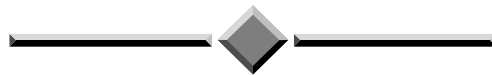


**SOLID WASTE MANAGEMENT PLAN
EXECUTIVE SUMMARY
July 1, 2009 – June 30, 2019**



Department of Planning and Development
300 W. Crowell Street
Monroe, North Carolina 28110
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EXECUTIVE SUMMARY

MONROE SOLID WASTE PLAN UPDATE

Solid Waste Plan Goals

1. To provide efficient and cost-effective solid waste pick-up services to residential and non-residential customers in Monroe.
2. To educate all the citizens of Monroe about the need to recycle and reduce waste stream levels.
3. To help meet established waste stream reduction goals
4. To reduce the amount of littering and illegal outdoor dumping.
5. To work with Union County, wherever feasible, on coordinated solid waste programs.
6. To protect and enhance the public health safety and welfare.

City of Monroe 2008-09 Waste Stream Levels

Residential- 20,109 tons

Non-Residential- 23,162 tons

Total- 43,271 tons

2008-09 Waste Stream Components

CATEGORY	AMOUNT (pounds)	% OF TOTAL
TOTAL PAPER (other than corrugated)	14,279	33 %
CORRUGATED	4,327	10 %
TOTAL GLASS	6,491	15 %
TOTAL PLASTIC	7,789	18 %
ALUMINUM AND STEEL CANS	3,462	8 %
WHITE GOODS	3,462	8 %
PALLETS AND WOOD CRATES		0 %
FOOD WASTE	433	1 %
TEXTILES	1,298	3 %
ELECTRONICS	1,730	4 %

MISCELLANEOUS GOODS		
TOTAL	43,271	100.0 %

2009 Population (Most Recent Estimate)- 35,966

FY 1997-98 Waste Stream Level (Baseline)-1.10 tons per person

FY 2001-02 Waste Stream Level (Actual)- 1.33 tons per person

FY 2004-05 Waste Stream Level (Actual)- 1.33 tons per person

FY 2008-09 Waste Stream Level (Actual - 1.20 tons per person

FY 2012-13 Waste Stream Level (Projected)- 1.18 tons per person

FY 2018-19 Waste Stream Level (Projected) – 1.03 tons per person

2008-09 City of Monroe Recycling Volumes

MATERIAL	TONS
Newspaper and Cardboard	472.68
Glass	139.06
Aluminum	74.15
Plastic	166.80
White Goods	74.15
TOTAL	926.84

Source: City of Monroe

2008-2009 City of Monroe Estimated Rates of Recycling

MATERIAL	AMOUNT DISPOSED	AMOUNT RECYCLED	% OF TOTAL RECYCLED
TOTAL PAPER (INCLUDING CORRUGATED)	18,606	472.68	2.54%
TOTAL GLASS	6,491	139.06	2.14%
TOTAL PLASTIC	7,789	166.80	2.14%
ALUMINUM AND STEEL CANS	3,462	74.15	2.14%
WHITE GOODS	3,462	74.15	2.14%

Rate of Single-family Household Recycling- 30%

Rate of Business Recycling- 5%

(Recycling not currently offered to multi-family developments)

City of Monroe Proposed Waste Stream Levels

	FY 2008-2009	FY 2012-2013	2018-2019
Population	35,966	37,044	44,462
Waste Tonnage	43,271	43,712	48,908
Per Capita Rate of Waste Tonnage	1.20	1.18	1.03
Targeted Waste Reduced from Baseline Year (1997-98) Disposal Rate of 1.10	(518) ¹	(583) ¹	3112 ²
Residential Waste Reduction from Baseline Year (1997-98)	(241) ¹	(255) ¹	1,544 ²
Non-Residential Waste Reduction from Baseline Year (1997-98)	(277) ¹	(278) ¹	1,568 ²

- 1- As the proposed per capita rate of tonnage estimated for FY 2008-09 is greater than the baseline rate of 1.10, there will not be any projected reductions in tonnage from baseline rates.
- 2- Tonnage reductions are based on differences from the baseline rate of 1.10 tons per capita.

Continuing Programs

The following programs are expected to continue to be implemented by the City of Monroe as part of its waste reduction efforts. (Note: This list contains the MAJOR programs being carried out by the City. For a complete list of programs, please review to the individual “Planning Element” spreadsheets.)

- Curtail-Your-Junk-Mail- a program that allows City residents to obtain postcards addressed to major firms that sell names and addresses. Cards enable persons to request that their names be removed from mail lists. Kits sent out with water bills once every three years.

- City Office Recycling- City offices have office paper, plastic bottle and can recycling containers that are routinely picked up.
- Composting and Mulching- City collects leaves and allows citizens to take leaves for use on their gardens. Discarded Christmas trees are also picked up and utilized in the City's mulching program.
- Solid Waste Pick Up Program- Once-per-week residential service (solid waste and recycling); Waste Connections also picks up yard waste and white goods for its residential customers; Waste Connections will continue to provide pick-up service for non-residential customers. Assessments per month currently stand at \$15.00 for residential customers and \$15.00 for non-residential customers.
- Household Hazard Waste- This program is coordinated with Union County where the County oversees an annual County wide pick-up of household hazardous waste.
- School Recycling – The City is now providing recycling for the City Schools.
- Recycling Incentive Program – In this program the city randomly selects ten citizens monthly. We notify these citizens in advance and on their weekly pick up day the staff goes out and evaluates what is in their recycle bin and score them accordingly. Monetary prizes are given out to the citizens with the two highest scores.
- Neighborhood Associates – Meet with all fifteen established neighborhood associations in the City at least once every other year.
- Community cleanup – Participate in at least four (4) community clean ups per year.
- Information to Latino Citizens – Place ads and promotions in the local Spanish speaking radio stations and newspapers to promote recycling and waste reduction.
- City School Presentations – Make presentations to all ten city schools once every other year.

- Advertising - Place display ads in the newspaper annually to detail the city's solid waste and recycle programs.

New/Expanded Programs

The following programs are proposed to be established or expanded by the City of Monroe:

<u>PROGRAM</u>	<u>YEAR TO BEGIN</u>
<ul style="list-style-type: none"> • Hand out recycling/solid waste brochures to persons that receive certificates of occupancy for new buildings. 	2009
<ul style="list-style-type: none"> • Establish a more proactive Adopt-A-Street program. 	2010
<ul style="list-style-type: none"> • Coordinate with the States litter sweep program to be held twice a year. 	2010
<ul style="list-style-type: none"> • Begin recycling programs at multi-family developments (i.e., dwellings/developments with 4+ units) 	The City will consider this program when it re-negotiates or places it's solid waste contract out for bid.
<ul style="list-style-type: none"> • Develop a bi-lingual brochure that will be distributed to residents on an annual basis. 	The City created a new recycling incentive program brochure in 2009 and will attempt to have it translated into Spanish in 2010
<ul style="list-style-type: none"> • City will investigate the possibility of a pilot program for single stream recycling 	2011
<ul style="list-style-type: none"> • Establish a citizen awareness program to inform citizens of upcoming landfill bans. 	2010
<ul style="list-style-type: none"> • Start up an electronic recycle program for citizen of Monroe 	2010

Non-Implemented Programs from 2006 Plan

Programs that were contained in the 2006 Monroe Solid Waste Plan that were not implemented, along with the reasons for non-implementation, are as follows:

PROGRAM	REASON FOR NON-IMPLEMENTATION
<ul style="list-style-type: none"> • Develop a bi-lingual brochure that will be distributed to residents on an annual basis. 	A recycling incentive program was developed in 2009 but due to the lack of Spanish speaking staff resources a bi-lingual brochure was not possible.

Solid Waste Plan Advisory Committee

The City’s Solid Waste Advisory Committee is chaired by Councilman Billy Jordan and consists of the following persons, all of whom were appointed by the Monroe City Council:

- Councilman Billy Jordan, Chairman
- Councilwoman Dottie Nash
- Councilman John Ashcraft
- City Manager Wayne Herron
- Interim Director of Planning and Development, Lisa Stiwinter
- Solid Waste Planner, Susan Osborne
- Tom Ward, Citizen
- Virginia Massey, Citizen

INTRODUCTION

This plan was prepared in accordance with NC General Statute 130A-309.09A(b) for the purpose of meeting local solid waste needs and protecting public health and the environment. The sections of the plan are ordered as listed in the General Statute.

The City of Monroe will provide for the management of solid waste and its reduction for the next 10 years through the implementation of this comprehensive solid waste management plan, and the plan updates that will follow every three years. The planning area consists of all properties located within the Monroe corporate limits.

The City's long range vision is for a comprehensive waste management program that will provide reasonably priced waste disposal, waste collection services, and waste reduction programs to all members of the community. The vision includes the elimination of improper waste disposal, and expanded waste reduction opportunities that are convenient for City residents. The vision is for a community that understands the environmental benefits of waste reduction and proper waste disposal. The community foresees some financial expenditure, but intends to keep them at a reasonable level. This vision is translated into six long-range planning goals listed below.

The tonnages are based on the City's 2007-08 figures. Effective May15, 2009 the City of Monroe's solid waste contract was bought by Waste Connections.

Planning Area Goals

7. To provide efficient and cost-effective solid waste pick-up services to residential and non-residential customers in Monroe.
8. To educate all the citizens of Monroe about the need to recycle and reduce waste stream levels.
9. To help meet established waste stream reduction goals
10. To reduce the amount of littering and illegal outdoor dumping.

11. To work with Union County, wherever feasible, on coordinated solid waste programs.
12. To protect and enhance the public health and welfare.

Part I. GEOGRAPHIC AND SOLID WASTE STREAM EVALUATION

Geographic Area

This solid waste management plan covers the corporate limits of the City of Monroe shown on the map in Appendix C. According to the Office of State Planning, the City's estimated population for July 2009 was 35,966

The community is experiencing rapid growth in residential, commercial and industrial sectors alike. The annexation and growth of areas along U.S. 74 west in conjunction with massive in-migration of people seeking manufacturing jobs locally or homes convenient to jobs elsewhere in the region has and undoubtedly will continue to increase the waste stream in Monroe.

Waste Stream Evaluation

In this plan, residential waste refers to waste generated by households (including some, but not all, multi-family dwellings). The City of Monroe contracts its recycling services, some commercial service, and all of its residential waste service with Waste Connections. Many commercial users individually contract for waste hauling services from private waste haulers. There are no records as to what is collected by these private haulers. The term "commercial waste" refers to waste generated from commercial, industrial, and institutional activities. Construction and demolition (i.e., "C and D") waste is generated from construction activities and is not shown as non-residential waste in this plan because it is disposed of in a different facility than most non-residential waste. The City of Monroe does not operate a C and D landfill and does not service any customers who handle land clearing and inert debris. The City of Monroe does not dispose of waste generated from construction activities. It is expected that C and D information is accounted for in the Union County solid waste management plans, and is not cited here to avoid duplication of data at the State level.

It is estimated that 43,271 tons of waste was disposed of in FY 2008-2009. An estimate of the waste disposed of by sector is shown in Table 1. These calculations are based on estimates provided by Waste Connections.

Table 1: Estimated Waste Disposal by Sector, 2008-2009

TYPE OF WASTE	TONS	PERCENT OF WASTE STREAM
Residential	20,109	46.5
Non-residential	23,162	53.5
Construction and demolition	-----	0.0%
TOTAL	43,271	100.0%

Source: receipts from Waste connections

The City estimates that, of the waste disposed, 46.5% is residential and 53.5% is commercial. The City of Monroe does not contract for construction and demolition work.

At this time, the City does not have a detailed study of its own waste. Therefore, Table 2 is taken from a quick waste stream analysis done for Union County by DPPEA. The City has slightly modified the Union County waste component percentages to more accurately reflect the general composition of the local waste stream. Table 2 shows the tonnage for each component based on these estimated percentages. The most prevalent materials in the residential waste stream are mixed paper (office paper, newspapers, magazines, etc. and organics.) Again, C and D waste is not included in the waste stream numbers. Table 2 is also contained in the report as Appendix D.

Table 2: Current Waste Stream Components, FY 2008-2009

CATEGORY	AMOUNT (tonnage)	% OF TOTAL
TOTAL PAPER (other than corrugated)	14,279	33%
CORRUGATED	4,327	10%
TOTAL GLASS	6,491	15 %
TOTAL PLASTIC	7,789	18 %
ALUMINUM AND STEEL CANS	3,462	8 %
WHITE GOODS	3,462	8 %
PALLETS AND WOOD CRATES		0 %
FOOD WASTE	433	1 %
TEXTILES	1,298	3 %
ELECTRONICS	1,730	4 %
MISCELLANEOUS GOODS		
TOTAL	43,271	100.0 %

Source: City of Monroe and DPPEA Quick Waste Stream Analysis for Union County

An examination of the major types of commercial and industrial firms that dispose of waste in the area can help establish the composition of the City's non-residential waste stream. Table 3 is a partial, but representative, listing of large generators of commercial and industrial waste known to the City. This table provides company names and the major waste materials they generate.

Table 3: Non-residential Waste Generators and Major Waste Materials, FY 2008-09

SOURCES	MAJOR MATERIALS
ATI Alvac	Slag, sludge, metal, general waste, cardboard
Besam	Metal, general waste, plastic, cardboard
Brooks Food Group	Packaging material, chicken waste, waxed cardboard
Charlotte Pipe & Foundry	Plastics, pallets
Consolidated Metco	Sludge, sand casting, slag
Goulston	Cardboard pallets

Technologies	
Greiner Bio-One	General waste, Plastic
IMO Industries	General waste
Ludwig Industries	Steel (recycled), wood
Norton Door Control	Metal, General waste, Plastic, Cardboard
Omnova Solutions Inc.	Cardboard, pallets, plastic
Perfect Fit Industries	Textile, cloth materials
Scott Aviation	Metal shavings, general waste, cardboard, pallets
Turbomeca	Metal turning
Tyson Foods	Packaging material, chicken waste, waxed cardboard
Windsor Windows	Glass, wood

Source Allied and City staff general knowledge

Part II. LOCAL WASTE REDUCTION GOALS

Per this Plan, the City of Monroe established a per capita disposal rate of 1.18 tons per person by FY 2012-13 and a rate of 1.03 tons per person by FY 2018-19. The latter figure represents a 1.03% reduction in the amount waste produced per person from the City's baseline (i.e., FY 1997-98) rate of 1.10 tons per person. The Waste Reduction Goal Sheet that further contains all this information is attached as Appendix E.

Table 4: Three- and Ten-Year Waste and Population Projections

YEAR	POPULATION	WASTE DISPOSAL	PER CAPITAL DISPOSAL RATE
Baseline Year: 1997-98	23,792	26,215	1.10
YEAR	PROJECTED POPULATION	PROJECTED WASTE DISPOSAL	
FY 2012-13	37,044	43,712	1.18
FY 2017-18	44,462	48,908	1.03

Source: NC County Population projection, staff estimates

Table 5: Targeted Waste Reduction. FY 2012-13 & 2018-19

CALCULATIONS	FY 2012- 13	FY 2018- 19
1. Baseline year per capita disposal rate	1.10	1.10
2. Targeted per capita disposal rate for FYs 2012-13 and 2018-19	1.18	1.03
3. July 2012 and July 2018 projected populations	37,044	44,462
4. Projected tonnage for disposal in FY 2012-13 and 2018-19 at baseline disposal rate	43,712	48,908
5. Targeted annual tonnage for disposal in FY 2012-13 and 2018-19 at targeted goal rates	44,567	46,890
6. Projected annual tonnage reductions by FY's 2012-13 and 2018-19	(583) ¹	2,018

Source: staff calculations

¹ The figures shown for FY 2012-13 represent a drop in overall waste tonnage from FY 2001-02, but are above that which would be generated using the Baseline Year tonnage rate of 1.10 tons per person.

Table 6: Approximate Waste Reduction by Sector, FY 2012-13 and 2018-19

WASTE TYPE	TARGETED TONNAGE REDUCTION BY SECTOR IN FY 2012- 13	TARGETED TONNAGE REDUCTION BY SECTOR IN FY 2018- 19
Residential	(255)	868
Non-residential	(278)	1150
Construction & Demolition	---	---
GOAL	(583)	2,018

Source: staff estimates

Residential Waste

This plan calls for a reduction in the per capita waste stream from its current FY 2008-09 level of 1.20 tons per capita to 1.18 by FY 2012-13 and 1.03 by FY 2018-19. The current level is above the baseline level of 1.10 that was recorded in FY 1997-98. Table 7 shows residential waste reduction levels (as compared with the baseline year.) Given that the generation rate in FY 2005-06 are projected to be greater than in the baseline year, no residential waste reduction figures are shown in that column.

Table 7: Targeted Residential Waste Reduction, FY 2012-13 and 2018-19

REDUCTION METHOD	TARGETED MATERIALS	EST. TONS FY 2012-13	EST. TONS FY 2018-19
Source Reduction			
Recycling	Paper, Cardboard, Plastic, Aluminum		2,351
Reuse			
Composting			
Mulching			
Special Wastes			
TOTAL		N/A	2,351

Source: staff estimates

Reduction figures are not shown for FY 2008-09 as the rate of waste generated in Monroe (1.20 tons per person) is expected to be greater than that which was generated in the baseline year, FY 1997-98 (1.10 tons per person.) By FY 2017-18 the City’s generation rate is anticipated to be 1.03 tons per person, thereby resulting in a net loss in per capita waste generated.

Non-residential Waste

This plan calls for a reduction in the per capita waste stream from its current FY 2008-09 level of 1.20 tons per capita to 1.18 by FY 2012-13 and 1.03 by FY 2018-19. The current level is above the baseline level of 1.10 that was recorded in FY 1997-98. Table 8 shows non-residential waste reduction levels (as compared with the baseline year.) Given that the generation rate in FY 2005-06 is projected to be greater than in the baseline year, non-residential waste reduction figures for that year are not provided.

Table 8: Targeted Non-residential Waste Reduction, FY 2012-13 and 2018-19

REDUCTION METHOD	TARGETED MATERIALS	EST. TONS FY 2012-13	EST. TONS FY 2018-19
Source Reduction			
Recycling	Cardboard, metal shavings		2,447
Reuse			
Composting			
Mulching			
Special Wastes			
TOTAL		N/A	2,447

Source: staff estimates

¹Reduction figures are not shown for FY 2005-06 as the rate of waste generated in Monroe (1.19 tons per person) is expected to be greater than that which was generated in the baseline year, FY 1997-98 (1.10 tons per person.) By FY 2012-13 the City’s generation rate is anticipated to be 0.95 tons per person, thereby resulting in a net loss in per capita waste generated.

Construction and Demolition Waste

The City of Monroe does not operate a commercial and demolition landfill, nor does it service any customers who handle land clearing and inert debris. It is expected that information will be reported as a part of Union County’s solid waste management plan and is not incorporated here to avoid duplication in the State aggregate numbers.

Part III. THE PLANNING PROCESS AND PUBLIC PARTICIPATION

The City of Monroe solid waste staff worked with the Solid Waste Planning Advisory Committee to develop this document. A list of committee members is contained in Appendix G. The committee met periodically to discuss the plan. The advisory committee is made up of three City Council members, four City staff members and three City of Monroe residents.

A draft of the plan was placed in the City of Monroe Clerk's office. At a public meeting held on June 16, 2009, public comment was received. The meeting was advertised in the Monroe Enquirer-Journal. A copy of the adopted Solid Waste Resolution is contained in Appendix A. A copy of the meeting notice is contained in Appendix B.

PART IV. PLANNING ELEMENTS

Planning Element- Reduction

Current source reduction programs include:

1. **Curtail-Your-Junk-Mail-** a program that allows City residents to obtain postcards addressed to major firms that sell names and addresses. Cards enable persons to request that their names be removed from mail lists. Kits are currently sent out by the City with water bills once every three years.
2. **City Office Recycle Bins-** As a result of the adoption of a source reduction resolution by the City Council, all City staff have recycle bins at their desks. City offices have office paper, plastic and can recycling containers that are routinely picked up.
3. **Citizen Recycling Awards** – To encourage recycling, the City initiated a recycling incentive award program where the City randomly picks ten citizens per month to participate in the program. The staff visits each citizen recycle bin and scores its contents. The citizen is scored on number of commodities, ratio between cart and bin and the cleanliness of the material. The top two places win a monetary award.

To increase awareness in recycling and source reduction, the City intends to take the following steps:

- Meet with all fifteen established neighborhood associations in the City at least once every other year to discuss recycling, waste reduction, the City's solid waste programs, etc. In conjunction with this (and other informational programs that the City conducts), the City has put together a traveling "display show" of educational materials and displays.

- The City will endeavor to participate in at least four (4) community clean-ups on an annual basis.
- Increasing recycling participation rates at the City's many multi-family residential complexes is of high importance to the City. Recycling rates at apartment complexes are presently quite low due to the transient nature of the residents and due to the fact that many renters are Hispanic with limited knowledge of English. Many persons are not fully aware of what can and should be recycled. Thus, as part of the City's comprehensive effort to educate its citizens on waste stream reduction and recycling, a concerted effort will be made by the City to target these populations starting in 2012.

Planning Element- Collection

Residential and non-residential waste within the City of Monroe is collected and hauled by both the City contractor (currently Waste Connections) and other private haulers (see Table 9). Allied provides residential curbside service, as contracted with the City, once per week. This service does not include all multi-family units, as apartment complexes are free to contract with any hauler they so choose. Residents are not charged a separate fee for recycling (each single-family household is charged a monthly solid waste fee by the City of \$15.00, which appears on their utility bills, for all solid waste pick-up services.)

Private haulers also provide services to non-residential and construction and demolition (C&D) clients. Currently, little information regarding tonnage, types of waste (e.g., residential, non-residential C&D), and destinations of waste transported by these private haulers is available. No ordinance regarding collection or franchising arrangements with Waste Connections or any other private solid waste hauler exists in the City at this time.

Table 9: Waste Hauling Information, FY 2008-09

HAULER	RESIDENTIAL WASTE	NON-RESIDENTIAL WASTE	C&D WASTE	TONS HAULED	DISPOSAL DESTINATION
Waste Connections	20,109	23,162	N/A	43,271	Anson County Landfill

Source: City of Monroe

(1) The City of Monroe does not handle “c and d” waste

City officials report that the only major seasonal variations of waste are in the summer months when there is a significant amount of yard waste produced, as well as during the Christmas holidays when Christmas trees are picked up by Waste Connections.

The City’s contract with Waste Connections currently expires in 2012. In preparation of contract renewal the City will explore its options for making amendments to the level and/or types of service to be provided. The contract will be put out to bid for renewal.

Planning Element- Recycling and Reuse

1. **Recycling:** The City of Monroe has been working since 1994 to maintain a stable recycling program. Currently, the City recycles an estimated 2%, or 835.45 of its residential waste (including white goods.) The following recyclable materials are collected curbside on a once-per-week basis: newspaper; mixed paper; aluminum cans; glasses; plastics. Two special wastes (lead-acid batteries, and used oil) are also collected by local retailers. The City of Monroe also collects used motor oil (for recycling purposes) at the City Operations Garage located on Walkup Avenue in Monroe. The City’s Solid Waste Planner is available to answer recycling questions from residents. As previously mentioned, there is no separate fee assessed to households for recycling services (it is included in the \$15.00 monthly fee that is assessed by the City.) Each household is provided with a recycling container by Waste Connections.

The estimated amounts of material recycled by the City are shown in Table 10.

Table 10: Residential Recycling in Tons, FY 2008-09

MATERIAL	TONS
Total Paper (including cardboard)	472.68
Glass	139.06
Aluminum	74.15
Plastic	166.80

White Goods	74.15
TOTAL	926.84

Source: City of Monroe

A comparison of the recycled tonnage listed above with the estimated waste tonnage and estimated composition from Table 3, shows that there is potential to increase the amount of each material recycled (see Table 11). The table shows that there is plenty of material remaining in the waste stream that can be recycled. However, many of these materials may currently not have a strong market, or may be prohibitively expensive to handle.

All of the recyclables collected by Waste Connections in the City of Monroe are first taken by Waste Connections to the Union County Transfer Station. Union County then takes these goods to be processed at the Uhwarie Material Recovery Facility (MRF) in Montgomery County.

Table 11: Comparison Between Estimated Tons Disposed and Tons Recycled, FY 2008-09

MATERIAL	<u>ESTIMATED TONS DISPOSED</u>	<u>TONS RECYCLED 2008-09</u>	<u>% RECYCLED 2008-09</u>
Paper (including corrugate d)	18,606	472.68	2.09%
Plastics	7,789	166.80	2.09%
Glass	6,491	139.06	2.09%
Aluminum (includes steel cans)	3462	74.15	2.09%
White Goods	0	74.15	2.09%

Source: Tons disposed taken from tons recycled from Republic Waste.

It is unclear how much recycling industries, business, and institutions, are doing, but it is clear there is a large amount of recyclable material in the commercial

waste stream. It may be possible to find other markets or outlets for some of the currently un-marketed wastes.

City officials report a weak market for recyclables. An indicator of this is the financial relationship the City has with Waste Connections with regard to recycling. When the program was first established, BFI paid the City a premium for recycled goods. Due to gluts on virtually all of the recycled goods markets, this premium is no longer being paid. City officials do not expect to see any major changes in market conditions in the foreseeable future, Nonetheless, the City will actively market its recycling programs in an effort to reduce waste stream deposits.

In an effort to increase recycling participation, the City stated a Citizen Recycle Incentive Program. This program was started in 2004-2005. The City randomly picks ten customers per month and visits each customer to see what they are recycling. The participants are scored on the number of commodities they recycle the ratio between their trash carts and recycle bin and the cleanliness of the commodities. Monetary awards are given to the first and second place winners.

The City is now actively involved in the recycling efforts at local schools. The City has provided recycle carts for each participating school.

2. **Reuse-** The City of Monroe has no official reuse program; however, it encourages Habitat for Humanity, Goodwill, and the Salvation Army, to collect usable items in the City to be sold in their stores. The City of Monroe has no plan to add a reuse program.

The City plans to more actively stress its recycling programs to its residents. A brochure was put together that fully explains what can be recycled and how recycling takes place in Monroe. The brochure was mailed out in May, 2009 and the City plans to have the brochure printed in Spanish by 2010. This brochure will be mailed out annually.

Other steps the City plans on taking to promote recycling, reuse, and waste stream reduction include:

- The City's bi-lingual solid waste brochure (that outlines City solid waste services, including recycling) is given out to all persons who receive certificates of occupancy for new buildings.

- The City will look to start recycling program at all multi-family developments (i.e., complexes with 4+ units.) Multi-family recycling is currently not being done in the City (to start in 2012.)
- The City is looking at single stream recycling with 65 gallon carts. This item will be discussed during the upcoming years and will be put in the RFP when the City rebids its contract in 2012.

Planning Element- Composting and Mulching

Composting- The City currently does not have its own composting program. Thus, there is no way to estimate the number of persons in Monroe who are engaged in composting.

Mulching- Leaves are collected by the City of Monroe and stored at a City site. The City vacuums leaves during the months of October - February. During other times of the year, leaves need to be bagged in order to be picked up by Waste Connections. All leaves collected by the City are recycled. Residents are allowed to take the leaves for use on their gardens. Whatever leaves are not picked up by residents; they are given to local landscaping firms to use. Discarded Christmas trees are also picked up and utilized in the City's mulching program. During FY 2007-08 the City mulched and/or composted 9,599 cubic yards of leaves and of Christmas trees. The City advertises its leaf give-away and Christmas tree pickup programs in its brochures. City officials also stress the programs when they give talks at schools and civic organizations.

Planning Element- Incineration With and Without Energy Recovery

Incineration, both with and without energy recovery, is not part of the City's current program due to the lack of incinerators anywhere in close proximity to Monroe.

Planning Element- Transfer of Solid Waste Outside Geographic Area

The City of Monroe, through its contract with Waste Connections, has waste that is disposed of outside the City. Some of the waste collected (i.e., white goods and recyclables) is taken to a transfer station at the Union County landfill. Waste Connections hauls all other waste to its own landfill in Anson County. The Anson County landfill is located approximately 25 miles east of Monroe; the Union County transfer site is located approximately 12 miles from Monroe off NC 200.

(refer to Appendix C) Since the landfill in Anson County is owned by Waste Connections, other waste from other municipalities that Waste Connections serves is brought there. City officials report that the practice of bringing white goods and recyclables to the transfer site is working well and that there are no known environmental problems associated with this practice.

Other haulers, besides Waste Connections contract with non-residential waste generators in Monroe. This waste may be taken outside of the geographic area as well. As the City does not have a franchise arrangement with these operators, there is no reliable way of estimating the amount or type of waste that is being hauled by these operators.

Planning Element- Disposal of Solid Waste

In previous years, the City of Monroe had most of its waste disposed of at the BFI/CMS Landfill located in Mecklenburg County near the Lowes Motor Speedway. In recent years, however, a landfill site has been opened by Waste Connections in Anson County, and the large majority of Monroe's waste is transferred by Waste Connections to this facility.

The City of Monroe has signed a 5-year renewable disposal contract with Waste Connections (due to expire in 2012) with a clause allowing price increases based on the Consumer Price Index. Waste Connections officials indicate their landfill has a life expectancy to serve the City of Monroe of 20+ years given the City's population trends.

As the City of Monroe does not have its own solid waste disposal facility, the issue of waste import is not germane.

In case of a natural disaster (e.g., ice storm, hurricane, tornado, etc.) the City of Monroe and Union County have signed an agreement whereby the City can dispose of inert storm debris at a site off Goldmine Road near Indian Trail (see Appendix C). According to the agreement signed by the City and County, there are no caps on the amount of debris generated in the City that can be brought to the site. City of Monroe street crews or FEMA can bring debris to the site. There are no fees charged to the City for debris taken to the site. How debris is handled once brought to the site can vary depending on the nature of the disaster. City policies allow the agreement to be reviewed by the general public on a demand basis only. Thus, a copy of the plan is not included in this document.

Planning Element- Education with the Community and Through the Schools

Community Education- the City of Monroe uses educational pamphlets describing recyclable materials that the City accepts. As Monroe has a large Latino community, these pamphlets are printed in both English and Spanish. Many of Monroe's Latino residents are new to the City (and, for many, to the United States.) For many residents, recycling has not been a priority matter. Thus, the City will make special efforts to promote recycling and waste reduction for its Latino population. (NOTE: The pamphlets are proposed to be supplemented by bilingual brochures starting in 2010.)

As part of its community education program, the City will avail itself to make presentations at each of the City's approximately fifteen (15) organized neighborhood associations at least once every other year. For those that lie in heavily Latino-neighborhoods, the City will supply a translator to ensure that all residents fully understand the proceedings.

The City will also meet with representatives from the local Spanish-language newspaper and radio stations so as to inform the City's many Spanish-speaking residents of the City's recycling and solid waste policies and programs.

As part of its efforts to broaden community awareness, the City has put together a "travelling road show" of solid waste displays, materials, pamphlets, etc. The road show is used whenever the City makes presentations on solid waste matters. All handout materials in the road show will be printed in both Spanish and English.

The City will also inform residents of solid waste rules and guidelines by placing a large display ad in the local newspaper once every other year. In addition, the City will put all of its recycling programs, policies, events, contact personnel, etc. on the City's web homepage.

The City's solid waste planner will also continue her efforts to make presentations to other civic groups in Monroe. Currently, approximately 4-6 presentations are annually presented before such groups.

School Education- the City's solid waste planner currently makes presentations at each of the seven schools located in the City on an as-requested basis.

Planning Element- Special Waste Management

Tires- Individuals may leave used tires with the retail store where they purchase new tires. For information concerning proper disposal of used tires, City residents can call the City's Solid Waste Planner.

White Goods- White goods are collected by Waste Connections and taken to the Union County drop-off site at the old landfill (transfer station). The County handles CFC (chlorofluorocarbon) removal by contract with a private company. This company also recycles white goods collected at the Union County site.

Lead-Acid Batteries- Residents can recycle batteries with a number of auto parts dealers. The City does not provide battery collection service.

Used Motor Oil- Collection of used motor oil is provided free at automotive dealers in Monroe such as AutoZone and Advanced Auto Parts stores. Used oil may also be taken to the old Union County Landfill drop-off site. The City also has a collection site for used motor oil at its Operations Center located on Walkup Avenue.

Household Hazardous Waste- Neither the City of Monroe nor Union County currently has a household hazardous waste program inside the County. Union county has made arrangements with the Mecklenburg County foxhole Landfill to take household hazardous waste from Union County citizens. The City of Monroe in conjunction with Union County did hold a hazardous waste recycle day on April 25, 2009.

Yard waste- Yard waste is collected by Waste Connections and taken to the Landfill in Anson County for disposal.

Septage- The City of Monroe currently accepts septage at its Wastewater Treatment Plant by Permit. The City also has a permit from the state for land application of secondary sludge on 3000 acres.

Electronic Goods- The City currently is not involved in any recycling or disposal programs involving electronic goods. The City of Monroe in conjunction with

Union County did apply for a grant to buy storage buildings and place them throughout the County and City for citizens to bring their used electronics.

Planning Element- Prevention of Illegal Disposal and Management of Litter

Litter Management and Promiscuous Dumping- The City's Solid Waste Planner receives calls and monitors illegal disposal of waste inside the corporate limits. The City's Solid Waste Planner also handles Notices of Violation and the Civil Citation process within the City.

The City is currently involved with the State's "Big Sweep" litter removal program. A Citywide cleanup is conducted once-per-year.

The City does not have a special litter or dumping enforcement program that targets enforcement in certain sectors of the City. City officials report that dumping is not a major problem in the City. Nonetheless, the City plans to participate in at least four community clean ups each year as a further means of keeping Monroe as an attractive looking city.

The City currently has an Adopt-A-Street program for City streets.

Planning Element- Purchase of Recycled Materials and Products

The City does not have a formal recycled product-purchasing program at this time. However, the City Manager has verbally directed all City departments to purchase recycled-content material, whenever feasible.

The City's contract with Waste Connections also stipulates that trash bins that Waste Connections uses contain recycled materials.

The City's "road show" (see the "Education" section) will also focus on goods produced with recycled materials. Examples of recycled materials will be shown and information will be given on recycled goods that consumers can easily purchase.

Planning Element- Disaster Response

The handling of solid waste due to natural disasters is discussed in the “Disposal” element.

Part V. SOLID WASTE COSTS AND FINANCING METHODS

Description and Assessment of Costs:

City Description:

The City of Monroe contracts with Waste Connections for solid waste services. Waste Connections provides the following services to the City: once a week curbside collection of residential garbage and recyclables for 9,177 households; once a week curbside collection of office and business roll out garbage for 535 businesses, and upwards of five times per week pick up of dumpsters for 511 businesses. The total budget for the solid waste program during FY 2007-08 was \$2,118,662. A summary of the solid waste program costs is as follows:

City Assessment:

The City of Monroe utilizes household assessments of \$15.00 per month and an assessment of \$15.00 per month per business account for rollout services. These charges cover most of the cost of waste collection and disposal, recycling collection, and yard waste collection. Non-residential (commercial/industrial and institutional) accounts that use dumpsters are charged according to the size and number of dumpsters they use, as well as the frequency of pick-ups (Waste Connections will pick up dumpsters as often as six times per week.)

Description of Financing Methods:

The current solid waste program is funded through user fees and the general operating fund. The City has no debt incurred in the solid waste program. Appendix G shows a full breakdown of costs associated with solid waste pick-up services.

Environment and Water Resources Committee

The City's Environment and Water Resources Committee is chaired by Councilman Billy Jordan and consists of the following persons, all of whom were appointed by the Monroe City Council:

Councilman Billy Jordan, Chairman

Councilwoman Dottie Nash

Councilman John Ashcraft

City Manager Wayne Herron

Interim Director of Planning and Development, Lisa Stiwinter

Solid Waste Planner, Susan Osborne

Tom Ward, Citizen

Virginia Massey, Citizen

The Committee met on June 16, 2009 and recommended that the Plan be considered for adoption by the city Council

**RESOLUTION TO ADOPT
SOLID WASTE MANAGEMENT PLAN**

R-2009-61

WHEREAS, the better planning for solid waste will help protect public health and the environment, provide for an improved solid waste management system, better utilize our natural resources, control the cost of solid waste management; and,

WHEREAS, NC General Statute 130A-309.09A(b) requires each unit of local government, whether individually or in cooperation with other units of local government, to develop a 10-year comprehensive solid waste management plan and that the Plan be updated each three years; and,

WHEREAS, the City of Monroe Environment and Water Resources Committee has been actively involved in the planning process;

NOW, THEREFORE, BE IT RESOLVED that the City of Monroe Council hereby approves this comprehensive solid waste management plan.

Adopted this 16th day of June 2009

Bobby G. Kilgore, Mayor

Attest: _____
Bridgette H. Robinson, City Clerk

**APPENDIX E
WASTE REDUCTION GOAL SHEET**

**NC LOCAL GOVERNMENT TEN YEAR
SOLID WASTE MANAGEMENT PLAN**

Local government name: City of Monroe

Previously established FY 2012-2013 waste reduction goal: 1.18

After considering your government’s current and projected solid waste activities, resources, population and economic growth will the FY 2008-2009 waste reduction goal change? Yes X No

If Yes, what is the revised FY 2008-2009 waste reduction goal? 1.20

Establish a new FY 2018-19 waste reduction goal 1.03

NOTE: If the Plan is based on dates other than FY 2008-2009 and FY 2018-2019, please change waste reduction goal dates.

WASTE REDUCTION CALCULATIONS

To provide 10 years of solid waste management planning, as per General Statute 130A-309.09A(b), waste reduction goals are up-dated. Use the following chart to determine the tonnages needed to manage without landfilling, to meet waste reduction goals for FY 2012-2013 and FY 2018-2019.

CALCULATIONS	FY 2012-2013	FY 2018-2019
1. Baseline year per capita disposal rate (FY 1997-98 baseline rate of 1.10)	1.10	1.10
2. Percent waste reduction goal	1.03	1.03
3. Targeted per capita disposal rate (Subtract line 2 from 1.10 and multiply result by line 1)	1.18	1.03
4. Estimated population for July 2013 and July 2019	37,044	44,462

(available at http://www.osbm.state.nc.us/osbm/index.html)		
5. Projected tonnage for disposal at baseline disposal rate (Multiply line 1 by line 4)	43,712	48,908
6. Targeted annual tonnage for disposal (Multiply line 3 by line 4)	44,567	46,890
7. Targeted annual tonnage to reduce (Subtract line 6 from line 5)	(583)*	2,018

Source: staff calculations

*The figures shown for FY 2012-13 represent a drop in overall waste tonnage from FY 2001-202, but are above that which would be generated using the Base line Year tonnage rate of 1.10 tons per person.

APPENDIX D
WASTE CHARACTERIZATION SUMMARY
CITY OF MONROE

2009 SOLID WASTE PLAN UPDATE

CATEGORY	AMOUNT (tonnage)	% OF TOTAL
TOTAL PAPER (other than corrugated)	14,279	33%
CORRUGATED	4,327	10%
TOTAL GLASS	6,491	15%
TOTAL PLASTIC	7,789	18%
ALUMINUM AND STEEL CANS	3,462	8%
WHITE GOODS	3,462	8%
PALLETS AND WOOD CRATES	0	0%
FOOD WASTE	433	1%
TEXTILES	1,298	3%
ELECTRONICS	1,730	4%
MISCELLANEOUS GOODS	0	0
TOTAL	43,271	100.00%

Source: City of Monroe and DPPEA Quick Waste Stream Analysis for Union County