003-04 that promote waste-reducing businesses.

Identify a service project linking business recycling in the community.

Local governments in Orange County could include in their purchasing specifications a variety of measures to enhance source reduction such as requiring contract caterers to use provide bulk servings of cream, sugar and condiments. Contractors are now required to state how they plan to reduce and recycle construction or other job-related wastes as part of their bids for Town of Chapel Hill or County projects. Contractors must provide solid waste plans as a condition of any permit. The County C&D waste reduction team further promotes deconstruction or moving of in-tact structures as realistic alternatives to demolition.

End section on waste reduction at the source.

Element 2: Solid Waste Collection

Efficiency

Solid waste collection efficiency: individual governmental haulers haul over 71% of the MSW landfilled in Orange County. In general, collection efficiency has been increased in each municipal jurisdiction by addition of more efficient equipment and collection methodologies including:

- automating the residential waste collection equipment in the Town of Hillsborough,
- changing to semi-automated curbside residential collection in Chapel Hill,
- creating economic incentives using pay-as-you-throw commercial collection in all three Towns; NOTE: each Town pursued this differently,
- increasing dumpster inspections to improve compliance with bans on disposal of wood, metal and corrugated cardboard,
- initiating scheduled residential brush collection, within the Town of Chapel Hill as an offshoot of increased efficiency of residential waste collections,
- County Solid Waste Convenience Centers now offer a wider variety of recycling services including batteries, oil filters, scrap metal, clean wood and electronics. (NOTE: this does cause additional collections from SWCCs)

Efficiency increases at the Orange County landfill operation include:

Purchasing an industrial wood waste grinder to handle the increased volume of woody waste from both vegetative waste and clean construction wood. The grinder enables the County to process wood waste as needed instead of waiting until the quarterly visits from the grinding contractor. Provision of a variety of screens and magnets also enabled the County to meet specifications of boiler fuel or colored mulch manufacturers that the contractor could not meet. Thus markets improved for the wood products produced at the landfill. If processing area can be identified, the County will also consider making topsoil from the screenings from mulch production.

Purchase of tractor and trailer to haul increased volumes of scrap metal, chipped wood and other recyclable materials to market. This has proven to be much cheaper and more flexible than contract hauling.

Development of a construction waste recycling area for the regulated recyclable materials at the front of the north side of the landfill. This area consists of a series of separate pads and covered storage areas for mulch products enables contractors who have separated their materials to easily drop off regulated items before heading to the more remote landfill site. The concrete pads for scrap metal, white goods and the separate pad and shelter for corrugated cardboard allow more efficient policing of the site in addition to quicker movement and loading of materials. The covered area with stationary compactor for corrugated cardboard enabled the elimination of six dumpsters at the C&D landfill face that had to be collected several times a week, taking an extra half hour of truck route time for each trip to the C&D site. Purchase of a road tractor and two different styles of trailers improved

hauling efficiency and lowered the cost of scrap metal and wood chip hauling below that available from contract hauling.

Planned piping of leachate directly to the wastewater treatment plant using a new sewer line to be installed at the landfill leachate collection pond. This improvement will reduce staff requirements to haul leachate to the sewage treatment plant, now a halftime position including a tanker truck, which will be eliminated from the fleet. We will eliminate the 1,700 gallons of diesel fuel used annually for hauling leachate. Using the sewer system will also reduce the likelihood of overflows at the leachate pond in case of significant storm events. Projected cost savings are \$15,667 annually over the life of the project (see savings calculation sheet appendix G).

In 2001, with State permission, the County was able to eliminate four groundwater monitoring wells on the north side of the landfill and in 2002 two more on the south MSW landfill from the monitoring system. Previously we had reduced testing frequency from quarterly to semi annually due to the lack of positive test results at the wells. We were able to make these reductions because, on a statistical basis, over ten years, groundwater flow patterns indicate that contaminants should not be present. Testing cost savings from elimination of the six wells are about \$9,000 per year.

Collection Set out limits

Residential

- Town of Carrboro: Two-cart maximum.
- Town of Chapel Hill: One cart maximum, some bags collected if at the cart
- Town of Hillsborough: Collects one cart per family per week, but extra bags of solid waste are also collected. If there is extra solid waste overflowing from the can routinely at a residential stop, sanitation personnel may encourage the generator to consider recycling in order to reduce the amount of waste and / or investigate to find out if the resident is accepting waste from someone else (outside Town limits).
- Orange County: County convenience sites accept any amount of residential waste. The County limits amount of non-bagged waste such C&D, bulky materials and brush to ½ a pickup truck or trailer. Those exceeding this amount are issued permits to use the landfill. No dump trucks are allowed at convenience centers. They also accept bulky items, electronics, separated wood and scrap metal and 1/2 pick-ups loads of self-generated residential construction waste.
- Private haulers of rural residential waste: Typically they have variable prices for more than one cart or for a greater collection frequency than once a week. e.g. one has a \$16 fee for one each 90-gallon cart per week or \$26 for two 90-gallon carts. If a customer uses his own 30-gallon can, he is charged \$3, for a 40-gallon can it's \$5. Some haulers also prohibit collection of materials in excess of the amount in a cart they issue.

Recommendations: Strictly enforce set-out limits. Consider charging for volumes that exceed set out limits. Begin to charge for permits issued at Solid Waste Convenience Centers to use County landfill.

Commercial and Multifamily Waste

Table F1 Cost of non-residential waste disposal in Towns within Orange County

Town	Annual Cost	Comments										
Carrboro	4CY \$856 6CY \$1000 8CY \$1,140 Twice a week is double the above rates	Multifamily housing still collected 2x/week, tax supported										
Chapel Hill	\$700/year for first weekly dump of an 8 yd container. 2 nd dump \$500	Multifamily gets one tax supported collection/week. \$700 for additional weekly dump for each dumpster										
Hillsborough	<table border="0"> <tr> <td>1/wk</td> <td>2/wk</td> </tr> <tr> <td>2CY \$430</td> <td>\$859</td> </tr> <tr> <td>4CY \$601</td> <td>\$1201</td> </tr> <tr> <td>6CY \$772</td> <td>\$1544</td> </tr> <tr> <td>8CY \$943</td> <td>\$1886</td> </tr> </table>	1/wk	2/wk	2CY \$430	\$859	4CY \$601	\$1201	6CY \$772	\$1544	8CY \$943	\$1886	Completely private, all non single family residential customers using dumpsters pay franchise contractor
1/wk	2/wk											
2CY \$430	\$859											
4CY \$601	\$1201											
6CY \$772	\$1544											
8CY \$943	\$1886											

- The Town of Chapel Hill services two key-operated compactors serving about 80 downtown businesses. Those businesses pay the Town an annual fee for compactor use on a three-tier system based on frequency of use: small (up to 9 uses of compactor per week or 225 per year where each use of the compactor hopper represents up to 12 each thirty gallon bags is \$225 annual fee), medium (10 –14 uses for \$600 annually), or large trash generator (15 or greater uses per week at a \$1,200 fee). These fees represent full cost recovery. New businesses automatically come aboard as a “medium” unless they show lower or higher volumes. If they can prove through a “key audit” that they’ve reduced their trash, they can lower their annual fee.
- In Hillsborough transfer of commercial collection from public to private sector resulted in a \$90,000 decrease in landfill tipping fees; \$30,000 reduction in salary/benefits as well as reduction in operations & maintenance cost for commercial garbage truck.

Safety

Safety has improved particularly in Hillsborough and Chapel Hill residential collections due to the move to automated collection in Hillsborough and semi-automated collection in Chapel Hill at the curb. Incidence of worker injury attributable to backyard collections including dog bites, bee stings, falls and back strain due to lifting and carrying overweight cans from backyards have been eliminated.

In Hillsborough, accidents in the Sanitation Division of Public Works were reported to have fallen from 2 in 2000-2001 to zero in 2001-2002 and 2002-2003.

Elimination of commercial collection by public sector employees in Hillsborough, decreasing the number of collections in Chapel Hill and Carrboro due to imposition of economic incentives has reduced potential for worker injury in this sector of sanitation collections.

Safety improvements to the landfill and recycling operation include:

Building a shelter over the recycling processing area to provide better working conditions in inclement, hot or cold weather,

Compliance with an OSHA inspection that pointed out a variety of violations of safe procedures in the recycling processing area and other parts of the landfill,

Developing a formal safety officer position at the landfill and recycling operations,

Implement training on all vehicles equipment plus the certification of operation for all pieces of equipment located at the Orange County Landfill,

Started documentation of all safety program meeting and other required training as required by all state, local, and department regulations,

Implemented on site training relating to SWANA's Landfill Safety training program with certification upon completion of program.

Element 3: Recycling and Reuse

Subelement Recycling

The County operates a variety of recycling programs including:

- Weekly urban curbside for \$3.50 per household per month serving 16,000 households, 3,315 tons collected in FY2002-03. Cost \$740,000.
- Biweekly rural household for \$2.00 per household per month serving 10,000 households, 1,200 tons collected. \$220,000.
- Multifamily recycling serving 14,000 households, contract cost was \$100 per single site per month through December 2002, program is now in-house. 1,078 tons collected.
- Drop-off site recycling at 12 sites, 6 staffed and 6 unstaffed, program in-house 5,757 tons.
- Hazardous waste collection on contract four days per week at landfill 80 tons.
- Commercial glass and can recycling program from 100 bars and restaurants tons combined with drop-off.
- Food waste composting collection program from 20 sites at \$70,000 annually. 811 tons collected.
- Motor oil, oil filters, battery collection from six staffed convenience centers 190 tons. Electronics recycling collection six days per week at landfill 30 tons.
- In-house government buildings, 81 tons.

Materials collected by curbside recycling contractor are sold by contractor and contractor keeps all revenue to defray program expenses. Food waste is all by contract.

County operates multifamily, drop-off, commercial, in-house programs. All fiber is hauled directly to market. Cans and bottles are processed by county staff and all except aluminum cans are hauled to market by county staff. No program makes money. Revenue last year from sale of recyclables was \$163,000 while program expenses exceeded \$2.4 million.

General education efforts are detailed under element 8, education in the community and schools. Efforts specific to individual program performance are detailed in this section.

Collection Efficiency

We continuously review all recycling collection routes for potential efficiency improvements. That includes: curbside recycling, rural curbside recycling, multifamily recycling, drop-off sites, commercial glass and food waste, government in-house collection programs. Those routes that are contracted tend to be reviewed periodically by the contractors for improvements that save them time, fuel and money.

Ongoing recycling collection efficiency improvements conducted in FY2000-03 this year include:

- Reducing or increasing the frequency of collections or number of carts at select multifamily sites depending on volume when we took program in-house in January 2002,

(initially we had an eight percent reduction in the number of roll carts we used compared to what the contractor used.)

- Continuous promotion in all relevant departmental literature of the concept of setting out curbside recycling bins only when they are full. In the past we made efforts to encourage bin twinning but had no noticeable success getting people to put their bins adjacent to each other, thus making fewer collection stops.
- Continuous review of commercial glass, fiber collection route, drop-off sites, and local government building collection programs that the County operates to fit collection routes to our schedule constraints, market location and availability/hours of operation (we have made an arrangement with local paper broker to enable us to drop off mixed paper when they are not open for business, thus greatly improving our scheduling).
- Takeover of hauling glossy magazine hauling saved significant costs from contractor hauling.
- Elimination of six dumpsters for OCC from C&D landfill face and replacing them with a compactor at the north side thus eliminating one to two trips per week to service those dumpsters at a half hour per trip.
- Periodic mutually agreeable (with contractor) routing changes in curbside collection routes to optimize collection efficiency. We attempt to minimize re-routing to reduce customer confusion and expense.
- Switch recycling only #1 and #2 plastic bottles to all plastic bottles at all recycling venues made plastic bottle recycling easier, added aerosol cans as a new material and increased availability of added phone book from only specialized drop off recycling to curbside, multifamily and drop-off mixed with newspapers so phone books can now be readily recycled all year everywhere, not just a special collection times when new books are distributed.
- Changed HHW recycling from once a month to four days per week at a permanent staffed site at the landfill reduced costs 25%.

Recommendation: Continue existing empirical approach to efficiency improvements and continue to test and explore markets for new materials. The County is evaluating and will consider taking over the Rural Curbside Recycling collections in 2004-05 if it appears cost-effective and more efficient.

Participation

We run periodic print ad campaigns to remind people of curbside recycling availability and any schedule changes for the holidays. We ran a “Got Bin?” series when UNC came back into session to remind newcomers where to get a curbside recycling bin. We ran an ad campaign to remind citizens they could now recycle aerosol cans and all plastic bottles at the curb. We also run ads to try to reduce curbside contamination, particularly from plastic bags and mixed paper. The switch to 'all bottles' from #1 and #2 only raised plastic bottle tonnage 14% (net of projected discards from #3-#7 bottles that are included under this scheme).

Urban curbside program participation (defined as setting out at least once a month) is estimated at over 90%. Rural curbside participation averages 50% monthly according to the contractor's count. These are relatively stable compared to recent years.

Over 90% of multifamily complexes have recycling service; it is impossible to gauge individual unit participation levels. Low performing complexes or those with consistent contamination are singled out for door to door education campaigns and placement of outdoor bilingual (English/Spanish) educational signs at the recycling sites. Blurbs are periodically sent to various complexes to insert in their apartment complex newsletters. Tonnage is stable.

Twice a year we place “reminder” signs along the rural curbside recycling routes because those routes are serviced biweekly. Our review, after signs were placed last year, showed a temporary increase in bin set outs of about 3%. Signs are placed on each route twice per year for six weeks.

Calendar cards are sent to all citizens on the rural recycling routes at the beginning of each fiscal year to remind eligible households of their collection days for the year. This is done due to the fact that collection is biweekly, not weekly, and therefore it is harder to remember each collection day. Once a year, usually in spring, reminder cards are sent to low-participation rural routes in an attempt to boost participation. The impact of these cards has not been great.

This year we sent a holiday schedule change card to all 5,500 customers whose routes were affected by Christmas and New Year's Day changes. This significantly reduced complaints and telephone calls. Makeup day setouts were noticeably higher than ever before.

Our display boards and literature racks at each recycling site and some government buildings have posters that are periodically changed, updated and refreshed to reflect program changes or just keep literature in stock.

Recommendation: As long as programs remain voluntary, continue with multiple media outreach strategies detailed above to increase participation.

Disposal Diversion Ordinance

At the landfill face of both the MSW and C&D disposal areas, inspectors rigorously enforce the state disposal bans on yard waste, batteries and hazardous wastes and our own bans on non-residential corrugated cardboard, scrap metal and clean wood waste. Last year revenue from penalties for ordinance violations totaled \$69,000.

In FY2001-02, the Board of Orange County Commissioners passed a Regulated Recyclable Materials Ordinance that prohibited the disposal of scrap metal, clean (unpainted, untreated) wood waste and corrugated cardboard anywhere, not just the Orange County landfill. The ordinance was based on a recommendation from the County-appointed construction and demolition waste recycling task force in their August 2000 report. The ordinance was implemented in October 2002 after a year of fine-tuning, education of the regulated community and work with the towns to obtain their passage of the ordinance **NOTE:** Town of Chapel Hill has not formally adopted it. It has been highly effective in reducing the amount of waste delivered to the C&D landfill (see introduction to this report). We believe it is the only ordinance of its type in the country.

Recommendation: Continue enforcement of the ordinance and expand the education, outreach and enforcement to the commercial sector focusing on generators of clean wood and scrap metal such as lumberyards, bicycle shops and auto body repair places. Modify ordinance as necessary.

Pay-As-You-Throw (and mandatory recycling)

Pay-as-you-throw was an element to be considered by each jurisdiction as part of “waste prevention” in the plan adopted in 1997. In early 1999, the Town of Chapel Hill convened a citizen’s task force to consider this option. No jurisdiction within the County has recently considered PAYT for residential sector. It is de facto in place now for the commercial sector in all three towns in differing manners. See table in non-residential section below.

Conceivably one or more individual governments within Orange County may adopt a solid waste ordinance, such as pay-as-you-throw or mandatory recycling that has potential to increase the amount of recyclables generated from only that jurisdiction.

Recommendation: Continue to work with the various jurisdictions towards a coordinated waste reduction strategy.

Towns should further promote use of Orange Community Recycling technical services to work with businesses that wish to reduce their waste volume to save on compactor fees or extra dumping costs.

Material Expansion

In 2000-2001 expanded curbside and multifamily recycling to include telephone books, aerosol cans and all plastic bottles. In fact, at the plastic bottle sorting facility, anything not a #1 PETE or #2 HDPE bottle is discarded due to small volumes and lack of markets, but even factoring that in, plastic bottle recycling still increased 14% following the change to the "recycle all plastic bottles" message.

Drop-off recycling collections or mixed paper rose from 50 tons per month in the first year to over 80 tons per month in FY2002-03.

Electronics recycling was added in April 2002. In July 2002 we conducted a second collection and in April 2003 we changed to a permanent collection program at the landfill including

storage and processing facilities. Electronics can also be dropped off at any of the six solid waste convenience centers. Electronics includes televisions, computers and peripherals, telephones, fax, copiers, stereos, and anything else that transmits voice or data.

Added plastic bottles to commercial glass and metal can collection route in FY2000-01.

Scrap metal and clean wood waste recycling were added to recycling program as a function of the RRMO ban implemented in FY2002-03.

Recommendation: Continue to consider new materials for recycling as long as stable markets arise and funding is available while realizing the constraints of source-separated collections and limits to the number of people willing to use drop-off sites instead of house-to-house services.

Review Markets

We routinely check pricing at two to three local paper markets and send newspaper, corrugated cardboard and glossy magazines where we can gain the most revenue or where we are obligated by contract to send a certain minimum. Mixed paper is accepted at a local market for no fee or revenue. Markets for scrap metal and wood chips are continuously reviewed for price and availability.

Container Recovery Alliance in Raleigh is the only reliable local market for container glass that pays well enough. We send virtually all our of bottle glass there because it is color separated and marketable as container glass. Prices received for glass are fixed by the buyer, and are currently set as \$27 ton for clear, \$17 for brown, (-\$12) for green. **NOTE:** we are considering ways to divert the green glass for other non-bottle uses for which we could possibly receive some revenue instead of paying to get rid of it.

Flattened aluminum cans and foil are sold to the company that provides the can separator/flattener/blower and tractor-trailer for storage and hauling. Orange County bales its steel cans and hauls them to market in its own tractor and trailer. Price is under \$10 per ton now.

Bales of mixed plastic #1, 2, 5 and 7 bottles are sold to Waste Management/Recycle America in Raleigh, recent price is \$0.07 per pound. We have not been able to achieve an effective separation of resin types to justify the expense of this extra step. If the price of plastic bottle feedstock rises and our facility becomes more sophisticated, we will reconsider sorting bottles. To upgrade the material quality, we remove gross contaminants such as bags, bulky plastics, and some hazardous waste bottles at the manual, outdoor, covered sorting area prior to marketing.

Recommendation: Continue to review markets monthly and support steady buyers regardless of higher prices on “spot” markets that may come and go. Continue to consider ways to improve processing methods and product quality.

Regional Marketing

We have not entered any regional marketing agreements. During our MRF study, we explored the option of partnerships with a variety of adjoining local governments and institutions including UNC and Duke.

Recommendation: Remain open to cooperative marketing ideas of others.

Contracting for Diversion

None of our contracts has a diversion incentive built in. They are all strictly fee-for-service at this point.

Recommendation: Consider diversion incentives for contractors in contract years beginning July 1, 2004.

Small Businesses

Our routine policy in the urban curbside recycling program is to provide curbside recycling for those small businesses, institutional generators and small apartment complexes along existing residential routes. We estimate that approximately 200 small businesses, churches, day cares, etc., participate in the urban curbside recycling program out of approximately 15,500 stops. A household may have more than one bin with no additional collection, but for businesses or institutions we pay the contractor on a per-bin per month basis. For example, we pay for three monthly stops (\$3.50 x 3) if a business, institution, etc. has been issued three bins from our office.

We do not generally have business and non-residential stops on the rural curbside routes although there a few churches and “country stores” are collected along the routes.

Recommendation: Continue to add small businesses and institutional users that are along curbside routes as long as service is convenient and volumes do not exceed those of standard bin collection programs (e.g.) four bins per week.

Curbside Commercial/Industrial Collection

We provide this service only incidentally if the C/I type generator is along a residential curbside recycling route. Otherwise our service to this sector includes a source-separated glass and metal can program for approximately 100 bars and restaurants generating over 500 pounds of bottles and cans monthly and food waste collection for 20 restaurants, grocery stores and institutions generating over two tons per month each. We provide all carts and service for these programs at no cost to the generator. Special collections of newspapers are provided to high quantity generators because they are a very limited population e.g. a local newspaper publisher and a retirement village.

Recommendations: Add more bars and restaurants to food and container programs as feasible.

Drop off Commercial and Industrial Collection

We encourage use of the drop-off sites for limited amounts of cans, bottles and paper from commercial generators. If a commercial generator routinely generates more than 50 cardboard boxes per week, we actively discourage their use of drop-off recycling sites and encourage use of a collection service.

Construction and Demolition Waste Recycling

In December 1997, we instituted a salvage program at the working face of the C&D landfill. That program with one permanent staff person using a bobcat and a pickup truck diverts about 50 tons per month of scrap metal, pallets, usable building materials and other related dry goods delivered to that area. That program was abandoned in 2002 with implementation of the new ordinance banning landfilling of scrap metal, clean wood and corrugated cardboard. The scrap metal is sold to a regional scrap dealer. Clean wood is ground for mulch or boiler fuel and delivered to market. Cardboard is compacted for hauling to a paper dealer. Occasionally, in response to a specific request, reusable goods are given to community based non-profits for resale or use. We have eliminated the tipping fee on separated loads of scrap metal and cardboard to encourage diversion.

Recommendations: Continue to consider other materials for inclusion in the RRMO list as markets and collection infrastructure become available.

Work with Triangle J Council of Governments on regional wood waste recycling opportunities.

Longer term: consider source-separated facilities for other materials as markets develop.

Subelement Reuse

Residential

Swap Shops: Four of Orange County's six convenience centers have swap shops, locally called 'salvage sheds.' The first shed was put into service in 1993 when the County converted to staffed sites. The fourth was built in FY2000-01 when one of the sites was moved to a new location and rebuilt.

The sheds continue to operate at a high level of use and popularity

Recommendation: Install sheds at the remaining two convenience centers as space permits. Continue to promote use of convenience centers for the general public. Limit use by professional scavengers.

Paint Exchange: We operated a latex paint exchange at the landfill from 1992 through 2003. When the hazardous household waste program became permanent, it required a full time contract staff person who does not have time to properly open, assess, categorize and shelve each gallon of incoming latex paint. All incoming paint is now recycled or mixed into landfill alternative daily cover.

Recommendation: Continue to look for ways to reduce paint exchange costs so the paint exchange can be revitalized. Encourage “dry-out kits” for small amounts of paint and discourage people from bringing unusable or very small amounts (e.g. less than one pint) of paint.

End of Year Move Out Projects: Continue annual work with UNC and specific local charities such as PTA Thrift Shops, Habitat for Humanity and Interfaith Council Food Pantry to promote donations of clothing, food, small appliances and other reusable items from those leaving town in May instead of landfilling the materials. Specific activities include: staffing of move out project at a large private dormitory near campus, coordination with similar program at UNC dormitories, promotion of program to apartment complexes through direct mail, intensive print advertising and editorials in local newspapers during the last week of April and first part of May.

Recommendation: Consider expanding to selected large apartment complexes.

Magazine Rack At most drop off sites, there is a rack labeled for placement and free exchange of glossy magazines. The rack is used extensively at some drop-off locations while less so at others. Use of the Magazine Rack is completely voluntary and some site users also scavenge magazines directly from the recycling bins.

Recommendation: Continue the program and expand along with new drop-off site development. Maintain site monthly so magazines are relatively recent vintage and not weather-beaten.

Commercial/Industrial

Waste Exchange: We did not operate any type of waste exchange for the commercial or industrial sector. Triangle J Council of Governments Eco-Industrial project requested participation by industries located in Orange County and none were interested. This project has been completed but has not been implemented due to lack of interest by potential participants.

Recommendation: Encourage participation in the State Division of Pollution Prevention and Environmental Assistance waste exchange program.

Pallets: The landfill operated a pallet salvage program that worked well but was quite labor-intensive. All pallets had to be sized, stacked neatly and loaded by landfill staff in order to be removed by a regional pallet recycling company. We receive only \$0.50 for good “grocery store” pallets and no revenue for other sizes. In 2002, we eliminated separate pallet recycling and now accept pallets with other clean construction wood to be ground into mulch or boiler fuel.

Boy Scout Troop 39 had a pallet collection program at their site, outside the landfill. We paid them a \$21 per ton tipping fee credit to divert and remove pallets. They averaged several tons per month. This program ended in 2001. The Boy Scout troop has since completely eliminated its recycling activities.

Recommendation: Consider a statewide ban on landfilling pallets. The private infrastructure exists to handle pallets for refurbishing, reuse and recycling. At our landfill, consider segregating them for reuse if prices rise and space and labor are available.

Material Salvage: Orange County conducted a salvage operation at the working face of our construction and demolition landfill from December 1997 through fall 2002. At maturity, the project diverted 40 to 50 tons per month, two-thirds of which was scrap metal. The other third was divided between pallets and reusable goods. The program was largely discontinued when the RRMO was implemented, requiring contractors to divert their recyclable wood, metal and cardboard. Staff meets occasional specific requests for reusable goods.

Recommendation: Consider reviving the salvage program in cooperation with an agency that could staff it and make use of the reusable construction goods in a reuse store type venue.

Element 4: Composting and Mulching
(residential composting is under element 1, waste reduction)

Commercial Food Waste Composting:

Orange County has conducted a food waste diversion program since 1995. During the first four years, we used two different local, small-scale hog farmers who took the source-separated food waste from restaurants, prepared it and fed it to their hogs. We paid them a collection fee. We now pay a compost company \$77.25 per ton to collect and process the food waste from 20 restaurants and institutions plus two UNC locations. This diversion averages over sixty-five tons per month.

Recommendation: Expand program to one hundred tons per month during the next fiscal year. Attempt to get more post-consumer food waste from restaurants now providing only preparation waste. Add more grocery stores to the program.

Wood Waste for Mulching

Orange County Landfill has been diverting the majority of its municipal yard waste from the Town of Chapel Hill from its landfill since 1978. When yard waste was banned from landfilling, the County complied. Current annual average intake of yard waste is about 7,000 tons per year. In FY2002-03 this rose to 36,000 tons due to ice storms. This high volume of material has created a glut and therefore a marketing challenge.

The yard waste tipping fee of \$15 per ton plus mulch sales at \$6 per cubic yard make this operation somewhat financially self-sufficient internally. Any 'profits' fund other related solid waste management activities. Orange County policy is not to give away its mulch but to maintain a high quality that always has market value. Every load is evaluated for contaminants before being deposited, nails are removed on grinding and the loads sit for at least sixty days before sale.

Orange County conducted several experimental trials with wood wastes and the result is we can now accept engineered wood along with the solid sawn lumber for grinding as mulch or boiler fuel. We are now receiving about 2,000 tons per year of clean construction wood waste that is chipped and sold as boiler fuel or natural mulch or shipped to a dyeing facility to be turned into decorative (red) mulch for sale. The product has sold reasonably well as natural mulch at \$6 per cubic yard or boiler fuel at \$10 per ton. The colored mulch priced at \$25 per cubic yard has not sold well.

Recommendation: Continue to accept the mix of solid sawn wood and engineered wood to chip. From mulch screenings, we will make topsoil to sell or use for on site landscaping from mulch as time, equipment and space constraints allow.

Continue work with Triangle J COG and private sector on regional use of organics and wood wastes as opportunities arise.

Divert Inert Materials from LCID and C&D Landfills

As part of work for the C&D recycling task force, we have evaluated diversion of inert debris from Orange County landfill. These materials make up an estimated 40% of all C&D material reaching the landfill. Much of it is small broken material, not large chunks of concrete or asphalt or large stumps from land clearing. Due to the relatively high C&D tipping fee of \$41 per ton, LCID tends to go elsewhere. Most of the organic LCID type material we get is a yard waste or brushy material suitable to our current mulching operation.

Recommendation: Evaluate lowering the tipping fee to encourage more LCID type material for future larger scale processing that is not cost-effective with the small amounts of material received. Continue to pursue a site in the northern half of the county to store and process storm debris and LCID.

Element 5: Incineration with or without energy recovery

Orange County has no intent to develop an incinerator.

Element 6: Transfer out of geographic area

The County's MSW landfill is projected to be available through 2009 and the new C&D landfill through 2018. The County has no plans to transfer waste out of county prior to that time. When the MSW landfill is full, the BOCC has declared its intent to not build another landfill within Orange County, thus transfer out of county is implicit. No further comments have been made regarding the future of C&D recycling.

Element 7: Disposal

The County has landfill capacity for MSW through 2009 and C&D through 2018 based on our most recent waste estimates, population growth and a flyover of the landfill with topographic data included in the projection. We do not accept out of county waste, enforce rigorously for that and have no intention of knowingly accepting out of county waste. We would begin planning for a transfer station and out of county disposal in 2005-2006 to assure availability in 2009.

Element 8: Educating with the Community and the Schools

Subelement Educating the Community

Methods for Public Outreach

World Wide Web: The Department has a well-developed web page on the Orange County web site. There are a links from the Town of Carrboro, Chapel Hill and Hillsborough's web pages as well. The solid waste page was professionally upgraded in 2003, now averages 100 visitors a day and contains comprehensive information regarding all our programs and services. The web page also has the "A-Z Recyclery" were visitors can find resources to recycle, reuse and repair or otherwise responsibly manage unusual waste items.

Recommendation: Update Web site at least every sixty days.

Radio and Television: FY1999-2000 was the first year Orange Community Recycling made extensive use of paid broadcast media. Specifically, we have run a series of "sponsorships" on WUNC public radio to promote Hazardous Household Waste collections, electronics recycling program, compost bin sales, and the mixed paper recycling program. WUNC has the highest radio listenership in Orange County. We also used cable TV to air the "Recycle Guys" ads, adopted from the State of South Carolina, through a cooperative licensing arrangement with the State of North Carolina. Through Triangle J Council of Governments, we co-funded radio and television ads for the Hazardous Household Waste Program. We have continued to use WUNC radio for special projects such as the annual compost bin sale and continue to participate in the "Recycle Guys" cable campaign. We used the local public access cable station to produce and air a program about improper international disposal of electronic waste that also discussed a North Carolina bill to provide an advance recycling fee for lead-bearing electronics such as televisions or computer monitors.

Recommendation: Continue to use radio and television where they are affordable. Investigate cooperative recycling advertising with other local governments in our media market. Investigate the possibility of regionally producing a radio or television show on solid waste issues in the region. Continue to work with TJ COG on regional advertising for HHW.

Newspapers: In Orange County, newspapers have been our primary medium for advertising. We run a total of as many as 500 display ads per year in four local papers, the Chapel Hill News, Chapel Hill Herald, UNC Daily Tar Heel (circulation ~ 20,000) and the rural weekly News of Orange. We use the News and Observer and bi-weekly Community Sports News as well for additional advertising. The Chapel Hill News runs a significant number of PSAs for us. We have submitted copies of some ads to all the papers to run as PSAs if there's available white space. We occasionally will run ads in a special section e.g. if we are having a compost bin sale and the paper has a special gardening section, we will put an ad for the compost bin sale there. Each year the Glass Packaging Institute gives us \$500 to advertise our successful commercial glass recycling collection program in the Daily Tar Heel and the NC Independent. In past years received significant funds from BellSouth for phonebook recycling advertising once a year when new phone books were issued. Due to corporate restructuring the

phonebook advertising grants are no longer available. We also run cooperative advertising with the four-county HHW consortium in papers that reach across county lines such as the News and Observer, NC Independent and Durham Herald-Sun. We publish monthly articles on solid waste issues in the Chapel Hill News, Chapel Hill Herald, News of Orange and Weaver Street Market newsletter.

Recommendation: Continue with regular newspaper advertising, targeted radio advertising and articles, look for additional PSA opportunities and make more use of public access television.

Mass Mailings/Utility Bill Inserts: We develop and mail an annual newsletter “Waste Matters” to all addresses in Orange County. The newsletter contains basic recycling and solid waste program information and feature articles pertinent to events over the previous year. We insert a flyer into local newspaper publicizing our compost bin sales. We work with the Orange Water and Sewer Authority, Town of Hillsborough Water and Sewer Department and other utilities that will accommodate us for inserting information in their bills to publicize our programs or include information blurbs in their customer newsletters. We have regular columns in the employee newsletter of the Town of Chapel Hill and Orange County regarding upcoming recycling events and current issues. When new Bell South and UNC telephone books are distributed there is information about telephone book recycling and our recycling programs included with the new book, either in the yellow pages, government pages, or paid advertising. We use placard advertising inside the Town buses to promote our programs; space for those ads is donated by the Town.

Recommendation: Continue with current insert programs and look for other venues such as major employee newsletters for Blue Cross, UNC Hospitals, etc.

Take-Home Items: From the beginning of our programs in 1987, we have given out take-home items including refrigerator magnets, t-shirts, bumper stickers, “chip clips”, pencils, travel mugs, school book covers and coloring books to promote our waste reduction efforts. They continue to be popular promotional tools.

Recommendation: Continue to distribute take-home items at our current rate at street fairs, with move-in packets and for educational programs as appropriate.

Telephone Hotlines: We have a widely publicized recycling telephone number 968-2788 that has been used on all our materials, advertising and take-home items for the past 12 years. The phone has featured a recorded message that provided recycling information when the office is closed. Now the phone information message is temporarily out of commission and will be rebuilt this year. We also participate in the Triangle J hotline for the HHW collection program.

Recommendation: Rebuild telephone tree and update line periodically to ensure relevant information.

Workshops/Seminars: We typically hold two backyard compost demonstration and training sessions per year at one of our three compost demonstration sites. We also publicize Federal,

state or University-run seminars on waste reduction to particular sectors e.g. the hotel waste reduction seminar and the industrial waste teleconference conducted last year.

In 2000-2001, using a state grant, we conducted a successful seminar for area purchasing agents on buying recycled products. It was aimed primarily at public agency purchasers in Orange County – primarily local governments and school systems, but others were invited.

Recommendation: Continue to hold backyard composting demonstrations and training sessions. Cooperate with other area local governments and UNC on future waste reduction events.

Special Events: There are three major street fairs in Orange County each year and several smaller ones: We have a staffed information table at all street fairs where we also provide recycling collection services. All street fairs now have recycling for cans and bottles. All major in-house County functions also have recycling and composting diversion. In general, waste diversion at County in-house events exceeds 80% and is often over 90%. Special event recycling relies heavily on volunteer support for its success.

Recommendation: Continue to staff all major street fairs and minor public events with an information table and recycling display and conduct recycling at these events. Continue to encourage and help facilitate food waste diversion at street fairs.

Multifamily Outreach Program: As the County has now taken over recycling collection at apartments, we are more aware of recycling problems at specific apartment complexes for recycling. Collection staff routinely reports these locations and education staff arranges for door-to-door outreach and other on-site education including signage at cart sites and recycling educational inserts in the apartment complex newsletters.

Recommendation: Continue this activity as requested by collection staff at selected apartment complexes.

C&D Waste Reduction Education: Two staff members are employed full time in development, education and enforcement of the County's new Regulated Recyclable Materials Ordinance. As a component of ordinance development, they spend significant time with contractors, developers, haulers and designers educating them on the ordinance both in group settings and one-on-one in the office when they get permits and in the field during pre-construction meetings. An offshoot of the RRMO has been development of deconstruction and whole building removal efforts. Staff is integral in conducting education on those efforts.

Recommendation: Continue to work with contractors, designers, developers and other regulators in education and enforcement of RRMO. Expand outreach to the broader business community as emphasis is increased on diversion of non-construction waste generated regulated materials.

Create Newsworthy Events: In general, the local press is responsive to our need for coverage. Electronic media are less responsive, we are rarely the subject of television or radio news

reports. Generally, we widely disseminate our press releases to local and regional media as well as elected officials.

Recommendation: Produce and promote at least one special event a year that is newsworthy.

In-House Literature: Orange Community Recycling produces and uses a wide variety of brochures to promote our programs and educate the public about waste reduction. Materials include: brochures about curbside multifamily, and drop-off recycling, organic products, electronics recycling, a landfill brochure explaining tipping fees and schedule. Most of these brochures are available in Spanish. Our Department also publishes a series of “Wastelines”, single information sheets that deal with special waste issues including: computers, composting, batteries, latex paint disposal, office recycling programs, buying recycled goods, automotive waste product disposal, junk mail reduction.

From other sources we have used coloring books for recycling promotion to young children, Triangle J’s HHW brochures (available in Spanish), Cooperative Extension Service composting information. We also have an extensive library of solid waste instructional materials that are available to teachers and other local educators.

Recommendation: Continue to produce and update information that covers all programs we operate. Continue to translate brochures and site signs into Spanish.

Block Leader Program: In the past, Orange Community Recycling actively recruited and promoted a “block leader” approach to recycling. This program has been discontinued as it is a very high-maintenance volunteer effort, which we cannot staff effectively. Additionally, it is probably more useful when a program is starting up than in a mature program such as the one in Orange County. We now occasionally call on Homeowners' Association leadership to assist with specific publicity like holiday recycling schedule changes and provide literature for the Newcomers/Welcome Wagon Association to distribute.

Recommendation: If time permits, reevaluate Block Leader program's usefulness and consider reviving.

Award Program: We formerly operated the “Waste Watcher” awards program that used a waste audit procedure to recognize businesses that reduced and recycled solid waste. The program has been dormant for ten years. It is quite labor-intensive and did not receive a very significant response from the business community following our pilot program. Periodically we recognize individual volunteers in our annual newsletter or newspaper articles for their extraordinary efforts in waste reduction. (see the 2003 Waste Matters, attached)

Recommendation: Consider reviving the “Waste Watcher” program, especially if a mandatory recycling or pay-as-you-throw program is implemented. Those mandates would provide incentive to significantly reduce solid waste. Continue to recognize and publicize those individuals and businesses that do an outstanding job in waste reduction in Orange County.

Subelement Education through the Schools

Statewide programs: Orange Community Recycling makes regular use of statewide materials such as the “Recycle Guys” cards and advertisements this year. We draw on state resources in creation of our own recycling education programs tailored to the local situation. This year we worked closely with State compost expert to assist an elementary school in assessing the feasibility of on-site management of organic wastes.

Recommendation: Continue to work closely with the state solid waste education specialist on projects of relevance to Orange Community Recycling and use available tools to promote recycling and waste reduction education.

Composting bins: We provide worm bins on request to teachers who are committed to maintaining them and assist schools in purchasing composting bins as part of overall composting grant requests. Several schools have regularly scheduled indoor and outdoor composting demonstrations for their grade group each year.

Recommendation: Continue to make teachers aware that vermicomposting bins are available. Provide training sessions and information about how to compost at school. Help maintain the composting site at Scroggs Elementary School that diverts cafeteria preparation waste and some food wastes brought by students.

Work with UNC Chapel Hill: UNC has a large, highly successful recycling program across campus. We collaborate with them as appropriate for example helping to staff the annual student orientation event and drawing on the environmentally active student population for recycling assistants. We also provide food waste collection to on-campus facilities and the corollary staff education. We place recycling-related advertisements in the Daily Tar Heel student paper. For the past two years, we have also purchased a recycling ad in the UNC phone book. Further, UNC enforces the County's Regulated Recyclable Materials Ordinance (RRMO) on campus construction, demolition and remodeling and routinely cooperates with the on-campus C&D recycling specialist.

Recommendation: Continue to seek areas for collaboration with UNC.

One-day events: On request, Orange Community Recycling makes age-appropriate presentations at school assemblies, in individual classrooms and for schools and organizations that hold special “Earth Day” type celebrations. For example, at Eno River State Park each year, all the County middle school seventh grade classes attend a special one-day program on environmental education where we provide an information session on solid waste. We conduct about 60 landfill tours each year for a variety of groups plus classroom presentations in the City and County schools.

Recommendation: As requested, continue to assist schools in putting on recycling events and participate in other environmental education programs conducted by the schools.

Teacher Training: We conduct formal and informal teacher training on solid waste issues for those teachers or parent volunteers who want to teach waste reduction in their classrooms or other educational settings. We maintain a resource library for use by classroom teachers and others.

Recommendation: Continue to provide teacher training on request. Inform educators of the resources of Orange Community Recycling

Program Implementation: Our staff provides technical assistance on recycling contracts, use of recycled materials and actual recycling efforts in the schools. We have not focused very much on source reduction, but worked with Frank Porter Graham Elementary School to conduct a school wide waste audit with a focus on organic waste diversion for composting. Past efforts to introduce food waste separation for pickup for commercial composting failed due to contamination.

Recommendation: Continue to work with the schools as requested and identify needs for program improvements in their in-house collection and education in waste reduction.

Element 9: Special Waste

Motor oil, oil filters, lead-acid batteries, dry cell batteries and anti-freeze

Program Expansion/Implementation: Our recycling programs include oil, oil filters and battery recycling at all six-staffed convenience centers. Oil filters were added in August 1999 and all sites were upgraded; sheds were built to cover the collection areas. Batteries and oil as well as other related fluids such as diesel fuel, kerosene and heating oil, have been collected since the staffed sites opened in 1993. Brake fluid was eliminated from the blend with the new contract in August 1999. Dry-cell batteries were added to all sites in 2002. Anti-freeze is now collected only at hazardous household waste but containers have been purchased and it will be added to collection at all convenience centers in 2003-04.

Recommendation: Add collection of anti-freeze at all staffed convenience centers. Continue to publicize our own collection points, especially for oil filters. Conduct point-of-purchase publicity for filter and dry cell battery collection programs at auto parts and electronics stores.

Hazardous Wastes

Hazardous Household Waste Collection: In a cooperative with Chatham, Durham and Wake counties, through the Triangle J COG, we operate a hazardous household waste collection program at a special building at our landfill. Last year we averaged over 200 customers per Saturday compared to 140 the previous year. In April 2003, we selected a new contractor and converted to four day per week collection with a full time staff attendant. Cost per participant has declined and cost per pound is contractually fixed at \$0.60 per pound. Participation has increased. (see attached analysis). The latex paint exchange has been discontinued.

Conditionally exempt small quantity generators (CESQGs)

We attempted a program during FY 1999-2000 with this population and no interest was generated.

Recommendations: Continue collection program in cooperation with other counties indefinitely. Continuously investigate methods to reduce program costs per capita and per pound as well as overall costs where possible, focus especially on reducing the amount of latex paint received. Overall program cost reduction is less likely as participation rises with population growth and increased awareness

During FY 2004-05, attempt to establish a CESQG program in which county involvement is limited to providing information and covering administrative costs for those who agree to haul their hazardous waste to the landfill on an appointment basis.

Scrap Tires

Orange County Landfill complies with the State's ban on landfilling whole scrap tires by maintaining a whole tire collection facility from which we ship tires to a tire recycler/storage facility. We accept limited number of tires from the public at no charge.

Recommendation: At this time, we foresee no changes in our tire processing operation.

White goods and scrap metal

Orange County Landfill complies with the State white goods ban by maintaining a facility for processing white goods and accepting them from the public at a zero tipping fee. We remove motors and freon from white goods and load our own trailers. Source-separated metal is also accepted at no cost to comply with the County's RRMO scrap metal ban. An in-house drives the scrap to DH Griffin in Greensboro where the white goods and other scrap are processed and sold to mills.

Recommendation: At this time, we foresee no changes in our white goods operation. We will consider high-grading the scrap metal to increase the value.

Yard Waste and Clean Wood Waste

Orange County Landfill complies with the State-wide yard waste ban by maintaining an area at the landfill to accept and process yard waste and sell mulch resulting from grinding yard waste. Annually we grind an average of approximately 7,000 tons of yard waste, all of which is sold as landscape mulch or used on-site for landscaping. In addition, the County diverts about 2,000 tons of clean wood waste a year for sale as boiler fuel, colored decorative mulch and natural color mulch.

Recommendation: Consider screening the mulch to create topsoil from the fines. Further investigation of selling organic products such as compost or other topsoil blends will occur in future years.

Septage

Orange County Landfill does not accept septage or biosolids. Septage is accepted at the Orange Water and Sewer Authority and Town of Hillsborough wastewater treatment plants. We do accept alum sludge from water treatment facilities.

Element 10: Illegal Disposal and Littering Element

Litter

Orange County Landfill funds litter collection along the length of Eubanks Road, the state road providing landfill access three times per week. Landfill-funded crews also collect litter monthly along Rogers Road, which approaches the landfill from the south and is used by some trucks that may litter the roadside there. Periodically, we work with the County Sheriff's Department to provide additional enforcement of littering or illegal dumping in the vicinity of the landfill. County Public Works staff is actively involved in litter control and investigation of illegal dumping.

The landfill maintains a strict policy that all vehicles entering or leaving the landfill carrying any materials that are not in a fully enclosed truck are tarped. This helps prevent blowing litter. Anyone without a tarp is required to purchase one or is turned away.

Recommendation: We have no plans to change our current practices.

Illegal Disposal in the County:

The Solid Waste Department generally does not deal with illegal dumping off County landfill property. The Public Works Department in conjunction with the Sheriff's Department routinely investigates and prosecutes illegal dumping complaints. The Solid Waste Department pursues illegal dumpers whose addresses and names are found on waste improperly disposed at recycling sites. Enforcement is limited to letters and phone calls requesting that the offender recycle properly. The County District Attorney and Town of Chapel Hill Attorney have both determined that the presence of a name and address on improperly disposed item is not grounds for prosecution for violation of any statute or ordinance.

Illegal Disposal at the landfill:

The Solid Waste Department maintains full-time inspectors at both the working face of the MSW landfill and of the C&D landfill and in the field to enforce RRMO. The primary responsibility of the inspectors is to watch for illegal disposal of any materials that are prohibited including all state-banned materials such as yard waste, tires, batteries, white goods, tanks, motor oil as well as locally prohibited non-residential corrugated cardboard, clean wood waste and scrap metal. Last fiscal year we collected over \$69,000 in penalties from those violating disposal ordinances. Non-residentially generated corrugated cardboard was less than 4% of commercial waste by weight, down from 10% prior to the ban in 1996. Its share of construction waste is negligible.

Recommendation: Continue current practices to inhibit illegal disposal at Orange County Landfill and at construction or demolition work sites.

Element 11: Purchasing Recycled Products

Orange County does not have a formal policy for buying recycled materials but the County Purchasing Agent reports that most paper has 30% post-consumer content as an individual requirement for purchase of recycled paper products. The County Purchasing agent reports that over 90% of the County's centrally purchased paper products comply with this specification. Some other County supplies such as parking stops, park benches, bathroom stall dividers have some recycled content. The County is not considering a formal policy but deals with recycled content on a case by case basis.

The Town of Chapel Hill has a much more formal purchasing policy (see Appendix G) that requires 30% post-consumer paper and recycled content in other products and its consideration in building construction. Neither of the other two Towns in Orange County has adopted a purchasing policy stipulating purchase of products with recycled content.

The County conducted a successful Buy Recycled Workshop in 2000 for members of local government and some private purchasing agents also attended. It was successful and covered a variety of topics including paper, construction materials and policies.

In the past year, the County Solid Waste Department has audited all the Town and County government offices, identified which departments have or don't purchase products with recycled content and has made recommendations to buy recycled where appropriate.

Recommendation: In FY 2004-2005, revisit the concept of adopting a formal buy recycling County purchasing policy that includes purchase of products, building supplies and other goods with recycled content that has a minimum standard of post-consumer waste included.

Element 12: Disaster Response

Orange County Landfill has accepted all solid waste from regular disposal practices and past natural disasters including fires, floods, hurricanes, and tornadoes. During the ice storms of FY2002-03 we accepted and chipped 30,000 tons more wood waste than we typically do annually. We coordinated with the State of North Carolina a mulch processing and storage area located on current landfill property and an adjacent 14-acre parcel we purchased. The industrial wood waste grinder we purchased in 2003 allowed the County to keep up with the incoming wood waste because storage space for the incoming debris was very limited. Excess chipped wood waste that cannot be sold as mulch is being stockpiled and decomposing for future use as final cover material during landfill closure and to be screened for recovery of topsoil for use or sale.

Orange County acknowledges it is not adequately prepared to efficiently/effectively manage a large storm event primarily as regards suitable storage space in which to receive, process and store material. This lack of space requires emergency operations to be much more intense and leaves little margin for error or mechanical breakdown. Orange County would prefer to establish one or more permanent permitted storm debris management facilities and will be seeking an opportunity to discuss this emergency management shortcoming with the Board of Commissioners. It is our goal to site and permit a permanent storm debris management facility, perhaps in conjunction with a landclearing and inert debris recycling facility.

Recommendation: Orange County will seek a semi-permanent storm debris facility with ample capacity and accessibility through discussions with the Board of County Commissioners. Informal discussions have already taken place. In the interim Orange County will manage storm event debris as necessary, albeit less efficiently and effectively.

Appendix G

Supporting Documentation

Buy-recycled purchasing policy (Town of Chapel Hill only)

Additional details on work done by individual Towns and County Public Works: town of Carrboro, Town of Chapel Hill, Town of Hillsborough, Orange County Public Works

“Waste Matters” (copies) mailed to all addresses in Orange County 2001, 2002, 2003 issues

Wastelines* (revised or new since update submittal in 2000)

Automotive waste

Batteries, Computers

Closing the Loop (Buy Recycled)

Composting in the Backyard

Lights Containing Mercury

Office Waste Recycling Program

**NOTE: These items are distributed on request and are on-line.*

Copies of other brochures produced by Orange County Solid Waste Management Department:

Rural curbside recycling

Urban curbside recycling

Multifamily recycling (English & Spanish)

Orange County Earth Products

Construction and Demolition Waste Reduction and Recycling Guide

Electronics Recycling

Landfill Schedule, Rules and Regulations

A RESOLUTION SETTING STANDARDS FOR POST-CONSUMER CONTENT IN RECYCLED PAPER PURCHASED BY THE TOWN OF CHAPEL HILL (96-5-29/R-19)

WHEREAS, a municipality's interest is served when government agencies can make more efficient use of natural resources by maximizing recycling and preventing waste wherever possible; and

Chapter 5 WHEREAS, the amount of waste per capita in North Carolina actually rose in 1995, rather than decreasing; and

Chapter 6

WHEREAS, Chapel Hill is determined to strengthen the role of municipal government as an enlightened, environmentally conscious consumer; and

WHEREAS, Chapel Hill should, through cost-effective waste prevention and recycling activities, work to conserve disposal capacity and serve as a model in this regard for private and public institutions; and

WHEREAS, the use of recycled and environmentally friendly products and services by Chapel Hill can spur private sector development of new technologies and use of such products, thereby creating business and employment opportunities and enhancing regional and local economies;

NOW, THEREFORE, BE IT RESOLVED by the Council of the Town of Chapel Hill, in celebration of Earth Day, 1996; that:

Section 1: By the end of 1996, all printing and writing paper purchased by any municipal department or office will, except when the cost differential is prohibitive, contain at least 20 percent post-consumer material. Bids for such paper will be sought starting immediately upon completion of current contracts. If more cost effective, said paper shall be purchased by the Town through State contracts.

Printing and writing paper refers to high-speed copier paper, offset paper, computer printout paper, carbonless paper, file folders, white woven envelopes, and other uncoated paper.

Section 2. All municipal departments and offices will, except when the cost differential is prohibitive, purchase printing and writing paper with at least 30 percent post-consumer material by the end of 1998.

Section 3. The post-consumer content requirements shall apply to all printing and writing paper used for typing, computer printing and photocopying by municipal departments and offices. All materials printed for municipal departments or offices by outside vendors will, except when the cost differential is prohibitive, also be printed on papers that meet these standards for post-consumer material.

This the 29th day of May, 1996.

Town of Carrboro Solid Waste Plan Update 2003 Additions

Town of Carrboro - Solid Waste Collection Information for Three Year Plan Update

	Residential MSW	Multifamily MSW	Commercial MSW	Brush	Bulky Items	Other
Capability	1 rearloader 2 sideloaders 1 day a week	3 frontend loaders. 2 days a week	1 frontend loader. Varied schedule	1 rearloader 2 sideloaders 1 knuckleboom as required. Yardwaste 2 times per month per route	1 boom truck	
Practice	1x weekly curbside per household	Free . Twice weekly.	Frontend loaders. Fee for service. Varied schedule	Twice per month per household	As requested. Fee for service for certain items.	
Units Served	3,100		58	3,100		
Tons Collected	2,425		2,420	2,569		
Total Cost	\$109,730		\$108,919			
Cost per Ton	\$45.25		\$45			
Area served (sq. miles, pop & desc)	5.5 square miles 17,568 pop.					
Cost/household/ Business	\$35.40		\$1,877			
Comments			\$70,962.40 Revenue			

Disaster/storm debris is collected by Town personnel; and by contractors if FEMA relief is authorized. Small storm events are usually handled as part of normal operations.

Litter control on Town Rights of Way is done mostly by the Street Maintenance and Landscaping Divisions. Some state roads are covered by the Adopt-A-Highway Program. Illegal dumping is handled on a case-by-case basis. Most illegal dumping occurs on private property.

Residential waste collection for 2004-05 will be changing to fully-automated collection, in parts of Town where it's feasible, with the purchase of one fully-automated, side-loading vehicle.

Town of Chapel Hill Solid Waste Plan Update 2003 Additions

Town of Chapel Hill Solid Waste Collection Information for Three Year Plan Update

	Residential MSW	Multifamily MSW	Commercial MSW	Brush	Bulky Items	Other
Capability	7 rearloaders 2 days a week	Counted as commercial	2 Frontloaders 1 sideloaders	7 R/L 2 days a week 1 knuckle boom as required 1 hooklift as required	1 stake bed truck	
Practice	1x weekly curbside per household	Once weekly collection free 8 yard container per 15 units. Fee for service thereafter.	Frontloaders 5 day workweek Sideloader 2 days workweek Fee for service.	1x weekly per household	As required For fee \$5.00 per item.	
Units Served	10,764		618	10764		
Tons Collected	7,899		13,103	6368*		
Total Cost	\$1,278,026		\$1,085,239	\$833,842		
Cost per Ton	\$162		\$62	\$131		
Area served (sq. miles, pop & desc)	27.2 sq.miles					
Cost/household/ Business	\$118.73		\$1,330	\$77.46		
Comments			\$262,887 Revenue			

Disaster debris is collected and hauled by contractors if FEMA declared and approved disaster relief is authorized by the president. Small storm debris events are considered within normal operations.

The Town of Chapel Hill currently utilizes Community Service ordered persons to collect litter on main roads and entry ways. Additionally, all state roads within the Town limits are covered 4 times a year by state DOT adopt-a-highway program members.

The Town handles illegal dumping on a case by case basis. Very little illegal dumping occurs on Town property. Most illegal dumping occurs on commercial property related to commercial garbage collection points.

No foreseen program changes or modifications this coming fiscal year.

Town of Hillsborough Solid Waste Plan Update 2003 Additions

Town of Hillsborough Solid Waste Collection Information for Three Year Plan Update

	Residential MSW	Multifamily MSW	Commercial MSW	Brush	Bulky Items	Other
Capability	(1) 2001 Volvo WX64 / Heil DPF Formula 7000-28 Cubic Yard automated Side Loading vehicle; (1) 1991 International 4900 Navistar Rear Loading vehicle	2000 Volvo Front-end Loader, 1998 Volvo Front-end Loader, 1997 Volvo Front-end Loader, 1996 Volvo Front-end Loader, 1991 Volvo Front-end Loader		(1) 1999 Ford F800XL Knuckleboom Dump Truck	(1) 1996 Dodge 3500 Dump Truck	
Practice	1 time/week collected from 95 gallon Roll-out container(s)	1-5 times/week or request of waste generator collected from 2cy, 4cy, 6cy, 8cy, & 8vip containers		5 times/week or request of generator from curbside	1-5 times/week or request of generator	
Units Served	2,100	109		2,100	2,100	
Tons Collected	1,822	2,516		1,009	Included with residential waste	
Total Cost	\$173,717	\$141,446		\$5,562 (disposal only)	Included with residential waste	
Cost per Ton	\$72.65	\$43.40			Included with residential waste	
Area served (sq. miles, pop & desc)	4.79 sq. miles	4.79 sq. miles	4.79 sq. miles	4.79 sq. miles	4.79 sq. miles	
Cost/household	\$82.72	\$39.38			Included with residential waste	
Comments						

NOTES: 1. Disaster debris is collected staged/stored at the Town's old landfill for disposal. Disaster debris was most recently collected by Town forces, contractors, and through mutual aid assistance from other municipalities.

2. Litter and illegal dumping is dealt with in the Town Code **Section 11-3 Dumping or Littering on Public or Private Property** G.S. 14-399 makes the acts prohibited in this section a misdemeanor, punishable by a fine of not more than \$200.00. therefore, this section may be enforced by the Town only through civil penalties or injunctive relief.

3. No changes in solid waste operations or financing are planned for 2003-04.

Orange County (Public Works/Sanitation) Solid Waste Plan Update 2003 Additions

Orange County Solid Waste Collection Information for Three Year Plan pdate

	Residential MSW	Multifamily MSW	Commercial MSW	Brush	Bulky Items	Electronics	Landfill Permits
Capability	2 front-end loaders collecting 5 ½ days weekly (fleet of five)	Not applicable	2 front-end loaders collecting only waste (not recyclables) from schools and gov't. buildings (fleet of five)	Skid steer loaders and five dumptrucks.		One pickup and/or one dump truck dependent upon volume received	
Practice	Six (6) Solid Waste Convenience Centers (SWCCs)	Not applicable	Established schedule for schools and government buildings; varies from once a week to five days weekly	4 days weekly from SWCCs. 2 SWCCs have roll-offs for brush, clean wood and construction & demolition debris		Once to twice weekly dependent on volume	Issued to all County residents, including municipal residents
Units Served	36,787	Not applicable	17 schools 40 containers 3,506 services	10,764			
Tons Collected	9,211	Not applicable	1,305	C&D Mulch Metal Wht Goods Tires Wood	1,645 385 526 302 60 <u>114</u> 3,032	New program established in 2003-04 FY	C&D 1,706 Mulch 3,937 Metal 0.29 White G 0.25 Tires 0 Wood 4 MSW 47

Orange County Solid Waste Collection Information for Three Year Plan Update (cont'd)

	Residential MSW	Multifamily MSW	Commercial MSW	Brush	Bulky Items	Electronics	Landfill Permits
Total Cost Collection	\$359,500 SWCC MSW \$21/ton	Not applicable	\$ 41,760	\$359,500		New program established in 2003-04 FY	No collection cost; Waste delivered to landfill directly by residents
Total Cost Tip Fees	\$414,849	Not applicable	\$ 58,725	C&D Mulch Metal White G Tires Wood	\$69,107 \$6,207 0 0 0 <u>\$1,849</u> \$77,163	New program established in 2003-04 FY	Landfill permits \$136,459
Cost per Ton	SWCC MSW \$ 84/ton (tip fee, FE collection, SWCC staffing)	Not applicable	MSW –School & Gvt Bldg \$77/ton (tip fee, FE collection)	Mulch, Bulk Waste and other-SWCC \$144/ton		New program established in 2003-04 FY	Landfill Permits \$24/ton
Area served (sq. miles, pop & desc)	Households= 36,787 Square Miles=351 Population = 124,845						
Cost/household/ Business	SWCC MSW \$21/household	Not applicable	Cost per service \$29/service/location. 85% of cost recovered from fee	Mulch and Bulk \$12		New program established in 2003-04 FY	Not applicable

Disaster debris: Responsibility is NCDOT's to collect from state system roads.

*County only collects from government property and contractors utilized as deemed necessary

*Dependent upon County Manager approval, residents can transport directly to landfill without a permit. Otherwise, permits would be required.

Small storm debris events are considered within normal operations and residents may transport to SWCC or by permit to Landfill.

Illegal dumping: The County handles illegal dumping on a case by case basis. Several agencies respond to illegal dumping dependent upon the situation, i.e. Sanitation, Planning, and Environmental Health. Based on citizen complaints and field investigations, there are currently 12 known unpermitted and illegal landfills in Orange County. The County has identified them all by owner and TMBL. For the most part the operators are taking in construction debris (shingles, siding, plywood, drywall) and inert debris (stumps, dirt, limbs, bricks, curb and gutter, etc.) types of refuse. Some landowners are also taking other types of solid waste materials, such as metal, junk cars, trash, etc.

The County's zoning enforcement officer has commenced enforcement action against landfill operators to the point of issuing stop work orders in some instances; there have been mixed results. One case is currently in court. The majority of operators have ignored the stop work orders. None of the 12 unpermitted and illegal landfills have received zoning approval to operate and most of them would be unable to receive zoning approval to continue operation in the manner that they currently do. The County will determine whether to strengthen its enforcement efforts through court action or amend the zoning rules to allow these operations to continue.

In either case, the public, landowners, developers, contractors and others need information that illegal, unregulated dumping is a serious problem that could lead to environmental, fire safety, and drinking water problems.

Litter control: Litter control is responsibility of NCDOT. County does collect within a small radius of the SWCC

Appendix H

Appendix H Goals and Measures for the three divisions of the solid waste Department

H-1 Administrative Division Measures and Goals

(See especially Table of Outreach Measures page H-2)

Major Services

- Budget administration/monitoring of all Solid Waste Department divisions
- Administration of accounts payable for all divisions.
- Operation of billings and accounts receivable operations
- Staff Support of County Manager and Board of County Commissioners and coordination of Solid Waste Advisory Board.
- Monthly/annual (and additional special or periodic reports) of solid waste and recycling tonnage and revenues, including DENR required reporting.
- Administration of the Orange County Solid Waste Management Plan
- Human Resources and payroll functions for the entire department
- Ensure compliance with all laws and regulatory provisions for the safe/efficient operation of the mixed solid waste and C&D landfills.
- Solid waste public outreach and education for landfill, recycling, waste reduction and other solid waste services. Provide general publicity regarding the programs and services for the public, media, builders and contractors, educators and at special events.
- Solid waste planning

Objective

To provide administrative and financial support for all departmental operations, Orange County Manager, and various Boards and Commissions as necessary.

Measures

- Conduct monthly review of budget expenditures and reconciliation of department and Finance Department account records
- Execute budget amendments and transfers as required for all divisions
- Implement purchase orders and changes as required for all divisions
- Compile and issue monthly invoice billing statement on a timely basis and record payment received on a daily basis.
- Provide necessary staff support and coordination for Solid Waste Advisory Board meetings.
- Compile monthly (and additional special or periodic reports) of solid waste and recycling tonnage and revenues for use by all divisions and to comply with state regulations.
- Update and administer the Orange County Solid Waste Management Plan.
- Perform all Human Resources and payroll functions for the entire department.
- Ensure compliance with all laws and regulatory provisions for the safe and efficient operation of the mixed solid waste and C& D landfills.
- Provide an effective countywide solid waste education program.
- Conduct analysis of long-term financing issues, including developing alternative financing options for Board consideration.

- Provide necessary promotion and advertising using all media, school presentations, and public outreach, tours, presentations, special events, etc.

Outcomes

- Public education and outreach for landfill, recycling, waste reduction and other solid waste services: Provide annual newsletter, rural route calendar cards, rural reminder cards, and ongoing program advertising and presentations. Update all brochures annually. Maintain and continuously update department website. Increase outreach to non-English speaking populations in the County. Help city and county government improve their internal recycling programs. Provide teacher training in solid waste management at public schools in the County where appropriate. Staff all major local festivals and similar events with solid waste information table.
- Provide at least 75 outreach presentations and landfill tours.
- Place at least 550 advertisements.
- Produce at least 45 newspaper articles.

Measures

<u>Outreach and Education</u>	2000-01 Actual	2001-02 Actual	2002-03 Budget	2002-03 Estimate	2003-2004 Projected
Number of ads placed	385	457	570	550	625
Number of presentations and tours	45	60	105	75	75
Number of news articles and radio broadcasts	24	24	24	42	45

Budget Highlights

- **Includes operational costs for additional advertising for new programs and program expansions. New programs for FY 2002-03 include outreach efforts for the Regulated Recyclable Materials Ordinance, and for the permanent electronics collection program. Program expansions include service extensions for Household Hazardous Waste, drop-off, and curbside collections.**
- Includes alternative revenue assumptions and funds to proceed with implementation of alternative funding mechanism.
- Includes funds to design and permit new solid waste administration building. Construction costs assumed to be debt financed.

H-2 Landfill Division Measures and Goals

(See especially Table of Performance Measures page H-8-9)

Landfill Operations						
	2000-01	2001-02	2002-03	2002-03	2003-04	2003-04
	Actual Expenditures	Actual Expenditures	Original Budget	12 Month Estimate	Department Requested	Manager Recommended
Fund: 50-Solid Waste/Landfill Operations					Account: 50-3510	
Personnel Services	\$740,861	\$770,038	\$951,416	\$968,363	\$971,744	\$971,744
Operations	\$589,271	\$547,272	\$812,830	\$901,678	\$1,252,565	\$1,252,565
Capital Outlay	\$1,145,621	\$12,337	\$1,257,696	\$1,189,031	\$127,736	\$127,736
Total Expenditures	\$2,475,753	\$1,329,647	\$3,021,942	\$3,059,072	\$2,352,045	\$2,352,045
<i>Offsetting Revenue</i>	<i>\$2,475,753</i>	<i>\$1,329,647</i>	<i>\$3,021,942</i>	<i>\$3,059,072</i>	<i>\$2,352,045</i>	<i>\$2,352,045</i>
County Costs (net)	\$0	\$0	\$0	\$0	\$0	\$0
Authorized F.T.E.	17.000	20.000	20.000	20.000	20.000	20.000
Total Landfill Operations Expenditures	\$2,475,753	\$1,329,647	\$3,021,942	\$3,059,072	\$2,352,045	\$2,352,045

Major Services

- Maintain and operate Orange County Landfill, consisting of a lined Mixed Solid Waste (MSW) cell, Construction & Demolition (C&D) landfill, Construction and Demolition Ordinance site which includes vegetative waste, tire site, clean metal and white goods site, organic bunkers facility, and cardboard compactor area.
- Enforcement of Orange County Solid Waste ordinances.
- Operate within the State's regulations with regard to banned materials in the current landfill.
- Maintain all equipment to a high level of serviceability.
- Maintain the area around the landfill and along the adjacent roads, including pick up of litter weekly and mowing the grass areas.
- Provide all environmental monitoring activities as required by the State including gas and water well testing.
- Enforce the Regulated Recyclable Material Ordinance. Issue permits and Licenses. Develop infrastructure to provide recycling capacity for regulated/banned materials.
- Education of construction and demolition generators and haulers regarding waste reduction, recycling and deconstruction.
- Maintain emergency response capabilities.

- Operate White Goods and Scrap Tire recycling functions.
- Work with all county entities to ensure that all construction permits issued within the county adheres to the recycling requirements pertaining to the C&D ordinance.

Objective

- To provide a high quality, cost-effective and efficient service to our customers, and to comply with all State and Local regulations.
- To provide enforcement and material management relative to the construction and demolition separation ordinance.
- Help facilitate the addition of the City of Carrboro, City of Hillsborough, and Orange Counties Planning Departments into the Solid Waste Management Plan/ Development Review process to insure that adequate recycling infrastructure within all County developmental projects meets waste reduction goals.

Outcomes

- Solid waste reduction plan for new construction and demolition.
- Continue to enforce the ordinance banning recyclable construction materials and requiring their source separation.
- Limit, through waste reduction and recycling, the amount of construction and demolition waste entering the landfill.
- Incorporate adequate recycling infrastructure into all development projects within the County as well as Chapel Hill.
- Issue permits and licenses.

Measures

Program Collections (tons)	2000-01 Actual	2001-02 Actual	2002-03 Budgeted	2002-03 Estimate	2003-04 Projected
MSW	58,955	58,578	56,924	56,500	56,500
C&D	33477	29,200	27,881	19,900	21,800
Yard Waste	6027	4,700	6,385	40,000	7,700
White Goods	416	467	450	399	400
Tires	1237	1083	1100	1059	1100
Gas Monitoring	Chapter 7 Conduct quarterly sampling of landfill vents to comply with State regulations				
Water Quality Monitoring	Conduct semi-annual sampling from landfill wells, testing and analysis to comply with State regulations.				

Construction Waste Mgmt	2000-01 Actual	2001-02 Actual	2002-03 Budgeted	2002-03 Estimate	2003-04 Projected
Solid Waste Mgmt Plan/Development Review	108	91	100	110	100
Pre-construction meetings	125	125	150	175	200

- Solid waste reduction plan for construction and demolition. Continue timely review of plan submittals for new development for Town of Chapel Hill (by Town ordinance) and others by request. Push for the remaining County entities to adopt the plan review procedures that are currently in place and required by Chapel Hill to ensure space is provided for recyclables storage and facilitate reducing and recycling construction waste by providing research and coordination service to developers.

Budget Highlights

- The budget includes a new line item, 50861-6500 representing the debt payment requirement for equipment that has been financed. This line also includes the proposed debt financing for equipment that is scheduled for replacement for fiscal year 03-04. The breakdown of this is \$248,008 for equipment that has already been debt financed and \$95,296 for the 03-04 equipment purchase of a dozer for the MSW side of the landfill.
- The capital outlay in Land Improvements (account 7425) is for the construction of a concrete pad to store clean wood on in the RRMO area to ensure the marketability of the material for boiler fuel.
- Capital Improvements (account 7415) include the placement and remodeling of a modular building that will be used as an employee's facility and includes locker rooms, a large common area, a kitchen, storage room, and restrooms. This modular building was acquired free from UNC due to a construction project on the main campus.
- Furnishings (account 7405) includes lockers, tables, chairs, and Audio-Visual aids and cart for training purposes to be used in the new crew building in line item 7415.

H-3 Recycling Division Measures and Goals

(See especially Table of Recycling Measures page H-4 and H-5)

Major Services

- Residential curbside recycling: provide weekly contracted curbside collection to an average of 17,158 households and adjoining businesses in Carrboro, Chapel Hill and Hillsborough and biweekly to 10,355 households in unincorporated area of County.
- Multifamily recycling: provide weekly contracted collection to an average of 230 multifamily and government services sites throughout Orange County.
- Drop-off site recycling at six staffed Orange County Convenience Centers: including collection and marketing of motor oil, oil filters, dry-cell batteries, lead acid batteries, and antifreeze. Four of the convenience centers have salvage sheds for swapping unwanted re-usable goods.
- Hazardous Household Waste collection, paint exchange and product reuse shelf: full time year-round collection of paints, pesticides, automotive products, batteries, and household chemicals at the Orange County Landfill.
- Operate collection, service, maintenance, and clean up of six unstaffed and six staffed drop-off centers located throughout Orange County.
- Operate collection, service, maintenance, and clean up for additional paper / fiber route not associated with drop-off program located throughout Orange County.
- Operate collection, service, maintenance, and clean up for commercial glass, metals, and plastics collection program located throughout Orange County that services over 100 businesses.
- Process and market materials from programs to ensure quality and the best possible revenue for materials.
- Maintain countywide government buildings recycling programs, equipment, and facilities.
- Oversee commercial food waste collection program.
- Operate electronics and dry-cell battery recycling program.

Objectives

Provide high-quality, efficient recycling services to the citizens, businesses and institutions of Orange County and to maximize diversion of recyclable material from the landfill.

Orange Community Recycling, as the division is publicly known, uses a combination of in-house staff and contractors to divert recyclable materials from Orange County Landfill.

- Contractors handle curbside, food waste, oil, oil filter, and antifreeze collections and residential hazardous wastes.
- In-house staff handles drop-off site recycling, multifamily, government building recycling, battery recycling, electronics recycling, and commercial glass collection.

Outcomes

- Urban residential curbside recycling: increase amount of material collected by 83 tons on annualized basis. Provide recycling services to the total 660 new homes anticipated in this sector next year.
- Rural residential curbside recycling: increase amount of material collected by 32 tons on annualized basis. Provide recycling services to the total 360 new homes anticipated in this sector next year.

- Multifamily recycling: reach apartment complexes in Hillsborough, increase overall apartment complex participation from 92% of all eligible complexes to 95%. Add ten new sites. Increase amount of materials collected by 53 tons for this program.
- Drop-off site recycling at six unstaffed sites and six staffed Orange County Convenience Centers: Maintain high level of service at drop-off sites and continue to keep contamination low by site visits.
- Hazardous Household Waste collection and latex paint exchange: Continue full-time program established in Spring 2003, increase amount of hazardous waste diverted from landfill by 29%.
- Commercial glass program: Continue to service and collect over 530 tons of glass, metal, and plastics from over 100 businesses while keeping quality of marketable product high.
- Government office recycling program: Continue every other week collection from governmental office buildings. Add additional buildings as need arises. Add Town of Hillsborough buildings to program.

Measures (all values given in Tons)

	2000-01 Actual	2001-02 Actual	2002-03 Budgeted	2002-03 Estimate	2003-04 Projected
Curbside Recycling					
• Urban	3,352	3,302	3,613	3,302 (1)	3,385
• Rural	445	1,056	1,150	1,278 (1)	1,310
Multifamily Recycling	1410	919	1,157	1,061 (1)	1,114
Drop off programs for					
• Oil	107	122.2	110	122	125
• Oil filters	7.5	7.7	10	10	13
• Lead-Acid Batteries	60	44	50	70	70
• Dry-Cell Batteries	0	1.0	6.0	4.5	6.0
• Antifreeze	n/a	n/a	60	5.0 (2)	10.0
Household Hazardous Waste					
• Hazardous Waste	44.0	46.7	54.0	62.0 (3)	80.0
• Latex Paint	5.2	6.6	7.0	4.0	4.0
• Metal Cans	4.5	4.3	5.0	3.75	n/a
•	0	16.5	40.0	35.0	45.0
• Electronics Recycling					
• Government Office Recycling	62.2	62	131	78 (4)	80
• Glass	420	463	466	518	531
• Drop-Off	907	951	981	964	988
• OCC	1117	1137	1175	1181	1211
• Newspapers	1520	1720	1960	1669	1711
• Magazines	623	366	454	328	336
• Mixed Paper	883	883	900	1026	1052
• Food Waste	660	753	800	832	900
• Total	11,627	11,861	13,129	12,553	12,971

- 1.) Due to an in-depth tonnage audit, the amount of material collected by Contractor from the Urban Curbside, Rural Curbside, and Multifamily Recycling Programs was reallocated to each program based on new information. What results is a more accurate picture of where the total tonnage collected is actually generated. The overall tonnage collected by the three programs continues to rise for FY 2002-03 as compared to the previous year (a 12% overall increase).
- 2.) The Antifreeze recycling program implementation was delayed.
- 3.) Household Hazardous Waste collected in FY 2002-03 is up 15% over the previous year due to increased program hours and convenience to citizens.
- 4.) Government Office Building Recycling Program data for FY 2002-03 reflects actual data (material over scale) instead of the previously estimated weights from contractor and OC Public Works.

Types of Measures: Workload Measures

- Urban residential curbside recycling: Program is scheduled to expand to serve 660 new homes in FY 2003-04. Provide bins and weekly collection, respond to all complaint calls by 5pm of working day following receipt of call.
- Rural residential curbside recycling: Serve 360 new homes biweekly. Respond to all complaint calls by 5pm of working day following receipt of call.
- Multifamily recycling: Serve new apartment complexes as they are occupied, expand to at least five sites in Hillsborough, with over-all program expansion of ten sites.
- Drop-off site recycling at six unstaffed sites and six staffed Orange County Convenience Centers: Provide regular collection of newspapers, magazines, cardboard, mixed paper, glass, metal cans, and #1 through #7 plastic bottles. Additionally collect motor oil, oil filters, lead-acid batteries, dry-cell batteries, and antifreeze at intervals to prevent spills or overflows. Increase collection of all materials by a minimum of 2.5%. Maintain salvage sheds in working order at four solid waste convenience center locations.
- Hazardous Household Waste collection, latex paint exchange and product reuse shelf: Continue full-time program, increase the amount of hazardous materials collected and diverted from Orange County Landfill by at least 25%.
- Commercial glass program: Increase tonnage and number of sites serviced by a minimum of 2.5% while maintaining our outstanding level of service.
- Government office recycling program: Maintain service levels and expand program to include additional governmental buildings.

Budget Highlights

- The increases in Capital Outlay are due to purchase of an additional recycle-body vehicle and a Glass Crusher for the Commercial Glass Program and the purchase of 26 eight cubic yard containers for the collection of corrugated cardboard at drop-off sites (previously rented).
- Budget for contracted curbside recycling services reflect a 5.4% cost increase and a 3% cost increase for the food waste program.

Appendix I

Financial Plan FY203-04 through FY2013-14

Under development to be discussed as part of budgeting process. This section will be included when complete, prior to submittal to the state.