

1 Introduction

1.1 Purpose of the Plan

NC State law requires that the Rockingham County Solid Waste Management Plan prepared and adopted in 1997 be updated every three years. This document contains the revised plan, reflecting updated solid waste management information and intended actions for the next ten years – from July 1, 2012 to June 30, 2022.

1.2 The Planning Process

A Solid Waste Planning Committee comprised of representatives from each participating jurisdiction was established to oversee and participate in the plan's development. A list of Committee members is provided in Appendix A. The Committee approved to do this work internally with solid waste management staff from each jurisdiction working jointly to develop the revised County Plan.

A draft of the plan was supplied to each jurisdiction for review. A joint public meeting was held on June ??, 2012, to present the draft plan and obtain public input. Additional opportunities for public input during the planning process were provided at each meeting of elected officials when the draft plan was presented for review and consideration. The final plan was adopted by each County jurisdiction. Copies of the resolutions to adopt the plan are provided in Appendix A.

2 Solid Waste Generation in Rockingham County

This section of the plan summarizes available information regarding the quantity, composition and origin of solid waste in Rockingham County.

2.1 Generation of Municipal Solid Waste

The distribution of the population within the County and its municipalities plays an important role in how efficiently solid waste and recycling services can be provided. Table 2-1 shows population for each Rockingham County jurisdiction based on the 2010 United States census data obtained from the North Carolina Office of State Budget and Management website. The 2010 census data indicated Rockingham County had a total population of approximately 93,764 people. Projections by the North Carolina Office of State Budget and Management predict Rockingham County will have a 4.7% population increase over the next ten years. Over half of the current population (59 percent) resides in unincorporated areas, while the remaining 41 percent reside in one of the county's six municipalities.

**Table 2-1
US Census Population by Jurisdiction (2010)**

Jurisdiction	Population
Eden	15,547
Madison	2,249
Mayodan	2,481
Reidsville	14,538
Stoneville	1,057
Wentworth	2,811
Unincorporated	55,081
Rockingham County Total	93,764

Source: US Census 2010(NC Office of State Budget & Management)

Table 2-2 shows the amount of solid waste generated in Rockingham County that is either landfilled/recycled through government programs, composted/mulched, or otherwise managed. In FY 2010-11, 144,624 tons of solid waste were reported as generated in Rockingham County and managed through various means; however, 45,214 of these disposed tons originated from the conversion of Duke Energy's Eden Electrical Generation Plant from coal to natural gas powered. This 45,214 tons are excluded in the

reconcile calculations. The approximately 88,160 reconciled tons of the solid waste generated in Rockingham County were landfilled in the County. This is equivalent to 0.94 tons per capita per year, based upon the 2010 US census population estimates for Rockingham County. The remaining 11.4% of materials were diverted from disposal via means indicated in the following table. In addition, 233 lead-acid batteries, 6,434 gallons of used motor oil, and 120 gallons of used antifreeze were recovered for recycling through municipal and county collection programs during the period.

Table 2-2: Solid Waste Management in Rockingham County -- Comparison of FY 07-08 and FY 10-11 Figures

Management Practice	Tons FY 07-08	Tons FY 10-11	Reconciled Tons FY 10-11	Percent of Total Waste FY 07-08/FY 10-11
Landfilled:	97,886	133,374	88,160	87.0%/88.6%*
Rockingham County Landfill	89,844	86,589	86,589	
BFI Charlotte Mtr. Speedway LF	0	45,214	N/A *	
Upper Piedmont Environmental LF, New Hanover WTE	7,094	379	379	
Uwharrie, A-1 Sandrock C&D, Palmetto LF.	741	1,192	1192	
Central Carolina Tire Monofill	207	0	0	
Recycled:	3,432	2,860	2,860	3.1%/ 2.9%*
Drop-Off, In House & Curbside Programs	1,181	1082	1082	
White Goods	892	225	225	
Tires	1,174	1,414	1414	
C&D Rubble Used in LF Road Construction	185	139	139	
Composted/ Mulched:	11,034	8,390	8,390	9.8/ 8.4%*
Yard and Wood Waste Programs	11,034	8,390	8,390	
Other:	9	12	12	0.1/ 0.1%*
Household Hazardous Waste	9	12	12	
County Total	112,361	144,636	99,422	100%

* 45,214 tons originating from a one-time conversion/renovation/disposal from Duke Energy's Eden Plant excluded

Rockingham County's municipalities report that about 62% of their solid waste comes from residences, with estimates ranging from 46% residential in Eden to 85% in Reidsville. County estimates, shown in Table 2-3, reflect a different breakdown regarding solid waste disposal at the Rockingham County landfill.

**Table 2-3: Waste Disposal By Source Sector
in Rockingham County Landfill: FY 10-11**

Waste Source	Percentage of Total Waste
Residential	39%
Commercial	26%
Industrial	25%
Construct. & Demolition	10%
Total	100%

Source: Rockingham County Adjusted 2004 Solid Waste Analysis

Solid waste collected by the City of Reidsville as well as waste collected from other Rockingham County municipalities is disposed of in the Rockingham County Landfill. The Rockingham County landfill waste stream was used for the above estimates in Table 2-3. The 45,214 tons of waste transported out of Rockingham County to the BFI Charlotte Motor Speedway landfill were primarily contaminated soil with some C&D waste resulting from changing the Eden Duke Energy coal fired steam plant to a natural gas fired plant. However, tonnage information on much of the solid waste by source category disposed out of county was not available at this time to develop reliable estimates on waste tonnage by type of generator for the entire county solid waste stream. For the purposes of this plan, it is assumed that the ratio of residential to non-residential solid waste is similar to that determined via prior studies.

2.2 Characterization of Municipal Solid Waste

In 1992, David M. Griffith & Associates, Ltd. prepared estimates on the composition of Rockingham County's solid waste stream destined for disposal by using the results of prior studies conducted in Rockingham and similar North Carolina counties and a survey of County industrial generators. These estimates are presented in Table 2-4.

The David M. Griffith & Associates estimates comprised the previously available characterization of the solid waste stream for Rockingham County. However, this information has several shortcomings: First, the presentation of commercial and residential composition data as one materials stream prevents development of diversion projections for commercial or residential recycling programs targeting specific materials. Secondly, the industrial waste composition has changed significantly since 1992 as a result of changing generator activities. Many manufacturing facilities have closed including American Tobacco, Pillowtex, Spray Cotton Mills, Burlington Industries, VF Corporation, Tultex, Fieldcrest, and Veneer Graphics. Additionally, many other companies have experienced consolidations resulting in production changes and staff layoffs.

**Table 2-4: Composition of Rockingham County Solid Waste
(Percent by Weight)**

Material	Residential/ Commercial Waste	Industrial Waste
Paper and Paperboard	42%	52%
Metals*	4%	2%
Glass	4%	**
Plastics	8%	7%
Textiles	5%	19%
Wood	5%	3%
Food Waste	14%	**
Yard Waste	1%	**
Constr. & Demolition	8%	**
Miscellaneous***	9%	17%
Total	100%	100%

Source: David M. Griffith & Associates, Ltd., 1992

* Does not include white goods

** Included in Miscellaneous category.

*** Does not include tires

Based on Rockingham County Landfill scale records, it can be determined that an estimated 10 percent of the total FY 2010/2011 Rockingham County waste disposed in the County landfill was C&D debris. It is reasonable to assume that this figure is higher, given the fact that additional C&D debris is being disposed in regional private C&D landfills. Land clearing and inert debris (LCID) is also not addressed in the above characterization. LCID waste is largely disposed in private sites throughout the County. No data is available to quantify or characterize either total C&D debris or LCID generated in the County.

Since the 1992 studies, an added emphasis on recycling, market improvements for recycled materials, and increased landfill tipping fees have provided economic incentives to increase recycling opportunities. The increased recycling by residential, commercial, institutional and industrial generators has reduced the percentage of many of the materials remaining in the above waste stream estimates.

As discussed later in this plan, Rockingham County performed a waste stream analysis at the County landfill to obtain a more up-to-date and accurate analysis of tonnage and composition of the solid waste stream generated in Rockingham County.