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FINAL

Cobb County Comprehensive Solid Waste Management Plan

Prepared for the Cobb County Board of Commissioners

Completed in Year 2007 for a 10-year Planning Period (2007-2017)

Prepared by:

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Acronyms and Abbreviations

AAM	Adopt-a-Mile
ARC	Atlanta Regional Commission
BOC	Cobb County Board of Commissioners
C&D	Construction and Demolition
CAGE	Cobb Anti-Gang Enforcement
CAM	Computer Analysis Model
CCCF	Cobb County Composting Facility
CCSWD	Cobb County Solid Waste Division
CCTSR	Cobb County Transfer Station Recycling
CCVWRC	Cobb County Vegetative Waste Recovery Center
CDP	Comprehensive Development Plan
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CY	Cubic Yard
DCA	Department of Community Affairs
DNR	Department of Natural Resources
DOT	Department of Transportation
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ERD	Electronics Recycling Day
ERS	Electronics Recycling Station
FAA	Federal Aviation Administration
FAQs	Frequently Asked Questions
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GAC	The Great American Cleanup
GASF	Georgia Archaeological Site File
GIS	Geographic Information System
GRC	Georgia Recycling Coalition
HDPE	High-density Polyethylene
KAB	Keep America Beautiful
KCB	Keep Cobb Beautiful
MRF	Materials Recovery Facility
MRPA	Metropolitan River Protection Act
MSW	Municipal Solid Waste
NAICS	North American Industry Classification System
NHPA	National Historic Preservation Act
NHRP	National Register of Historic Places
NRC	National Recycling Coalition



Acronyms and Abbreviations (Continued)

NWI	National Wetlands Inventory
O.C.G.A.	Official Code of Georgia Annotated
P2AD	Pollution Prevention Assistance Division
PET	Polyethylene Terephthalate
PTA	Parent Teacher Association
PWS	Percentage of Waste Stream
RCRA	Resource Conservation and Recovery Act
RDC	Regional Development Center
RDF	Refuse-Derived Fuel
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SWANA	Solid Waste Association of North America
SWMP	Solid Waste Management Plan
TPD	Tons per Day
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USC	United States Code
USGS	United States Geological Survey



EXECUTIVE SUMMARY

Introduction

The Cobb County Comprehensive Solid Waste Management Plan (SWMP or the Plan) serves as the County's action plan for managing the County's solid waste. The SWMP is required by the State of Georgia's Department of Community Affairs (DCA) for local governments in Georgia. DCA's requirement for a Plan was initiated by the Georgia Comprehensive Solid Waste Management Act of 1990 (Official Code of Georgia Annotated [O.C.G.A.] §12-8-20). The 1990 solid waste legislation was enacted to ensure that proper solid waste management planning by the State, local governments, and Regional Development Centers in Georgia will prevent environmental degradation, manage resources, and effectively reduce and manage solid waste for the State and its residents.

The Georgia DCA's "Rules of Georgia Department of Community Affairs, Chapter 110-4-3.04 - Minimum Planning Standards and Procedures for Solid Waste Management" is the framework used in preparing this Comprehensive SWMP for Cobb County. This Plan, as required by the Georgia planning standards, provides a comprehensive solid waste management strategy that addresses five planning elements. The five planning elements are:

- Waste Reduction Element
- Collection Element
- Disposal Element
- Land Limitation Element
- Education and Public Involvement Element

The County's previous Comprehensive SWMP was written in 1993 and a Short-Term Work Program Update was completed in 2003. This document covers a 10-year planning period from year 2007 through 2017. The Base Line Data used in preparing this plan is the recorded quantity of solid wastes managed through Cobb County's existing solid waste management programs for a 12-month period beginning July 1, 2006 and ending June 30, 2007. This 12-month period was used because it includes the recent changes to Cobb County's waste reduction programs. During this period, Cobb County Solid Waste Division implemented inert waste recycling and expanded its metal recycling program.

Overall Approach



The Cobb County Comprehensive SWMP has been written not only to meet the requirements dictated by the State of Georgia, but more importantly to reach out to the general public and convey the environmental importance of this plan to Cobb County and its citizens. This Plan has been written with a little bit more explanation in the hope that the general public, including Cobb's school children, can benefit from reading this plan and help with the implementations of current and future solid waste reduction programs.

Citizen's Goal

All citizens living and working in Cobb County generate solid waste. The help from all citizens of Cobb County, both young and old, will be needed for the successful implementation of Cobb County's Comprehensive SWMP. The goal of the citizens of Cobb County is to cooperate by reducing their waste and by "Reusing, Recycling and Composting", both at home and at work. Everyone must be involved in reducing waste generation and disposal.

BOCs' Goal

The main goal for the Cobb County Board of Commissioners (BOC) is to develop a long-term strategy to effectively manage the County's solid waste. This strategy will reduce waste, educate residents, ensure compliance with applicable requirements, and provide customer satisfaction, while ensuring cost-effective management and operational efficiency. The key objectives of this long-term strategy are to:

- Inform and educate the public about solid waste services.
- Provide solid waste services that are efficient, cost-effective, and first-rate services.
- Examine alternative disposal options that will be the best technology for the County.
- Provide opportunities for the public to have meaningful input to the solid waste management process and obtain endorsement of the decisions the County plans to implement.
- Comply with State regulations.

Assessment of Existing Waste Reduction Programs

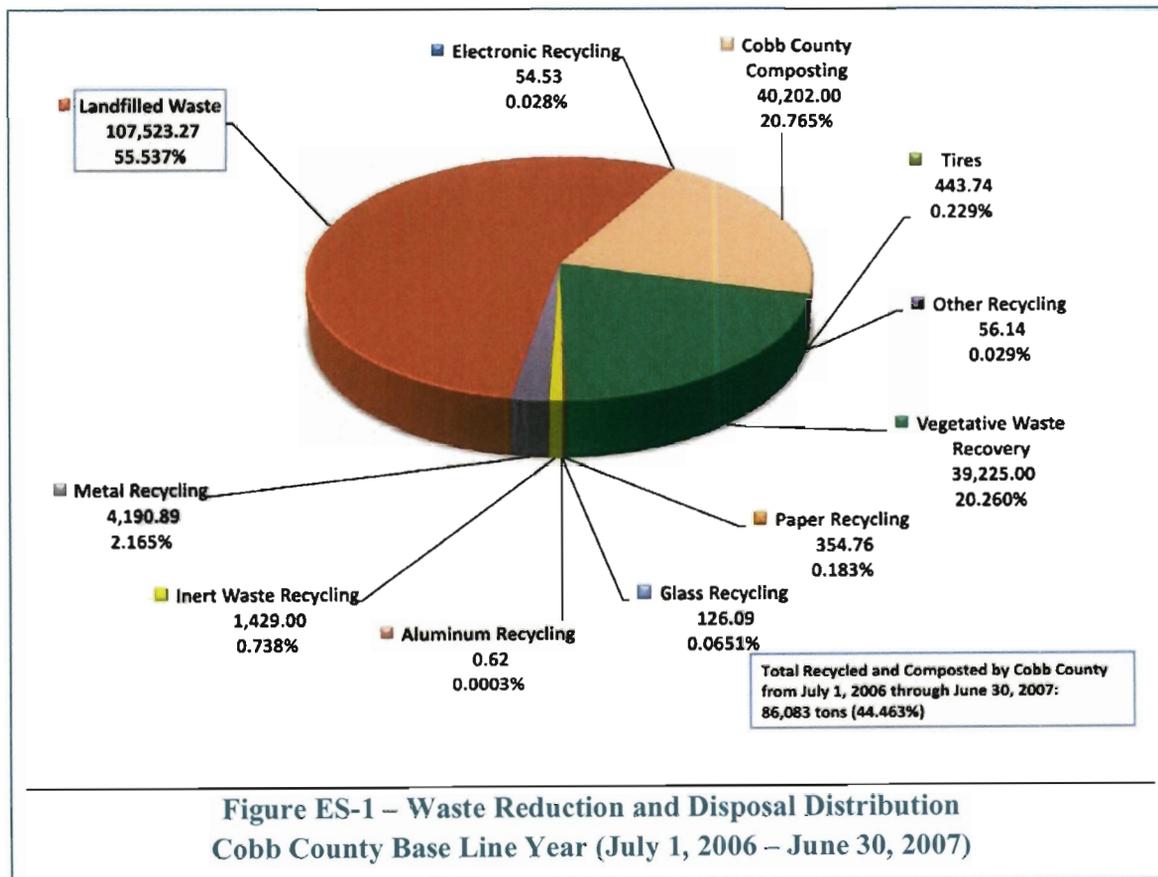
The costs associated with disposing wastes in landfills have historically been cheaper than the costs associated with recycling, but the possible damaging impact to the environment associated with landfilling is greater. The environmental benefits from Cobb County's waste reduction programs such as its state-of-the art composting facility and its highly successful vegetative waste recovery program outweighs the costs.

During the Base Line Period (July 1, 2006 – June 30, 2007), Cobb County Solid Waste Division (CCSWD) managed approximately 193,606 tons of waste through its solid waste management system. Of this total quantity, Cobb County diverted away from landfills, through its waste reduction programs, approximately 86,083 tons of wastes. Based on this tonnage, **Cobb County**



has successfully reduced the amount of waste that would have been landfill by **44.46 percent (44.46%)**. Figure ES-1 is a pie-chart that graphically illustrates the distribution of the wastes recycled, composted, and disposed.

The top three most successful Cobb County waste reduction programs are its composting, vegetative waste recovery, and metal recycling. The Cobb County Composting Facility alone, processing approximately 40,202 tons of municipal solid wastes, was able to reduce the amount of waste going to landfills by approximately 20.77 percent (20.77%). In the same period, the Cobb County Vegetative Waste Recovery Center processed 39,225 tons of vegetative waste, which is approximately 20.26 percent (20.26%) of the total wastes. **The composting and vegetative waste recovery programs reduced the amount of waste that would have to be landfilled by 41 percent (41%)**. And, at the same time the programs also produced useful compost, wood chips, and mulch that the citizens of Cobb County can obtain for free. Cobb County also sells these products to offset its operation costs. As for metals, Cobb County recycled approximately 4,191 tons of metals; this is approximately 2.17 percent (2.17 %) of the total waste stream handled by CCSWD.





Long-Range Planning

The existing and future solid waste management programs in this SWMP are for the long-term management of solid waste and not just for the 10-year planning period. Solid waste management is an evolving process, as such; yearly review and evaluation of all active and proposed Cobb County solid waste management programs must be completed.

Based on the assessment of the County's existing programs and industry trends, the following solid waste management components will continue to be used by Cobb County:

- Education and Public Involvement on Source Reduction and Recycling
- Solid Waste Transfer Station
- Municipal Solid Waste Composting
- Vegetative Waste Recovery (chipping and mulching)
- Recycling
- Landfilling to Privately Owned Out-of-County Landfills

Implementation Strategy Overview

Cobb County has implemented some very successful waste reduction programs. Combined with its of out-of-county disposal practice, Cobb has reduce its environmental liabilities associated with having in-county landfills. But, even with successfully diverting 44.46 percent (44.46%) of its waste away from landfills, Cobb County must not stop, or even slow down with its aggressive environmental efforts to reduce waste that would have to be disposed in landfills.

The following are the programs in the Cobb County's Implementation Plan recommended to be evaluated for utilization. These programs appear to be able to provide long term waste reduction quality, environmental benefits, and beneficial use.

Expanded Vegetative Waste Recovery Center – Installation of a weighing system at the center would help in equitable billing of customers. The weighing system would also help in keeping more accurate records of the amount of vegetative waste processed at the center. Lumber recycling could be implemented at the center. Lumber can be chipped and used as an alternative fuel to industries. (See Section 3.5.2 of the SWMP)

Customer Convenience Centers – Drop-off recycling centers in various locations in the County would make it easier for Cobb County Residents to recycle. Such convenience centers should be able to accept other recyclables in addition to the normal aluminum and paper recycling. Having



a convenient place to drop off recyclables may also inspire others to begin their recycling efforts. (See Section 3.5.3 of the SWMP)

Bio-diesel Technology - Restaurant grease and oil can be collected and converted into bio-diesel fuel. Cobb County can begin using the bio-diesel as an alternative fuel to its fleet of vehicles. (See Section 3.5.4 of the SWMP)



Section 1: INTRODUCTION

The Cobb County Comprehensive Solid Waste Management Plan (SWMP or the Plan) serves as the County's action plan for managing the County's solid waste. The SWMP is required by the State of Georgia's Department of Community Affairs (DCA) for local governments in Georgia. DCA's requirement for a Plan was initiated by the Georgia Comprehensive Solid Waste Management Act of 1990 (Official Code of Georgia Annotated [O.C.G.A.] §12-8-20). The 1990 solid waste legislation was enacted to ensure that proper solid waste management planning by the State, local governments, and Regional Development Centers in Georgia will prevent environmental degradation, manage resources, and effectively reduce and manage solid waste for the State and its residents.

1.1 Cobb County Solid Waste Division

The Cobb County Solid Waste Division (CCSWD) is given the task of managing the solid waste management, disposal and recycling programs for Cobb County. The Administrative Offices of CCSWD provides support for all the Cobb County solid waste programs. Some of the services provided by the Administrative Offices of CCSWD include:

- Customer Service
- Solid Waste Management and Compliance
- Human Resources
- Accounts Payable
- Accounts Receivable
- Public Information
- Budget
- Business Services
- Purchasing
- Hauler Permitting

Through the years, CCSWD evolved from operating a single landfill to operating and managing a complex system of engineered environmental waste management facilities. Cobb County has emerged as a leader in waste management solutions by integrating composting, transfer station methodology, along with public education awareness, and programs for recycling and waste minimization.



1.2 History

In the past, solid waste management in Cobb County involved a one-dimensional disposal method. Waste was placed in a pit and covered with soil. These sites were often referred to as the “Dumps”. Cobb’s population was fairly small and considerations of the impact of solid waste to air, water, and surrounding areas were for the most part ignored and non-regulated. Cobb County’s rural beginnings allowed waste to be disposed of with limited impact on the environment.

Between 1976 and 1986, Cobb County’s population increased by an astounding 348%. Suddenly, the availability of future landfill space became an issue. Also, the Georgia Environmental Protection Division (EPD) developed and enforced strict solid waste management rules and regulations to govern local government. The development and permitting of landfills became a long and arduous task, often resulting in a three-year approval process. Cobb County began to consider alternative disposal options.

The Cobb County Board of Commissioners constructed a facility to bale waste in 1974. The concept of baling waste would prolong the life of landfills by efficiently utilizing landfill space. However, the tremendous volume of waste generated daily exceeded the operational limit of the baler. In 1989, the baler facility was converted to a “Transfer Station”. Waste was disposed, loaded and then transported to the County landfill. The Transfer Station is still in operations today.

As landfill space began to fill, Cobb County began to explore the ability to turn municipal solid waste into a renewable resource. Composting solid waste would greatly reduce the demand for landfill space. In 1994, the construction was begun on the Cobb County Composting Facility (CCCF). Cobb County is the first and only county in the state of Georgia to house a cutting-edge technology composting facility. Cobb County’s composting facility is considered to be the second largest composting facility in the United States. Cobb’s composting facility combines household solid waste and wastewater sludge to produce compost. The CCCF can accept over 300 tons of municipal solid waste and 100 tons of wastewater sludge daily. The use of composting technology allows over 60% of the waste stream received at CCCF to be composted or recycled. The citizens of Cobb County, Cobb County Departments and professional landscapers utilize the compost.

Cobb County no longer has any operational landfill. The last Cobb County landfill site was closed in 1999. All solid waste received at the Cobb County Transfer Station for disposal are transported and disposed of in privately owned landfills outside Cobb County.

With population growth, the number of commercial residential garbage haulers grew. In 1989, over 120 garbage haulers were operating in Cobb County. Citizens were often frustrated with the poor service and unscrupulous business practices exhibited by some haulers. That year,



Cobb County developed the first Solid Waste Ordinance to govern commercial hauling activity and to dictate proper disposal methods by citizens. This ordinance reflects the importance of environmentally sound solid waste management. Today, commercial residential haulers are required to operate safe equipment, carry adequate insurance coverage, and are permitted annually.

The disposal of yard wastes and natural materials (limbs, stumps) have been a concern of solid waste managers for years. The challenge has been to find a beneficial use for these natural materials that have traditionally been placed in the landfill. Cobb County began recycling these materials by managing them as a commodity instead of a liability. These vegetative wastes, also known as “Green Wastes” are converted to mulch and made available to Cobb County citizens. Cobb County departments, such as Parks and Recreation and the Department of Transportation, incorporate the mulch and compost into their daily maintenance and operations. Over 90% of the biodegradable material received by CCSWD can now be recycled.

To complement the CCSWD’s futuristic waste management practices, Keep Cobb Beautiful continues to administer public education programs. In 1984, Keep Cobb Beautiful was created for the purpose of assisting Cobb County and the Board of Commissioners in establishing, promoting, and maintaining a countywide policy for improved environmental and waste management.

1.3 Cobb County Solid Waste Ordinance

The Cobb County Code of Ordinances Chapter 102 – Solid Waste, referred to as the “Solid Waste Ordinance of Cobb County” regulates the storage, collection, transportation and disposal of solid waste within the unincorporated areas of Cobb County. The Cobb County Solid Waste Ordinance prescribe the rules and regulations for solid waste collection; provide for the permitting, licensing and regulation of solid waste collection and transportation; prescribe rules and regulations for the transportation of solid waste within and through the county; and prohibit the deposition of litter within the unincorporated areas of the county.

The Cobb County Board of Commissioners passed the Solid Waste Ordinance with the declared intent to:

1. Protect the public health, safety and welfare by preventing the dissemination of and providing for the removal of inorganic refuse materials laden with bacterial elements and contaminants detrimental to the general well being of its citizens and environment; and
2. To provide for the uniform prohibition throughout the county of any and all littering on public and private property and to curb thereby the desecration of the county’s scenic beauty; and



3. To protect and enhance the quality of water, air, and overall environment by guarding against any of the degradations which stem from the burial, deposition, burning, dumping, discarding or disposal of litter and solid waste in Cobb County.

The provision of the Cobb County Solid Waste Ordinance do not restrict or prohibit the disposal of solid waste by any individual from his, her or its own dwelling when done so as not to create a nuisance or a menace to health.

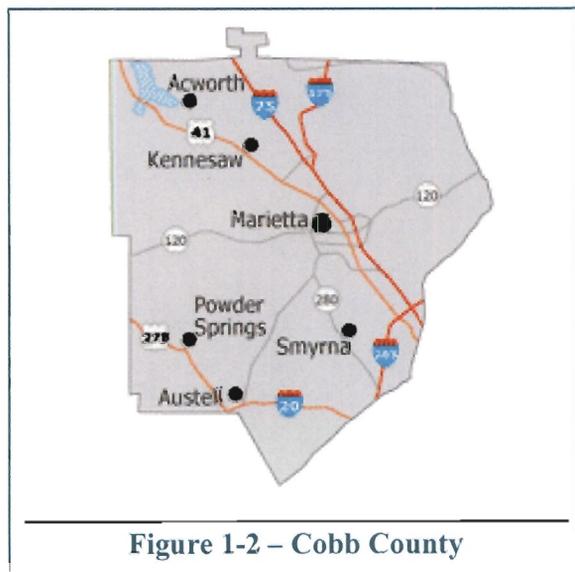
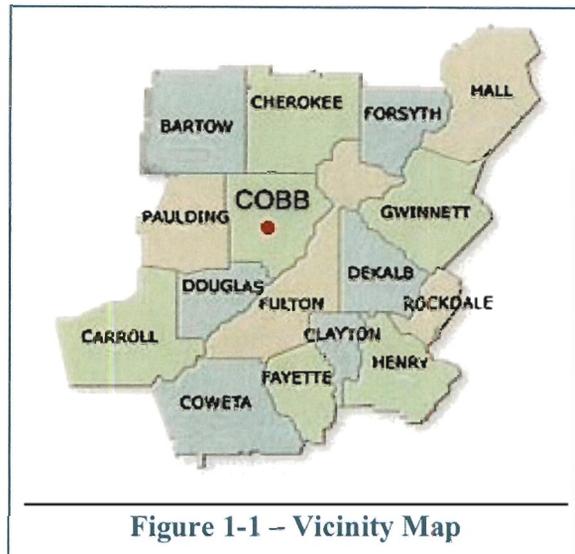
1.4 The SWMP Planning Area

The planning area for the Cobb County Comprehensive SWMP is the unincorporated portion of Cobb County. Cobb County is in the Metropolitan-Atlanta area and is a member of the Atlanta Regional Commission (ARC) Regional Development Center. ARC is the regional planning and intergovernmental agency for the 10-county area that includes Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties, as well as the City of Atlanta.

Cobb is bounded to the north by Bartow County and Cherokee County; to the west by Paulding County; to the south by Douglas County; and to the east by Fulton County. Figure 1-1 is a vicinity map that shows the counties that are adjacent to Cobb County. According to the U.S. Census Bureau, Cobb County occupies a total land area of 345 square miles of which 4 square miles (1.27%) is water.

Topographically, the County is a piedmont area descending generally from the northwest to the southeast. While not mountainous, it is a hilly region and there are several elevated areas of note that interrupt the horizon such as Kennesaw Mountain.

The Incorporated Cobb County is comprised of six (6) municipalities within Cobb County. The six Cobb County municipalities are the cities of Acworth, Austell, Kennesaw, Marietta, Powder





Springs and Smyrna. Figure 1-2 is a map that shows the location of these Cobb County cities. Each of these cities has their own local governing bodies in place, consisting of an elected mayor and city council and an appointed city manager that oversees the day-to-day operations of the respective city's functions, such as zoning, code enforcement, building permits, site inspections, business licenses, public safety, and others. These all mirror the functions overseen by the Cobb County Manager in terms of unincorporated areas in Cobb.

1.5 Planning Period

The Georgia DCA's "Minimum Planning Standards and Procedures for Solid Waste Management (Rules of Georgia Department of Community Affairs, Chapter 110-4-3.04)" require that the SWMP be prepared to manage solid waste for the next 10 years. The 10-year planning period for this Cobb County Comprehensive SWMP is from year 2007 through 2017. The base historical data used in preparing this plan is the recorded quantity of solid wastes managed through Cobb County's existing solid waste management programs for the one year period beginning July 1, 2006 and ending June 30, 2007.

1.6 Base Line

The **Base Line Data** are the recorded historical information collected during the inventory, assessment and analysis of Cobb County's existing solid waste management programs and infrastructures. The Base Line Data is used as a reference point for judging the success of a solid waste management program.

The **Base Line Period** is the time interval when the Base Line Data was collected. The Base Line Period for this Plan is a 12-month period beginning July 1, 2006 and ending June 30, 2007.

1.7 Population and Households

The population and household data used in the preparation of this Plan was obtained from the following ARC's online accessible spreadsheets and reports:

- ARC "Population & Housing 2005", published in December 2005
- ARC 2005 Population & Housing (spreadsheet)
- ARC "2006 Population & Housing in the Atlanta Region", published November 2006
- ARC 20-County Population Forecasts (spreadsheet)



Trend in Population and Household Growth

Of the 10 counties in the Atlanta region, Cobb County ranks number four in terms of its population size. The ten counties ranked in order of the 2006 population are Fulton, Gwinnett, DeKalb, Cobb, Clayton, Cherokee, Henry, Douglas, Fayette, and Rockdale. Cobb County's population continues to grow.

Over the last 20 years, a number of factors have significantly changed the structure and dynamics of households and families throughout the United States. During this period, the proportion of two-parent families has dropped as single parent families have become more common. Birth rates also have fallen and people are more likely to live alone.

According to the 2006 Population & Housing report prepared by the ARC, the number of households in Cobb County has increased from 106,595 in 1980 to 171,288 in 1990 to 227,487 in 2000 and to 248,325 units in 2006. The average household size in Cobb County has almost remained unchanged through the years. The average household was reported by ARC to be 2.77 persons in 1980, 2.60 persons in 1990, and 2.64 persons in 2000. ARC calculated that the average household size in 2006 for Cobb County was 2.67 persons.

25-Year Household and Population Forecasts

The projected Cobb County households and population forecasts were derived from ARC's 20-County Forecasts. Presented as a spreadsheet and in 5-year increments, ARC's forecasts provided 30 years of household and population estimates for 20 counties in the Metropolitan Atlanta area. The projected total households and population for Cobb County from 2005 through 2030 are presented in Table 1-1.



Table 1-1
**ATLANTA REGIONAL COMMISSION
25-YEAR HOUSEHOLD AND POPULATION FORECASTS
FOR COBB COUNTY**

Year	Number of Households	Population
2005	243,879	643,703
2010	252,846	668,960
2015	267,228	694,193
2020	280,751	718,658
2025	291,598	737,356
2030	303,658	763,889

Source: Atlanta Regional Commission (ARC) 20-County Forecasts.

Planning Period 10-Year Population Forecasts

According to the ARC "Population & Housing 2005," Cobb County had a population of 643,703 in 2005 of which 167,548 resides in Incorporated Cobb County. Based on this distribution, ARC calculated that 26 percent (26%) of Cobb County's population resides in Incorporated Cobb County. The ARC "Population & Housing 2006" reported that of the total 654,900 Cobb County residents, approximately 170,720 resided in Incorporated Cobb County. This ratio calculated to approximately 26.1 percent (26.1%) of county's population residing in Incorporated Cobb. Table 1-2 presents the population forecasts during the planning period, from year 2007 through 2016. The Incorporated Cobb populations were calculated as 26% of the total population. The population estimates for Unincorporated Cobb is calculated by taking the projected total Cobb population and subtracting the estimated population of Incorporated Cobb County.



Table 1-2

**10-YEAR POPULATION FORECASTS
COBB COUNTY SOLID WASTE MANAGEMENT PLAN
PLANNING PERIOD (2007 - 2016)**

Year	Total Cobb County Population	Cobb Incorporated Population (26% of Total)	Cobb Unincorporated Population
2007	652,487	169,647	482,840
2008	656,924	170,800	486,124
2009	661,391	171,962	489,429
2010	668,960	173,930	495,030
2011	673,977	175,234	498,743
2012	679,032	176,548	502,484
2013	684,125	177,872	506,252
2014	689,256	179,206	510,049
2015	694,193	180,490	513,703
2016	699,191	181,790	517,401
2017	704,225	183,099	521,127

Notes: 1) The Cobb County projected populations during the planning period were interpolated from the ARC's 30-year population forecasts data. 2) ARC Population & Housing 2005 and 2006, estimated that 26% of Cobb's total population resides in Incorporated Cobb. 3) Incorporated Cities in Cobb County are: Acworth, Austell, Kennesaw, Mableton, Marietta, Powder Springs, and Smyrna.



1.8 Unique Features of Cobb County

With 43 parks, recreation centers, and other related facilities, Cobb's park system is one of the largest in the Southeast. There are also 8,800 acres of federally owned park lands in Cobb County including Kennesaw Mountain National Battlefield Park and the Chattahoochee River National Recreational Area. In addition, the White Water Park and Six Flags Over Georgia, the state's top attractions, are in Cobb County.

1.9 Comprehensive Solid Waste Management Plan Organization

The Georgia DCA's "Minimum Planning Standards and Procedures for Solid Waste Management (Rules of Georgia Department of Community Affairs, Chapter 110-4-3.04)" is the framework used in preparing this Comprehensive SWMP for Cobb County. This Plan provides a comprehensive solid waste management strategy that addresses the waste disposal stream, waste reduction, collection, disposal, land limitations, education and public involvement, and implementation. This Comprehensive SWMP is organized as follows:

- **Section 1. Introduction** provides background information on Cobb County.
- **Section 2. Waste Disposal Stream Analysis** provides an inventory and analysis of the current and projected solid waste stream for disposal and recycling in the Cobb County.
- **Section 3. Waste Reduction Element** presents an inventory and assessment of existing programs in place to reduce waste and a summary of new waste reduction programs that will be considered for implementation by the Cobb County.
- **Section 4. Collection Element** presents an overview of the residential and commercial trash collection in the County and proposed changes that will be considered by the County.
- **Section 5. Disposal Element** provides a summary of how waste is currently disposed and future disposal options that are under consideration by the County.
- **Section 6. Land Limitation Element** presents the environmental limitations for site selection of solid waste management facilities such as landfills, transfer stations, incinerators, recycling centers, and composting facilities within Cobb County.
- **Section 7. Education and Public Involvement Element** presents current educational programs regarding solid waste management and future programs under consideration.
- **Section 8. Implementation** presents the Implementation Strategy that the County will use in continuing existing programs and beginning new ones for the planning period.



1.10 Contact Information

The following CCSWD and Keep Cobb Beautiful (KCB) personnel serve as contacts for this Plan:

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Section 2: WASTE DISPOSAL STREAM ANALYSIS

2.1 Planning Element - Waste Disposal Stream Analysis

Waste Disposal Stream Analysis is one of planning elements required to be addressed by the Georgia Department of Community Affairs (DCA) in a Solid Waste Management Plan (SWMP) under “Chapter 110-4-3 - Minimum Planning Standards and Procedures for Solid Waste Management.” This section presents an inventory and analysis of the solid waste stream in Cobb County, and provides projections of anticipated waste stream amounts based on population trends and population projections in the county for the ten-year planning period. The information collected and generated from this planning element is used to guide Cobb County with its decisions regarding current and future solid waste management services and facility needs, and to determine if county and statewide goals have been met.

2.2 Waste Stream Composition

The general makeup and composition of the disposed solid wastes are crucial information needed in the planning and design of solid waste management systems. The data collected from waste stream composition studies are used in estimating the expected quantities of recyclables and disposables in the solid waste stream. The estimates are used in determining the effectiveness of existing waste reduction and recycling programs. The estimates are also useful for properly sizing future solid waste management and recycling facilities.

Waste Stream Analysis is defined by DCA as an inventory and analysis of the solid waste stream, including the amounts of waste being generated and/or disposed, the source of the waste, and a characterization of the waste by composition. It also includes a percentage accounting of the waste stream by source and by composition.

2.2.1 Waste Stream Study

The Minimum Planning Standards and Procedures for Solid Waste Management do not require that Cobb County or any local government conduct its own waste stream characterization study to determine the composition of its wastes. The Planning Standards and Procedures do allow the option for local governments to use the waste characterization study conducted by the State of



Georgia or to use any other comparable information. With this option available, Cobb County will use the results of the waste characterization study conducted by the State of Georgia in preparing its Comprehensive SWMP.

Georgia Statewide Waste Characterization Study

To better understand the composition of solid waste being disposed in Georgia, DCA commissioned a multi-phase, statewide municipal solid waste characterization study. The study was funded through the Georgia Solid Waste Management Trust Fund, and the results of the study were presented in the “Georgia Statewide Waste Characterization Study,” dated June 22, 2005.

Georgia is comprised of 159 counties. Based on geographical location, the Georgia counties are grouped into 16 Regional Development Centers (RDCs). The data collected during the waste characterization study were used to establish the statewide baseline waste composition. In addition, by compiling the collected data by geographical locations, the study was able to establish the baseline waste composition for 13 of the 16 RDCs.

The waste composition information presented in the Georgia Statewide Waste Characterization Study includes the waste composition for the Atlanta Regional Commission (ARC) Regional Development Center. The ten counties that make up the ARC Center are Cobb, Cherokee, Clayton, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry, and Rockdale. Since Cobb County is part of ARC, the waste composition results found in the Georgia Statewide Waste Characterization Study for ARC (Appendix A of the Georgia Statewide Waste Characterization Study) is used for the preparation of the Cobb County Comprehensive SWMP.

2.2.2 ARC Waste Composition

The Georgia Waste Characterization Study was completed by taking waste samples, and sorting or characterizing the waste into various materials and categories. The wastes were characterized under seven major groups, and these seven groups are further subdivided into 39 individual materials categories. The seven major material groups are:

1. Paper
2. Plastic
3. Glass
4. Metal
5. Organics
6. Construction & Demolition (C&D)



7. Inorganics

Seasonal Variations

Solid waste composition varies by season due to tourism or seasonal residence use; holidays; variations in food and beverage consumption under different weather conditions; and the impact of the growing season on yard waste. To account for seasonal variation in the composition of the waste, sampling for the Georgia Waste Characterization Study was performed across four seasons.

ARC's Waste Composition

Table 2-1 present the composition of the wastes disposed in the ARC region. The table presents the percentage of the total for each of the waste material categories. Sludge/biosolids were excluded from the Georgia Statewide Waste Characterization Study.

Paper and organic materials make up the largest fractions of the waste stream in the ARC region. Plastic is the third largest, followed by metal, C&D, glass, and inorganic. Inorganics make up the smallest portion of the waste stream. Figure 2-1 is a pie-chart diagram of the percentage distribution of the seven major waste groups in the ARC region using the ARC waste composition data presented in Table 2-1.

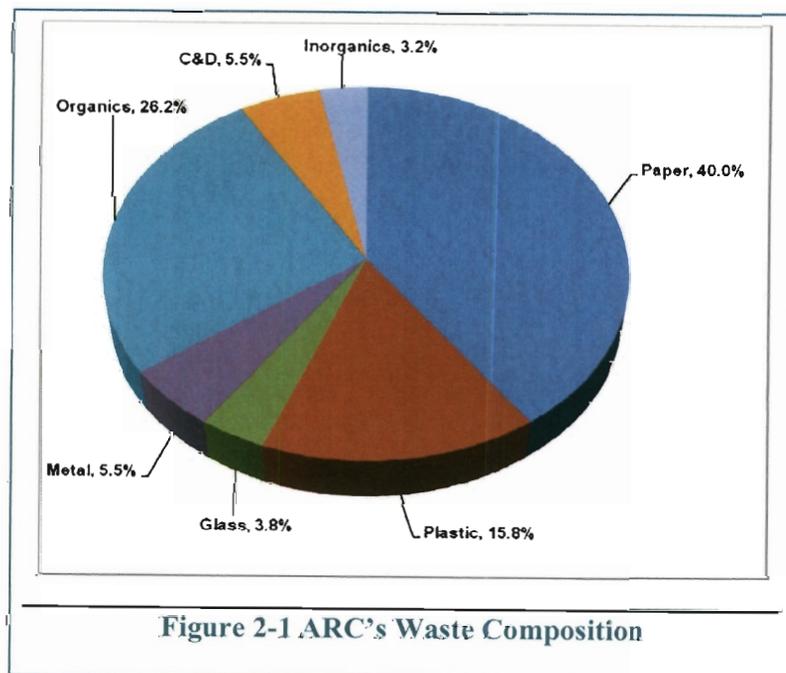




Table 2-1

ATLANTA REGIONAL COMMISSION WASTE COMPOSITION

Paper - 40%	
Newspaper	4.9%
Corrugated Cardboard	11.3%
Office Paper	3.5%
Magazine/Glossy	2.8%
Paperboard	3.5%
Mixed Paper (Other Recyclable)	3.4%
Other Paper (Non-Recyclables)	10.6%
Plastic - 15.8%	
#1 PET Bottles (Polyethylene Terephthalate)	1.3%
#2 HDPE Bottles (High Density Polyethylene)	1.1%
#3-#7 Plastic Bottles	0.2%
Expanded Polystyrene (EPS)	1.4%
Film Plastic	7.5%
Other Rigid Plastic	4.3%
Glass - 3.8%	
Clear Glass	1.8%
Green Glass	0.5%
Amber Glass	1.2%
Other Glass	0.3%
Metal - 5.6%	
Steel Cans	1.3%
Aluminum Cans	0.6%
Other Ferrous	3.0%
Other Non-Ferrous	0.6%
Organics - 26.2%	
Yard Waste	2.4%
Wood (Non-C&D)	1.8%
Food Waste	12.3%
Textiles	3.7%
Diapers	2.3%
Fines (Organic)	2.7%
Other Organics	1.0%
C&D - 5.5%	
Drywall	0.5%
Wood (C&D)	2.2%
Inerts	0.2%
Carpet	1.8%
Other C&D	0.8%
Inorganics - 3.2%	
Televisions	0.0%
Computers	0.1%
Other Electronics	1.7%
Tires	0.3%
HHW (Household Hazardous Waste)	0.5%
Other Inorganics	0.6%

Source: "Georgia Statewide Waste Characterization Study," June 22, 2005, Appendix A - Atlanta Regional Commission Composition



2.3 Cobb County Waste Disposal Stream Analysis

The ARC's Waste Composition, as presented in Table 2-1, is used in the Waste Stream Disposal Analysis for Cobb County. The Waste Stream Disposal Analysis is useful in evaluating the effectiveness of an existing waste management program. The results of the Waste Stream Disposal Analysis can also be used to help better target the materials that have the highest potential for additional diversion.

2.3.1 Base Line Data

The Base Line Data collected for the Cobb County Waste Stream Disposal Analysis are from the time period (Base Line Period) beginning July 1, 2006 and ending June 30, 2007. The Base Line Data include the Cobb County Solid Waste Division (CCSWD) recorded amount of waste recycled, composted, diverted for reuse, and disposed through the Cobb County Transfer Station in a one year period.

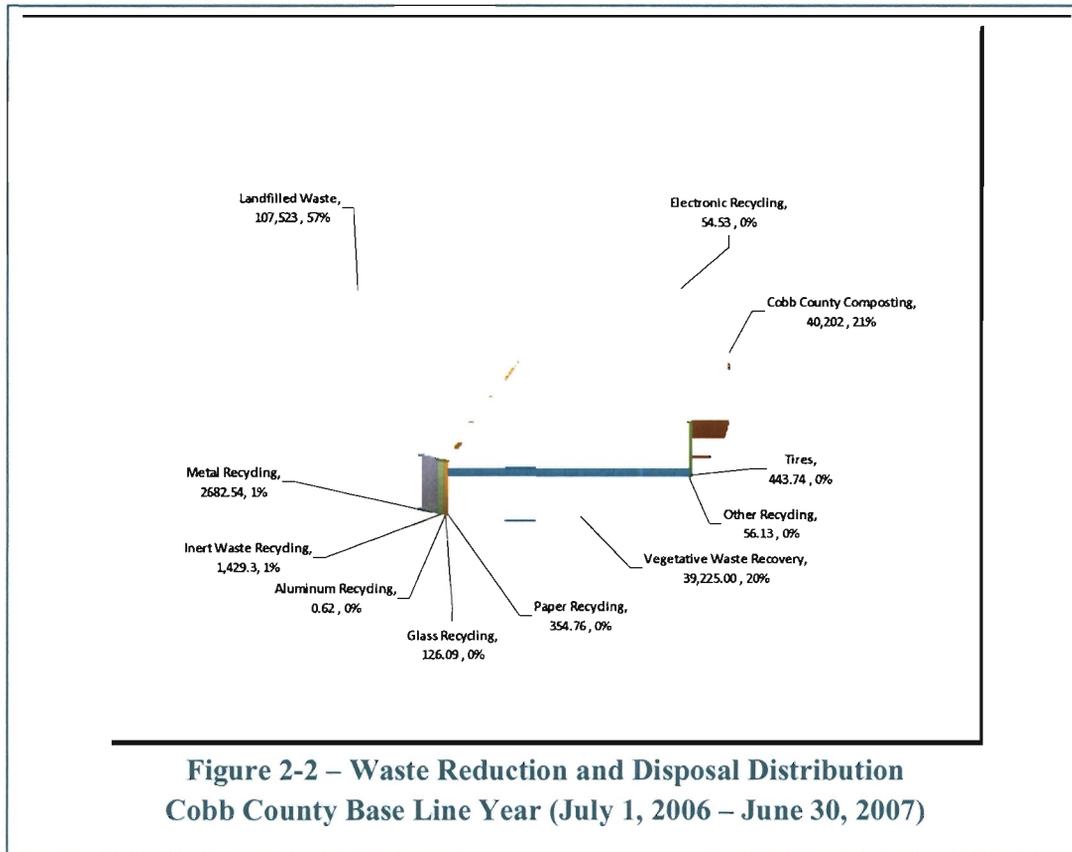
During the Base Line Period, CCSWD managed approximately 193,606 tons of waste. Of this total, Cobb County was able to divert, through its waste reduction programs (recycling, composting, chipping, mulching, etc.), approximately 84,575 tons of waste away from landfills. This is a **very successful waste reduction of 44.03 percent (44.03%) for Cobb County**. Table 2-2 presents a summary of the Base Line Data. Figure 2-2 is a pie-chart that graphically demonstrates the distribution of the wastes data presented in that summary table.



Table 2-2
COBB COUNTY BASE LINE PERIOD
BASE LINE DATA SUMMARY
 (Period from July 1, 2006 through June 30, 2007)

<i>Description</i>	<i>Quantity</i>	<i>Percentage of Total Quantity</i>
Cobb County Composting	40,202.00 tons	20.765 %
Cobb County Vegetative Waste Recovery Center	39,225.00 tons	18.552 %
Electronics Recycling	54.53 tons	0.028 %
Paper Recycling (<i>Newspaper, Office Paper, Corrugated Cardboard, Magazine/Glossy, Telephone Books</i>)	354.76 tons	0.17 %
Glass Recycling (<i>Clear-Flint, Green, Amber, Mixed</i>)	126.09 tons	0.006 %
Aluminum Cans	0.62 tons	0.0003%
Inert Waste Recycling	1,429 tons	0.676 %
Tires	443.74 tons	0.229 %
Other Recycling and Materials Recovery (<i>Antifreeze, Freon, Automotive Oil, and Batteries</i>)	56.14 tons	0.027 %
Metal Recycling (<i>Metal recycling through Cobb County Government: DOT, Fleet, Water System, Solid Waste</i>)	2,682 tons	1.40 %
Total Waste Reduction (Recycled)	84,575 tons	44.027 %
Total Waste Disposed in Landfills	107,523 tons	55.970 %
Total Waste Handled/Processed by CCSWD	192,098 tons	100%

Source: Cobb County Solid Waste Operations Database



2.3.2 Waste Disposal Steam Analysis Computer Modeling

A dedicated computer modeling program has been developed for CCSWD as a tool for the preparation of the Cobb County Comprehensive SWMP. The computer model is used to determine the effectiveness of existing waste reduction and recycling programs, and identify target materials that have the highest potential for waste reduction. The computer modeling tool, herein referred to as the Computer Analysis Model (CAM), is a spreadsheet-based computer model designed to simulate the flow of the waste stream in Unincorporated Cobb County. The CAM was developed as a Microsoft Excel spreadsheet so that it will have the flexibility for adjustment and modifications. The CAM simulates the flow of disposed waste as it goes through current and future Cobb County's solid waste reduction, recycling, composting and disposal programs. Figure 2-3 presents a flow chart that graphically demonstrates how the Cobb County solid waste management systems, current and new waste reduction programs and waste disposal, are simulated in the CAM.



After entering the Base Line Data into the CAM, the CAM then calculates the historical total waste processed through the CCSWD waste reduction and disposal programs. The total waste for the Base Line Period is used in conjunction with the population for Unincorporated Cobb County for that period to calculate the Base Line Annual Disposal Rate in pounds per person per year (lbs/person/year).

The Percentage of Waste Stream (PWS) or trend in the CCSWD waste reduction and disposal programs are evaluated and calculated in the CAM. The trend in a solid waste management program is simply the ratio of the waste handled by a particular solid waste management program with respect to the total waste stream. The calculated trend ratio is then converted as percentage of the total waste stream or PWS.

For future projections and analysis, the CAM takes the calculated Base Line Annual Disposal Rate and multiplies that number by that year's forecasted population to determine the estimated total waste stream for that year. The total waste volume is then subdivided into the 39 individual materials categories. By estimating the quantities of each of the individual materials categories, the CAM can be used in identifying the waste materials that have the highest potential for additional diversion through waste reduction or recycling.

The PWS is used to calculate the amount of waste diverted by a program, and is deducted from the total waste. The total projected waste less the amount diverted through existing and proposed waste reduction, recycling, and composting program is the estimated total waste that would need to be disposed in landfills (Please, refer again to Figure 2-3 for graphical presentation of this waste flow.)

2.3.3 Limitations of Cobb SWMP Computer Analysis Model

The CAM, like all computer modeling programs is highly dependent on the accuracy and validity of the Base Line Data. The CAM uses the Base Line Data collected by CCSWD, which is the best collection of solid waste data for Unincorporated Cobb County. But, the total waste handled by CCSWD through its waste management programs are not representative of all the waste generated in Unincorporated Cobb County. This is because not all waste generated in Unincorporated Cobb County are handled through the CCSWD solid waste programs and facilities. In addition, some recyclables and disposed waste collected in the Incorporated Cities of Cobb County end up going through the CCSWD solid waste programs and facilities.

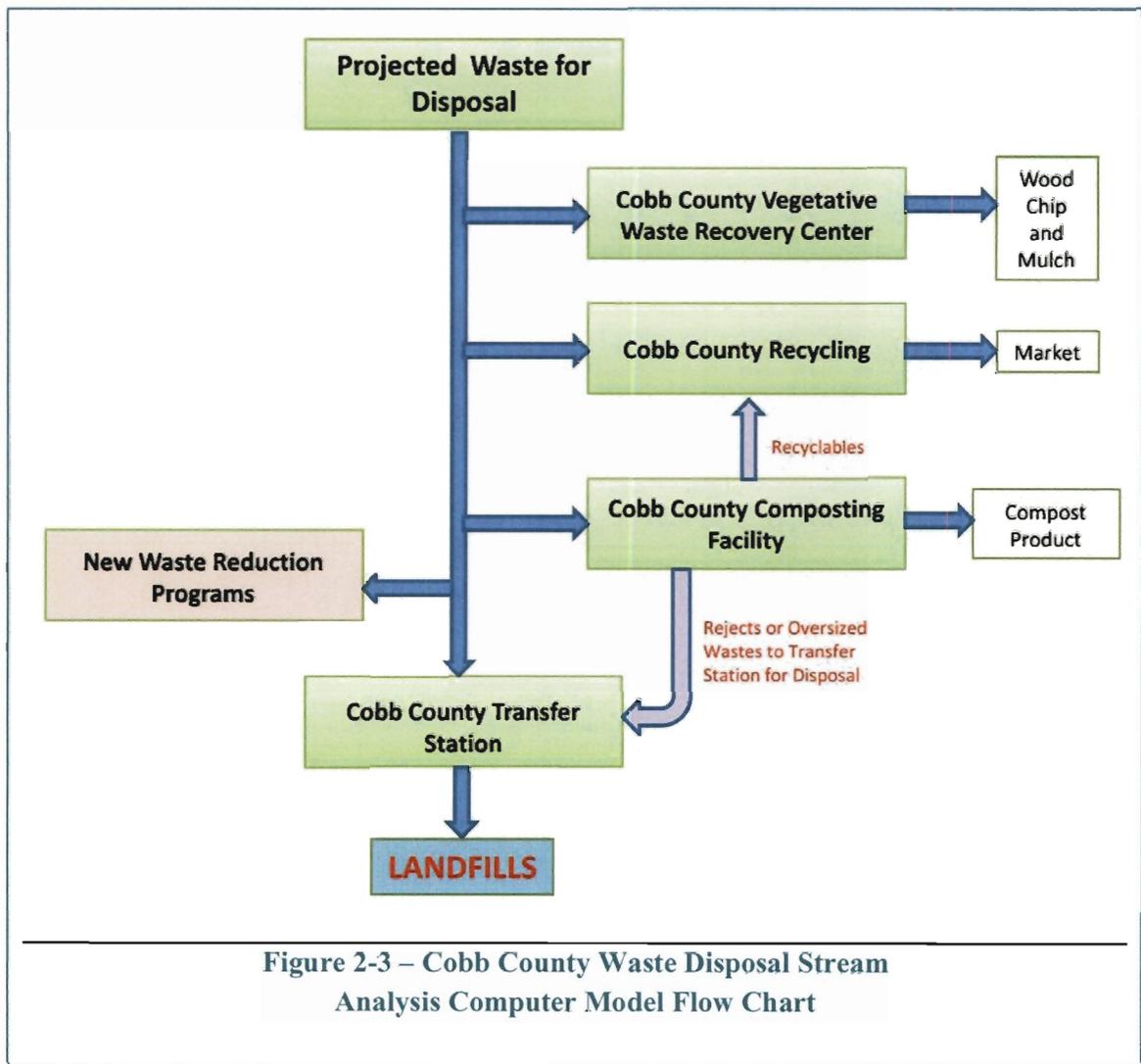


Figure 2-3 – Cobb County Waste Disposal Stream Analysis Computer Model Flow Chart



2.4 Waste Stream Generation Projections

The total waste handled by CCSWD through its waste reduction programs and through its transfer station for disposal is not representative of all the waste generated in Unincorporated Cobb County. There are over 50 solid waste haulers that collect waste and recyclables in Cobb County. In addition, there are several private transfer stations that accept waste and transport the waste to landfills outside the county for disposal. Solid waste haulers operating in Cobb County collect waste in the Cobb County cities as well as in Unincorporated Cobb County. Haulers that operate near the county's boundary may even collect waste from adjoining counties. Haulers could bring their waste to the Cobb County Transfer Station, deliver it to other transfer station, or transport the waste directly to one of the landfills in the Metro-Atlanta area. As for the private transfer stations in Cobb County, the waste received at those transfer station may be coming in from outside Cobb County, as well as from the cities in Cobb County.

Since the total waste handled by CCSWD is not representative of all waste generated in Unincorporated Cobb County, the forecasted projected annual waste for Unincorporated Cobb County can best be estimated to be somewhere between the waste calculated using Unincorporated Cobb County Disposal Rate and the State of Georgia Disposal Rate. Table 2-3 presents the projected annual waste volumes for the 10-year planning period using the Unincorporated Cobb County Disposal Rate (column 3) and the State of Georgia Disposal Rate (column 4). Tables 2-4 and 2-5 present waste projection quantity by waste composition categories using the calculated Cobb County Disposal Rate, and the State of Georgia Disposal Rate, respectively.

2.4.1 Unincorporated Cobb County Solid Waste Disposal Rate

The total waste handled through CCSWD solid waste programs and facilities for the Base Line Period (from July 1, 2006 through June 30, 2007) is 192,014 tons, however due to diversion practices, only 107,523 tons is disposed of in landfills. This total waste includes quantities from the following:

- Newspaper Recycling,
- Corrugated Cardboard Recycling,
- Office Paper Recycling,
- Magazine/Glossy Recycling,
- Mixed Paper (Telephone Book) Recycling,
- Glass Recycling (Clear, Green, Amber, and Other Glass),
- Aluminum Can Recycling,



- Other Ferrous Metal Recycling,
- C&D/Inert Waste Recycling,
- Electronics Recycling,
- Tires Recycling,
- Metal Recycling through Cobb County Government Departments,
- Oil/Freon/Anti-Freeze/Batteries Recycling,
- Composting at the Cobb County Composting Facility,
- Materials recycled at the Cobb County Composting Facility,
- Cobb County Vegetative Waste Recovery Center, and
- Waste Disposal at the Cobb County Solid Waste Transfer Station.

Table 2-3

**10-YEAR PLANNING PERIOD
UNINCORPORATED COBB COUNTY
PROJECTED WASTE**

Planning Year	Unincorporated Cobb County Population	Projected Waste (Tons)	
		Cobb County Disposal Rate 2.20 pounds/person/day	Georgia Disposal Rate 6.33 pounds/person/day
2007	482,840	193,860	557,789
2008	486,124	195,179	561,583
2009	489,429	196,506	565,401
2010	495,030	198,755	571,871
2011	498,743	200,245	576,161
2012	502,484	201,747	580,482
2013	506,252	203,260	584,835
2014	510,049	204,785	589,222
2015	513,703	206,252	593,442
2016	517,401	207,737	597,715
2017	521,127	209,232	602,019

Notes: 1) The Cobb County projected populations during the planning period were interpolated from the ARC's 30-year population forecasts data. 2) ARC Population & Housing 2005 and 2006, estimated that 26% of Cobb's total population resides in Incorporated Cobb. 3) Incorporated Cities in Cobb County are: Acworth, Austell, Kennesaw, Mableton, Marietta, Powder Springs, and Smyrna.





During the Base Line Period, the estimated Unincorporated Cobb County population is 482,840. Using the Base Line Period's total waste and Unincorporated Cobb County population, the Cobb County Waste Disposal Rate for 2007 is calculated to be 2.20 pounds/per person/day.

The third column in Table 2-3 presents the estimated projected annual waste using the Cobb County Waste Disposal Rate. Table 2-4 present waste projection quantity by waste composition categories using the calculated Cobb County Waste Disposal Rate.

2.4.2 Georgia Solid Waste Disposal Rate

The State of Georgia Solid Waste Management Plan, adopted May 3, 2006, presented the per capita disposal rates for Georgia. The 10-year projection of disposal in municipal solid waste landfills with 25% reductions in per capita disposal of waste disposed for 2008 in Georgia is 6.33 pounds/person/day. Cobb County's disposal rate of 2.2% demonstrates how Cobb County's successful high-tech composting facility and vegetative waste recovery program are examples of CCSWD programs that effectively reduce and divert waste away from landfills.

The fourth column in Table 2-3 presents the estimated projected annual waste using the Georgia Solid Waste Disposal Rate for 2008. Table 2-4 present waste projection quantity by waste composition categories using the Cobb County Disposal Rate, while Table 2-5 displays projections using the State of Georgia Disposal Rate.



Table 2-4
UNINCORPORATED COBB COUNTY
10-YEAR PLANNING PERIOD PROJECTED WASTES
(COBB COUNTY CALCULATED DISPOSAL RATE)

		Planning Year										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Disposal Rate = 2.20 pounds/person/day												
PROJECTED POPULATION		482,840	486,124	489,429	495,030	496,743	502,484	506,262	510,049	513,703	517,401	521,127
Waste Composition Categories, %:												
Paper												
Newspaper	4.9%	9,499	9,564	9,629	9,739	9,812	9,886	9,960	10,034	10,106	10,179	10,252
Corrugated Cardboard	11.3%	21,906	22,055	22,205	22,459	22,628	22,797	22,966	23,141	23,306	23,474	23,643
Office Paper	3.5%	6,795	6,831	6,878	6,958	7,009	7,061	7,114	7,167	7,219	7,271	7,323
Magazine/Glossy	2.8%	5,428	5,465	5,502	5,565	5,607	5,649	5,691	5,734	5,775	5,817	5,859
Paperboard	3.5%	6,785	6,831	6,878	6,966	7,009	7,061	7,114	7,167	7,219	7,271	7,323
Mixed Paper (Other Recyclable)	3.4%	6,591	6,636	6,681	6,758	6,808	6,859	6,911	6,963	7,013	7,063	7,114
Other Paper (Non-Recyclables)	10.6%	20,549	20,689	20,830	21,066	21,226	21,385	21,546	21,707	21,863	22,020	22,179
Plastic												
#1 PET Bottles	1.3%	2,520	2,537	2,555	2,584	2,603	2,623	2,642	2,662	2,681	2,701	2,720
#2 HDPE Bottles	1.1%	2,132	2,147	2,162	2,186	2,203	2,219	2,236	2,253	2,269	2,285	2,302
#3-#7 Plastic Bottles	0.2%	388	390	393	398	400	403	407	410	413	415	418
Expanded Polystyrene (EPS)	1.4%	2,714	2,733	2,751	2,783	2,803	2,824	2,846	2,867	2,888	2,908	2,929
Film Plastic	7.5%	14,540	14,638	14,736	14,907	15,018	15,131	15,245	15,359	15,469	15,580	15,692
Other Rigid Plastic	4.3%	8,336	8,393	8,450	8,546	8,611	8,675	8,740	8,806	8,869	8,933	8,997
Glass												
Clear Glass	1.8%	3,489	3,513	3,537	3,578	3,604	3,631	3,659	3,686	3,713	3,739	3,766
Green Glass	0.5%	969	976	983	994	1,001	1,009	1,016	1,024	1,031	1,039	1,046
Amber Glass	1.2%	2,326	2,342	2,359	2,385	2,403	2,421	2,439	2,457	2,475	2,493	2,511
Other Glass	0.3%	582	586	590	596	601	605	610	614	619	623	628
Metal												
Steel Cans	1.3%	2,520	2,537	2,555	2,584	2,603	2,623	2,642	2,662	2,681	2,701	2,720
Aluminum Cans	0.6%	1,163	1,171	1,179	1,193	1,201	1,210	1,220	1,229	1,238	1,246	1,255
Other Ferrous	3.0%	5,816	5,855	5,895	5,963	6,007	6,052	6,098	6,144	6,188	6,232	6,277
Other Non-Ferrous	0.6%	1,163	1,171	1,179	1,193	1,201	1,210	1,220	1,229	1,238	1,246	1,255
Organics												
Yard Waste	2.4%	4,653	4,684	4,716	4,770	4,806	4,842	4,878	4,915	4,950	4,986	5,022
Wood (Non-C&D)	1.8%	3,489	3,513	3,537	3,578	3,604	3,631	3,659	3,686	3,713	3,739	3,766
Food Waste	12.3%	23,846	24,007	24,170	24,447	24,630	24,815	25,001	25,189	25,369	25,552	25,736
Textiles	3.7%	7,173	7,222	7,271	7,354	7,409	7,465	7,521	7,577	7,631	7,686	7,742
Diapers	2.3%	4,459	4,489	4,520	4,571	4,606	4,640	4,675	4,710	4,744	4,778	4,812
Fines (Organic)	2.7%	5,234	5,270	5,306	5,366	5,407	5,447	5,486	5,529	5,569	5,609	5,649
Other Organics	1.0%	1,939	1,952	1,965	1,986	2,002	2,017	2,033	2,046	2,063	2,077	2,092
C&D												
Drywall	0.5%	969	976	983	994	1,001	1,009	1,016	1,024	1,031	1,039	1,046
Wood (C&D)	2.2%	4,265	4,294	4,323	4,373	4,405	4,438	4,472	4,505	4,538	4,570	4,603
Inerts	0.2%	388	390	393	398	400	403	407	410	413	415	418
Carpet	1.8%	3,489	3,513	3,537	3,578	3,604	3,631	3,659	3,686	3,713	3,739	3,766
Other C&D	0.8%	1,551	1,561	1,572	1,590	1,614	1,626	1,638	1,650	1,662	1,674	1,674
Inorganics												
Televisions	0.0%	0	0	0	0	0	0	0	0	0	0	0
Computers	0.1%	194	195	197	199	200	202	203	205	206	208	209
Other Electronics	1.7%	3,296	3,318	3,341	3,379	3,404	3,430	3,455	3,481	3,506	3,532	3,557
Tires	0.3%	582	586	590	596	601	605	610	614	619	623	628
HHW (Household Hazardous Waste)	0.5%	969	976	983	994	1,001	1,009	1,016	1,024	1,031	1,039	1,046
Other Inorganics	0.6%	1,163	1,171	1,179	1,193	1,201	1,210	1,220	1,229	1,238	1,246	1,255
Total Projected Annual Waste		193,860	195,179	196,605	198,755	200,246	201,747	203,260	204,785	206,262	207,737	209,232



Table 2-5
UNINCORPORATED COBB COUNTY 10-YEAR PLANNING PERIOD
PROJECTED WASTES
(STATE OF GEORGIA CALCULATED DISPOSAL RATE)

		<i>Planning Year</i>										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Disposal Rate = 6.33 pounds/person/day												
PROJECTED POPULATION =>		482,840	486,124	489,429	496,030	498,743	502,484	506,262	510,049	513,703	517,401	521,127
Waste Composition Categories, %:												
Paper												
Newspaper	4.9%	27,332	27,518	27,705	28,022	28,232	28,444	28,657	28,872	29,079	29,288	29,499
Corrugated Cardboard	11.3%	63,030	63,459	63,860	64,821	65,106	65,594	66,086	66,582	67,059	67,542	68,026
Office Paper	3.5%	19,523	19,655	19,789	20,015	20,166	20,317	20,469	20,623	20,770	20,920	21,071
Magazine/Glossy	2.8%	15,618	15,724	15,831	16,012	16,132	16,253	16,375	16,498	16,616	16,736	16,857
Paperboard	3.5%	19,523	19,655	19,789	20,015	20,166	20,317	20,469	20,623	20,770	20,920	21,071
Mixed Paper (Other Recyclable)	3.4%	18,965	19,094	19,224	19,444	19,589	19,736	19,884	20,034	20,177	20,322	20,469
Other Paper (Non-Recyclables)	10.6%	59,126	59,528	59,932	60,618	61,073	61,531	61,993	62,457	62,905	63,368	63,814
Plastic												
#1 PET Bottles	1.3%	7,251	7,301	7,350	7,434	7,490	7,546	7,603	7,660	7,715	7,770	7,826
#2 HDPE Bottles	1.1%	6,136	6,177	6,219	6,291	6,338	6,395	6,433	6,481	6,528	6,575	6,622
#3-#7 Plastic Bottles	0.2%	1,116	1,123	1,131	1,144	1,152	1,161	1,170	1,178	1,187	1,195	1,204
Expanded Polystyrene (EPS)	1.4%	7,809	7,862	7,916	8,006	8,066	8,127	8,188	8,249	8,308	8,368	8,426
Film Plastic	7.5%	41,834	42,119	42,405	42,890	43,212	43,536	43,863	44,192	44,508	44,829	45,151
Other Rigid Plastic	4.3%	23,965	24,148	24,312	24,590	24,775	24,964	25,148	25,337	25,518	25,702	25,887
Glass												
Clear Glass	1.8%	10,040	10,108	10,177	10,294	10,371	10,449	10,527	10,606	10,682	10,759	10,836
Green Glass	0.5%	2,789	2,808	2,827	2,859	2,881	2,902	2,924	2,946	2,967	2,989	3,010
Amber Glass	1.2%	6,893	6,739	6,785	6,862	6,914	6,966	7,018	7,071	7,121	7,173	7,224
Other Glass	0.3%	1,873	1,885	1,896	1,716	1,728	1,741	1,755	1,768	1,780	1,793	1,806
Metal												
Steel Cans	1.3%	7,251	7,301	7,350	7,434	7,490	7,546	7,603	7,660	7,715	7,770	7,826
Aluminum Cans	0.6%	3,347	3,369	3,392	3,431	3,457	3,483	3,509	3,535	3,561	3,586	3,612
Other Ferrous	3.0%	16,734	16,847	16,962	17,156	17,285	17,414	17,545	17,677	17,809	17,939	18,061
Other Non-Ferrous	0.6%	3,347	3,369	3,392	3,431	3,457	3,483	3,509	3,535	3,561	3,586	3,612
Organics												
Yard Waste	2.4%	13,387	13,478	13,570	13,725	13,828	13,932	14,036	14,141	14,243	14,345	14,448
Wood (Non-C&D)	1.8%	10,040	10,108	10,177	10,294	10,371	10,449	10,527	10,606	10,682	10,759	10,836
Food Waste	12.3%	68,808	69,075	69,544	70,340	70,668	71,399	71,935	72,474	72,993	73,519	74,048
Textiles	3.7%	20,838	20,779	20,920	21,159	21,318	21,479	21,639	21,801	21,957	22,115	22,275
Diapers	2.3%	12,829	12,916	13,004	13,153	13,252	13,351	13,451	13,552	13,649	13,747	13,846
Fines (Organic)	2.7%	15,060	15,163	15,266	15,441	15,555	15,673	15,791	15,909	16,023	16,138	16,255
Other Organics	1.0%	5,578	5,616	5,654	5,719	5,762	5,805	5,848	5,892	5,934	5,977	6,020
C&D												
Drywall	0.5%	2,789	2,808	2,827	2,859	2,881	2,902	2,924	2,946	2,967	2,989	3,010
Wood (C&D)	2.2%	12,271	12,355	12,439	12,581	12,676	12,771	12,865	12,963	13,056	13,150	13,244
Inerts	0.2%	1,116	1,123	1,131	1,144	1,152	1,161	1,170	1,178	1,187	1,195	1,204
Carpet	1.8%	10,040	10,108	10,177	10,294	10,371	10,449	10,527	10,606	10,682	10,759	10,836
Other C&D	0.8%	4,462	4,493	4,523	4,576	4,609	4,644	4,679	4,714	4,748	4,782	4,816
Inorganics												
Televisions	0.0%	0	0	0	0	0	0	0	0	0	0	0
Computers	0.1%	558	562	565	572	576	580	585	589	593	598	602
Other Electronics	1.7%	9,482	9,547	9,612	9,722	9,795	9,868	9,942	10,017	10,089	10,161	10,234
Tires	0.3%	1,673	1,685	1,696	1,716	1,728	1,741	1,755	1,768	1,780	1,793	1,806
HHW (Household Hazardous Waste)	0.5%	2,789	2,808	2,827	2,859	2,881	2,902	2,924	2,946	2,967	2,989	3,010
Other Inorganics	0.6%	3,347	3,369	3,392	3,431	3,457	3,483	3,509	3,535	3,561	3,586	3,612
Total Projected Annual Waste =>		557,789	561,583	565,401	571,871	576,160	580,482	584,835	589,224	593,443	597,715	602,019



2.5 Cobb County Waste Stream Disposal Analysis - Needs

There needs to be more consistency between the data collected for the County's operational and financial needs and the reporting requirements of DCA and ARC.

2.6 Cobb County Waste Stream Disposal Analysis - Goals

To modify the existing operations database to include sorting fields that fit the Comprehensive Solid Waste Management Plan and the Annual Solid Waste Survey and Full Cost Report requirements. This will provide more accuracy in establishing baseline data and reduce opportunities for mathematical and interpretation inaccuracies. Such modifications should be completed and audited by the end of FY-2009.



Section 3: WASTE REDUCTION ELEMENT

3.1 Core Planning Element 1 - Waste Reduction

Waste Reduction is one of the five core planning elements required to be addressed in a Solid Waste Management Plan (SWMP) by the Georgia Department of Community Affairs. The Georgia Comprehensive Solid Waste Management Act of 1990 set forth the State's waste reduction goal. The law required that each solid waste management plan that relies on a landfill in Georgia for waste disposal is to have, by July 1, 1996, waste reduction programs in operation that would reduce by 25 percent the per capita rate of municipal solid waste disposed statewide in solid waste facilities as compared with the per capita municipal solid waste disposal rate in fiscal year 1992. But, according to the Fiscal Year 2006 Georgia Environmental Protection Division (EPD) Solid Waste Trust Fund Status Report, the waste reduction goal was removed by the Georgia General Assembly in 2005 because the date requirement to meet the 25 percent solid waste reduction had passed.

This section provides an inventory of current Waste Reductions programs in Cobb County. Each program is inventoried and assessed to determine its effectiveness. It is Cobb County's goal to promote and implement, now and in the future, source reduction, reuse, composting, recycling, and other waste reduction programs for the purpose of diverting waste away from landfill facilities. This section also includes Cobb County's needs and goals for waste reduction for the 10-year planning period.

The Waste Stream Disposal Analysis for Unincorporated Cobb County, presented in Section 2 of this Plan, provides estimates on the type and quantity of waste materials that is disposed in Unincorporated Cobb County. The Waste Stream Disposal Analysis uses the population projections and waste composition study provided by the Atlanta Regional Commission (ARC) and is used in evaluating the waste reduction programs presented in this section. The Waste Stream Disposal Analysis presents quantity estimates of potentially recoverable materials for the 10-year planning period. The Analysis is used as a tool to guide Cobb County with its decisions regarding current and future waste reduction programs, solid waste management services and facility needs.

3.2 Waste Reduction

Waste Reduction means the reduction and minimization to the greatest extent possible the amount of solid waste which requires collection, treatment, or disposal, through source reduction, reuse, composting, recycling and other methods. Cobb County has implemented several successful waste reduction programs to help divert waste away from landfills.



Source Reduction

Source reduction of solid waste is any method taken to prevent the generation of the waste in the first place. Source reduction is fundamentally different from the other waste reduction programs. Recycling and disposal options all come into play after goods have been used. Source reduction on the other hand occurs before materials have been identified as “waste.” Source reduction methods include the following:

1. Reducing the amount of solid waste generated at the source.
2. Redesigning products or packaging with less material.
3. Promoting behavioral changes in the use of materials such as not buying more of a material than what will be consumed in use thereby minimizing residual material requiring disposal.
4. Increasing the durability and reusability of materials to result in longer lasting products.

Reuse and Recovery

Reused or recovered materials are materials which have known use, reuse, or recycling potential; can be feasibly used, reused, or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse or recycling, whether or not requiring subsequent separation and processing. Reusing products is better than recycling because the item does not need to be reprocessed before it can be used again. Reusing items delays or removes that item from waste collected for disposal. Following are some items that are typically reused or recovered:

- Clothing
- Home and office furniture
- Appliances
- Tools
- Toys
- Lawn equipment
- Books, etc.

Recycling

Recycling is any process by which materials that would otherwise become solid waste are collected, separated, or processed, and reused or returned to use in the form of raw materials or products.

Composting

Composting means the controlled biological decomposition of organic matter into stable, odor-free humus.



3.3 Cobb County's Level of Recycling and Waste Reduction

The County's recycling drop-off at the transfer station is open to all Cobb County citizens. During the Base Line Period, a 12-month period from July 1, 2006 through June 30, 2007, Cobb County Solid Waste Division (CCSWD) waste reduction programs successfully diverted 84,575 tons of waste away from landfills. Based on the total waste quantity of 192,014 tons that went through the CCSWD solid waste management system during that period, this diverted quantity calculates to an impressive 44.03 percent (44.03%) waste reduction through recycling, reuse, recovery and composting. Table 3-1 presents a summary of the type and quantity of materials recycled by CCSWD during the Base Line Period.

Table 3-1
COBB COUNTY BASE LINE PERIOD
WASTE REDUCTION SUMMARY
 (Period from July 1, 2006 through June 30, 2007)

<i>Description</i>	<i>Quantity</i>	<i>Percentage of Total Quantity</i>
Cobb County Composting	40,202.00 tons	20.765 %
Cobb County Vegetative Waste Recovery Center	39,225.00 tons	20.260 %
Electronics Recycling	54.53 tons	0.028 %
Newspaper	112.56 tons	0.058 %
Corrugated Cardboard	76.30 tons	0.039 %
Office Paper	52.46 tons	0.027 %
Magazine / Glossy Paper	90.95 tons	0.047 %
Mixed Paper – Telephone Books	22.49 tons	0.012 %
Clear Glass (Flint)	47.33 tons	0.025 %
Green Glass	34.58 tons	0.018 %
Amber Glass	37.56 tons	0.019 %
Other Glass (Mixed Glass)	6.62 tons	0.0034 %
Aluminum Cans	0.62 tons	0.0003 %
Inert Waste Recycling	1,429.00 tons	0.738 %
Tires	443.74 tons	0.229 %
Other Recycling and Materials Recovery (Antifreeze, Freon, Automotive Oil, and Batteries)	56.14 tons	0.029 %
Cobb Government Metal Recycling (Metal recycling through Cobb County Government: DOT, Fleet, Water System, Solid Waste)	2,682 tons	1.40%
Total Waste Reduction	84,575 tons	44.03 %



3.4 Inventory and Assessment of Waste Reduction

The quantity of materials managed through the CCSWD waste reduction programs presented in this section are based on the information collected during the *Base Line Period*, a one year period beginning July 1, 2006 and ending June 30, 2007. The recycled materials not handled through the CCSWD facilities and waste reduction programs are not included in the Base Line Period quantities. Many charitable organizations in Cobb County target newspaper and aluminum for their drop-off recycling program. These charitable organizations use recycling primarily as revenue generators, but it provides unaccounted waste reduction for Cobb County.

3.4.1 Georgia P2AD Program

Since 1993, the *Pollution Prevention Assistance Division (P2AD)* of the Georgia Department of Natural Resources provided free, non-regulatory and confidential technical assistance in the areas of pollution prevention, resource conservation, waste reduction, by-product reuse, and recycling. P2AD goals are to foster environmental leadership and exemplify organizational excellence.

In 2004, the P2AD established the **P2AD Partnership Program** to encourage environmental leadership and recognize superior environmental performance. The Partnership Program is free and open to any business or organization in Georgia. The Program encourages businesses to systematically identify opportunities to reduce waste, conserve natural resources and continually improve their operations. The Program recognizes that each business is different and allows flexibility in how to improve environmental performance. P2AD and its Partners provide technical assistance through the following:

- On-site assessments
- Team facilitation
- Telephone assistance
- Workshops

3.4.2 Cobb County Composting Facility

Cobb County is the first and only county to house a composting facility in the state of Georgia. Cobb County commissioned the construction of the *Cobb County Composting Facility (CCCF)* in 1996. The CCCF, located on County Services Parkway, utilizes cutting-edge bio-conversion technology to produce compost from municipal solid waste. Bio-conversion process saves



precious landfill space by turning municipal solid waste into a revenue-generating soil-like compost product, called Bio-Blend.

The fully operational CCCF can process up to 300 tons of municipal solid waste and 100 tons of wastewater biosolids each daily. The process provides a 60 percent reduction in the household waste materials received at the CCCF. This reduction is accomplished without the introduction of any chemical stimulants or outside sources of heat. Ultimately, the composting process provides a significant benefit to the environment.

The compost product produced by the CCCF is registered as a soil amendment/conditioner by the U.S. Department of Agriculture. It is approved by the Georgia State EPD for use as compost material appropriate for landfill closures. It is also certified as a Class A compost by the U.S. Environmental Protection Agency under 40CFR 503 regulations. The Bio-Blend features:

- Improves soil structure
- Inhibits rain runoff and soil erosion
- Reduces irrigation requirements
- Stimulates natural soil microbiology
- Builds soil humus and porosity

Cobb County Composting Process

Municipal solid wastes brought in at the CCCF are unloaded on the tipping floor of the facility where it is visually inspected for “reject materials” such as extra large pieces and non-biodegradable materials or chemicals that could hurt the biological process. The wastes on the tipping floor are then loaded on a conveyor belt system where it is visually inspected for the segregation of recyclable materials and more reject materials. The separated recyclable

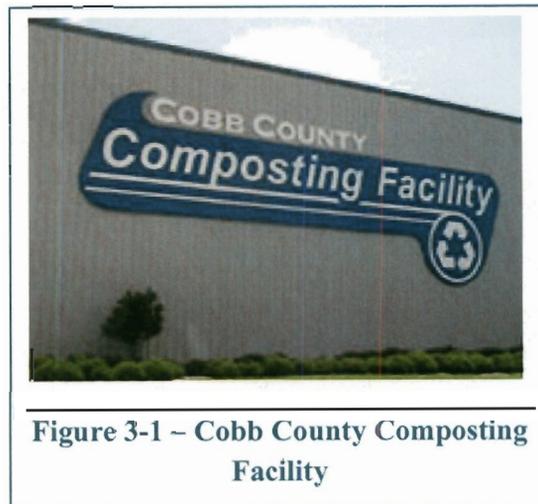


Figure 3-1 – Cobb County Composting Facility

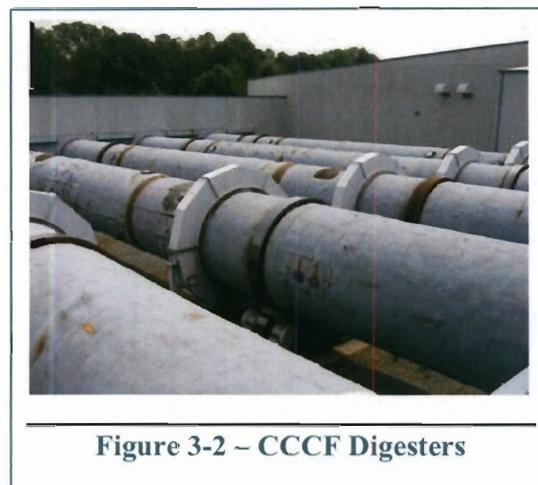


Figure 3-2 – CCCF Digesters

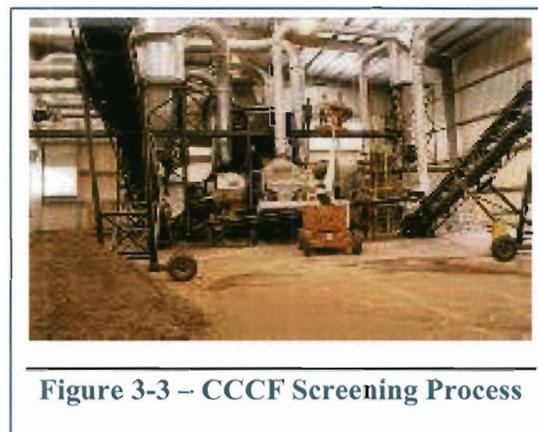


Figure 3-3 – CCCF Screening Process



materials are transported to the Cobb County Transfer Station Recycling, and the reject materials are brought into the Cobb County Transfer Station for transport to a landfill for disposal.

The initial phase in the bio-conversion process is the mixing of municipal solid waste with treated sewage sludge. The appropriate proportions of waste and sludge are meticulously mixed at the facility for optimal carbon/nitrogen balance. For three days, this combination of sludge and waste is agitated in large rotating drums called “digesters” under controlled temperatures and air flow.

In the secondary phase, the raw compost is “screened” by separating the non-biodegradable materials. For 28 days the compost is aerated and cured through a fully automated system under controlled temperatures and humidity conditions.

Finally, the compost is “screened” for the last time, separating the remaining non-biodegradable materials. The compost is “cured” again prior to shipment offsite.

CCCF Odor Control System

Municipal solid waste, sewage sludge and composting process are natural producers of offensive odors. To control the release of odor from the CCCF, a Biofilter, a biological filtering system is used at the County’s facility. The air at the CCCF building is collected through a network of venting systems and is directed to a dust collection system. From the dust collection system, the air is directed through a manifold bed consisting of perforated air-distribution piping beneath a filter medium. The filter medium used at the facility is a three-foot layer of wood chips. As the exhaust air moves through the filter medium, odors are absorbed by the wood chips, dissolved by moisture, and broken down and destroyed by the microorganisms growing in the wood chips. As part of Cobb County’s waste reduction program, the wood chips produced at the Cobb County Vegetative Waste Recovery Center are used in the CCCF Biofilter.

CCSWD Free Compost

The compost material produced at the CCCF is free to Cobb County residents for private and individual use. Residents who wish to take advantage of the free compost material must load the material onto their vehicles themselves. For a small fee of \$10 per cubic yard, CCSWD will load the compost material onto the customer’s vehicle.

CCCF Base Line Data

During the Base Line Period (July 1, 2006 through June 30, 2007), the CCCF operated only at two-third its design capacity; processing municipal solid waste at approximately 200 tons per day. Operating at below the designed capacity, CCCF still converted a 20.765 percent (20.765%) of the total waste received by CCSWD into compost material. During the Base Line Period, the CCCF received and composted 40,202 tons of municipal solid waste. Also during that period, as part of its education and public involvement program, CCSWD provided 21 tours at the CCCF, welcomed 113 visitors at the facility; and had 3,388 customers that participated and



picked up 275,000 pounds (137.6 tons) of compost/Bio-Blend in CCSWD Give-Away Program. In addition, some of the wood chips generated at the Cobb County Vegetative Waste Recovery Center were used as a filter media in the Biofilter Odor Control system at the CCCF, applying the principles of reusing and recycling.

3.4.3 Cobb County Vegetative Waste Recovery Center

Vegetative waste is commonly known as green waste, yard trimmings, or yard trash. Vegetative wastes are materials such as grass clippings, leaves, brush, limbs, shrub, hedge clippings, tree pruning, landscape materials, and logs. CCSWD created and developed the **Cobb County Vegetative Waste Recovery Center (CCVWRC)** to promote recycling of vegetative waste. The CCVWRC is located at 2150 County Services Parkway.

Cobb Ordinances Affecting Vegetative Waste

Section 102-10 of the Cobb County Solid Waste Ordinance makes it unlawful to place or mix yard trimming with municipal solid waste within Unincorporated Cobb County. The Solid Waste Ordinance also prohibits disposing of yard trimmings at any municipal solid waste disposal facility constructed with liners or leachate collection systems, or any municipal solid waste landfills which have received vertical expansion under the Official Code of Georgia Annotated (O.C.G.A.) §12-8-40.2. The Ordinance also dictates that, if yard trimmings are not collected, it must be disposed of in the following manners:

1. Sorted and stockpiled;
2. Chipped;
3. Composted;
4. Used as mulch;
5. By otherwise beneficially reusing or recycling it to the maximum extent feasible; or
6. Be disposed at certain types of landfills that are permitted to accept yard trimmings under (O.C.G.A.) §12-8-40.2



Figure 3-4 – Vegetative Waste Recovery Center



Section 102-69 of the Cobb County Solid Waste Ordinance prescribes the requirements for residential customers receiving solid waste collection and disposal services from a Cobb County permitted collector. Section 102-69(2) require that if yard trimmings are collected, that it must be sorted and separated by the residential customer from all municipal solid waste in order to facilitate collection and ultimate handling in accordance with the Cobb County Solid Waste Ordinance under Section 102-70(5).

CCVWRC Operation and Disposal Fees

The hours of operation at the Vegetative Waste Recovery Center are from 8:00 AM to 5:00 PM from Mondays through Fridays, and from 9:00 AM to 4:00 PM on Saturdays. CCSWD require that Vegetative Waste Recovery Center customers place their leaves and grass clippings in paper bags. Vegetative waste may be transported in plastic bags; however they must be removed by the customer at the time of disposal. The reason for not allowing plastic bags is that the plastic bags act as a contaminant and prevent the vegetative waste materials from being recycled. Presently, over 90% of the green waste accepted by CCSWD can be recycled.

Fees collected from customers at the Vegetative Waste Recovery Center are based on the size of the vehicle, trailer capacity, and volume of the load. CCSWD site attendants will price the vegetative waste load based on the price structure approved by the Cobb County Board of Commissioners. There is a \$7.00 minimum fee for disposal. The 2007 disposal fees for the Cobb County Vegetative Waste Recovery Center are presented on Table 3-2.

CCVWRC Free Wood Chips and Mulch

The wood chip and mulch material generated at the CCVWRC is free to Cobb County residents for private and individual use. Residents who wish to take advantage of the free wood chip and mulch must load the material onto their vehicles themselves. For a small fee of \$10 per cubic yards, CCSWD will to load the material onto the customer's vehicle.

Rules and Regulations at the Cobb County Vegetative Waste Recovery Center

- Leaves and grass clippings will be accepted in paper bags ONLY!
- No tractor trailers.
- No roll offs.
- Timber and logs must be LESS than 30 inches in diameter and 8 feet in length.
- Rocks and dirt are not accepted.
- No household waste is accepted.



Figure 3-5 – Processing Vegetative Waste



Vegetative Waste Recovery Base Line Data

During the Base Line Period (July 1, 2006 through June 30, 2007), CCSWD received and processed into wood chips and mulch an estimated 39,225 tons of vegetative wastes at the CCVWRC. This quantity is an estimate of the processed vegetative wastes. This amount of recycled vegetative waste is 20.26 percent (20.26%) of the total waste that went through the CCSWD solid waste management system.

Table 3-2
**COBB COUNTY VEGETATIVE WASTE
 RECOVERY CENTER 2007 DISPOSAL FEES**

PICK UP TRUCK	LEVEL WITH BED	\$7.00
PICK UP TRUCK	TALLER THAN BED(NO SIDEBARDS)	\$30.00
LANDSCAPE TRAILER	0-10 FEET LONG	\$30.00
LANDSCAPE TRAILER	10-14 FEET LONG	\$55.00
PANEL TRUCK	0-16 FEET LONG	\$40.00
PANEL TRUCK	GREATER THAN 16 FEET	\$60.00
1 TON DUMP	0-6 FOOT SIDE BOARDS	\$55.00
1 TON DUMP	GREATER THAN 6 FOOT SIDE BOARDS	\$55.00
SINGLE AXEL DUMP	0-6 FOOT SIDE BOARDS	\$65.00
SINGLE AXEL DUMP	GREATER THAN 6 FOOT SIDE BOARDS	\$80.00
TANDEM DUMP		\$90.00
CAR/VAN/SUV	MINIMUM CHARGE	\$7.00

Note: This disposal fee structure has been set and approved by the Cobb County Board of Commissioners. These fees are subject to change.



3.4.4 Residential Curbside Recycling Service

Section 102-65 of the Cobb County Solid Waste Ordinance mandate that all solid waste collectors offer their residential customers the option of having recyclable materials collected at least once a week. The Ordinance also dictates that as a minimum, the recyclable materials to be collected are newspaper, glass, and aluminum; and that in no event shall any of the recyclable materials collected by the collectors under this optional service be disposed of in any landfill. In addition to offering collection of recyclable materials, the waste collectors must also offer an appropriate container for those residential customers opting for the recycling service. The collector may charge its customers a fee for such container.

3.4.5 Electronics Recycling Day

The *Electronics Recycling Day (ERD)* is a scheduled drive-up and drop-off collection event introduced in Cobb County in May 2005 by CCSWD and Keep Cobb Beautiful (KCB). This day event is held for the sole purpose of diverting electronic waste items away from landfills. This program allows for the reduction in electronic waste items through recovery and reuse of valuable materials. This is a day when citizens could drop off, free of charge, their unwanted electronics for recycling.

Cobb County communities found it easy to participate in this drive up and drop off recycling program. While the best scenario would be to offer curbside pickup for the electronic items, offering different locations for the event makes the recycling effort more economically viable. Originally, the ERD program was offered twice a year, but in 2007, the ERD program was reduced to a once-a-year event. The ERD is only offered once a year now, but it is supplemented with a year-round and 6 days a week Electronics Recycling Station (ERS) operated by CCSWD at the Cobb County Transfer Station Recycling.



Figure 3-6 – Electronics Recycling Day

Cobb County's ERD depends highly on the support from volunteers. KCB and its Board organize volunteers to operate the ERD centers at different locations. Each ERD location has volunteers that help direct traffic, complete quick participant surveys and give away recycling information, KCB membership forms, volunteer opportunities, and information on what would happen to the



electronics. Recycling participants stay in their cars while the volunteers do all of the work. The hours for the ERD events are typically from 9:00 a.m. to 2:00 p.m.

ERD Base Year Data

During the Base Line Period, the November 2006 ERD received approximately 109,062 pounds (54.53 tons) of electronics during the one day event.

3.4.6 Electronics Recycling Station

The successful ERD program has demonstrated a need for a continuous electronics recycling program. After the first ERD event, CCSWD opened an **Electronics Recycling Station (ERS)** in June 2005. The ERS is at the county's Solid Waste Transfer Station. Cobb County's ERS is open six days a week to customers who want to bring any of their old electronics and recycle them for a nominal fee.

Security becomes an issue when dealing with electronics recyclable material. Toxic materials, valuable surplus and secure information cannot be left in an open area for anyone to access. When a customer brings their electronics to the ERS, they will place their old electronics in a safe container inside a secure gated area. The seven dollar (\$7.00) fee collected by CCSWD from the ERS customers reflects the operating costs incurred in the secure collection and storage of the recycled electronic equipments.

3.4.7 Bring One for the Chipper

The Cobb County residents count on the "**Bring One for the Chipper**" Christmas tree recycling event each year. In this program, residents are responsible for bringing their trees to the sites. As an example, in 2006, this CCSWD and KCB's annual tree recycling program drew a record breaking 228 volunteers working a total of 1368 hours, and donating \$24,624 in services to collect over 26,000 trees to recycle at 13 volunteer operated drop-off centers throughout Cobb. An estimated 35,000 participants recycled their trees in one day.



Figure 3-7 – Bring One for the Chipper



3.4.8 Teacher Supply Storehouse

The National Award winning *Teacher Supply Storehouse* program is one of Cobb County's waste reduction programs. In this program, usable materials are collected and given to schoolteachers for use in their classrooms. KCB serves on the steering committee for the "Teacher Supply Storehouse".

In 2006, KCB's 63 volunteers assisted with three open houses and handed to 296 educators items such as school supply materials, office furniture, and equipments that otherwise would have ended up in the landfills. Cobb County's communities have become more generous each year in its donations of usable materials to the Teachers Supply Storehouse.

3.4.9 Cobb Transfer Station Recycling

The *Cobb County Transfer Station Recycling (CCTSR)* is the CCSWD's drop-off recycling program. This recycling program is managed and operated at the Cobb County Solid Waste Transfer Station on County Services Parkway. Newspaper, corrugated cardboard, office paper, magazines, telephone books, glass, aluminum cans, ferrous metals, car battery, motor oil, and tires are the typical materials that are recycled at the Cobb Transfer Station Recycling.

Newspaper

CCTSR received and recycled 112.56 tons of newspaper during the Base Line Period, a one year period from July 1, 2006 through June 30, 2007.

Newspaper is one of the recyclable materials that schools, businesses, and charitable organization target in their recycling program. According to the Georgia ARC waste composition study, newspaper make up 4.9 percent (4.9%) of the total waste disposed in landfills.

Corrugated Cardboard

The ARC waste composition study show that corrugated cardboard is 11.3 percent (11.3%) of the total waste disposed in landfills. Corrugated cardboard is also the most abundant of the paper products found being disposed in landfills. CCTSR received and recycled 76.30 tons of corrugated cardboard during the Base Line Period.



Figure 3-8 – Recycling at Cobb County Transfer Station Recycling



Office Paper

CCTSR received and recycled 52.46 tons of office paper during the Base Line Period. This is 0.027 percent (0.027%) of the total waste stream handled by the CCSWD solid waste management system. According to the ARC waste composition study, office paper make up 3.5 percent (3.5%) of the waste disposed in landfills. Office paper is one of the recyclable materials that most schools, businesses, and charitable organization target in their recycling program.

Magazine/Glossy

CCTSR received and recycled 90.95 tons of magazines and glossy papers during the Base Line Period. This is 0.047 percent (0.047%) of the total waste stream handled by the CCSWD solid waste management system. The ARC waste composition study show that 2.8 percent (2.8%) of the waste disposed in landfill are magazines or glossy paper products.

Mixed Paper - Telephone Books

CCTSR received and recycled 22.49 tons of telephone books during the Base Line Period. This is 0.012 percent (0.012%) of the total waste stream handled by the CCSWD solid waste management system.

Clear Glass (Flint)

CCTSR received and recycled 47.33 tons of clear glass (flint) during the Base Line Period. This is 0.025 percent (0.025%) of the total waste stream handled by the CCSWD solid waste management system.

Green Glass

CCTSR received and recycled 34.58 tons of green glass during the Base Line Period. This is approximately 0.018 percent (0.018%) of the total waste stream handled by the CCSWD solid waste management system.

Amber Glass

CCTSR received and recycled 37.56 tons of amber glass during the Base Line Period. This is approximately 0.019 percent (0.019%) of the total waste stream handled by the CCSWD solid waste management system.

Other Glass (Mixed Glass)

CCTSR received and recycled 6.62 tons of mixed glass during the Base Line Period. This is approximately 0.0034 percent (0.0034%) of the total waste stream handled by the CCSWD solid waste management system.



Figure 3-9 – Glass Recycling at the Cobb County Transfer Station



Aluminum Cans

CCTSR received and recycled 1,242 pound or 0.62 tons of aluminum cans during the Base Line Period. This amount is too small to calculate as a percentage of the total waste stream handled by the CCSWD solid waste management system. The Georgia ARC waste composition study estimate that aluminum cans is only 0.0003 percent (0.0003%) of the waste disposed in landfills.

Inert Waste Recycling

CCSWD is very aggressive in diverting and recycling inert waste materials. Inert waste materials are the concrete, brick, rock and dirt that are transported to the County's transfer station for disposal. When such materials are brought in by customers, CCSWD personnel direct those customers to unload the inert waste in a separate area at the transfer station facility for recycling. CCSWD then load these materials into bins. During the Base Line Period, CCTSR received and recycled 1,429.30 tons of inert waste materials. This inert waste quantity calculated to 0.738 percent (0.738%) of the total waste stream handled by the CCSWD solid waste management system. The Georgia ARC waste composition study estimated that 0.2 percent (0.2%) of the total waste disposed in landfills is inert waste materials.



Figure 3-10 – Inert Waste Recycling

Tires

The material recycled by CCSWD as tires are scrap tires, tires with rims, and whole tires. During the Base Line Period, CCSWD accepted and recycled an estimated 443.74 tons of tires. This is approximately 0.229 percent (0.229%) of the total waste stream handled by the CCSWD solid waste management system. The Georgia ARC waste composition study calculated that 0.3 percent (0.3%) of the total waste disposed in landfills is tires.



Figure 3-11 – Tire Recycling

Other Recycling and Materials Recovery

CCSWD also has programs to collect antifreeze, Freon, automotive oil, and batteries for recycling and recovery. During the Base Line Period, CCSWD collected 600 gallons of antifreeze; 862 gallons of Freon; 6,016 gallons of automotive oil; and 1,051 automotive batteries. Converted to weight, this is approximately 56.14 tons of



antifreeze, Freon, automotive oil, and batteries. This is approximately 0.029 percent (0.029 %) of the total waste stream handled by the CCSWD solid waste management system.

Carpet padding material is another thing that CCSWD collects and recycles. Transfer station customers that bring in carpet padding materials are directed by the CCSWD staff to a separate unloading area in an effort to keep the padding material from getting contaminated with municipal solid waste.

3.4.10 Cobb County Metal Recycling

Recyclable metals are dropped off by customers at the Cobb County Transfer Station. In addition, Cobb County Government Departments such as Cobb County Department of Transportation, Cobb County Fleet Maintenance, and Cobb County Water System are also involved in collecting and recycling metals. During the Base Line Period, a total of 4,190.9 tons of metals were collected by CCSWD for recycling. This is 2.165 percent (2.165%) of the total waste stream handled by the CCSWD solid waste management system. The ARC waste composition study estimate that steel cans, ferrous metals, and non-ferrous metals make up 4.9 percent (4.9%) of the waste disposed in landfills.

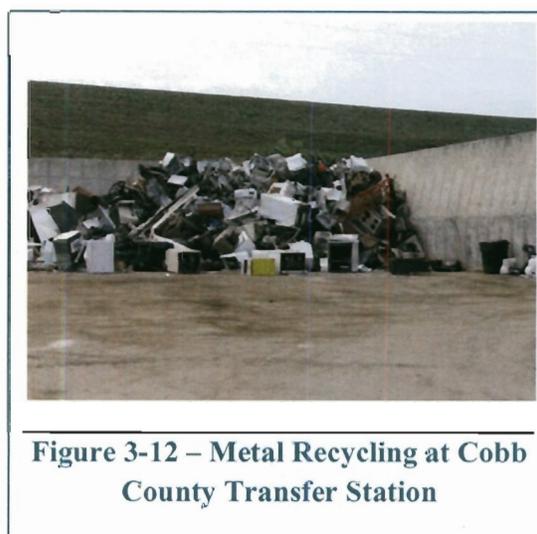


Figure 3-12 – Metal Recycling at Cobb County Transfer Station

3.5 Waste Reduction Needs

Cobb County's current waste reduction programs have successfully diverted 44.03 percent (44.03%) of the total Unincorporated Cobb County waste stream away from landfills. The combined Cobb County's composting and vegetative waste recovery programs alone were able to reduce the amount of waste disposal quantity by 41 percent (41%). Cobb County plan on continuing its successful waste reductions programs. Following are Cobb County's needs and goals for waste reduction initiatives for the next 10 years.



3.5.1 Expanded Transfer Station Recycling (Enhancement)

CCSWD plans on improving and expanding its drop-off recycling operation at the Cobb County Transfer Station Recycling. CCSWD is contemplating modification and construction options for the recycling area, and is considering the purchase of equipments such as a baler machine. Construction of drop-off ramps can facilitate the off-loading of recyclables by customers. The availability of a baler machine for use with paper products, aluminum cans, and plastics will make it easier for CCSWD to move and handle the recyclables. Baled recyclables also reduces storage requirements and typically results in higher price for the recycled commodities.

3.5.2 Expanded Vegetative Waste Recovery Center (Enhancement)

The Cobb County Vegetative Waste Recovery Center (CCVWRC) receives and processes approximately 40,000 tons of vegetative waste each year. This is approximately 20 percent (20%) of the total waste handled by CCSWD.

On-Site Weighing System

One improvement that would be beneficial to the CCVWRC is to have an on-site weighing system at the center. Currently, customers are billed based on the size and carrying capacity of their vehicles. Having a weighing system at the CCVWRC would help in equitable billing of customers. The weighing system would also help in keeping a more accurate record of the amount of vegetative waste received at the facility.

Another advantage for having a weighing system at the center would be for use in case of a natural disaster. Large amount of vegetative debris are generated by the effects of hurricanes, tornadoes, and storms events. These natural disasters could be at a magnitude that Federal Emergency Management Agency (FEMA) would have to be heavily involved with Cobb County for the cleanup of vegetative debris. Cobb County has additional contingency processors contracted for the cleanup and processing of the collected vegetative debris. For such events, it would be beneficial for reimbursement purposes from FEMA and payment to contractors to be able to document the amount of vegetative waste being processed.

Lumber Recycling

CCSWD could include the lumber for recycling at the CCVWRC. Lumber collected and brought in by customers could be chipped and processed at the CCVWRC. Lumber chips may be sold by CCSWD as an alternative fuel source.



3.5.3 Customer Convenience Centers (New)

The Cobb County Transfer Station Recycling is the only CCSWD operated drop-off recycling location offered to the residents of Cobb County. Implementation of recyclable collection facilities in various areas of the county is being considered. A convenient location to drop off a variety of different recyclables would make it easier for those Cobb County residents who recycle in their homes, and give families the incentive to be more diligent in their recycling at home and may inspire others to begin their own recycling efforts.

3.5.4 Bio-Diesel (New)

The Cobb County fleet of diesel powered vehicles consumes approximately 330,000 gallons of diesel fuel each year. CCSWD is currently investigating the feasibility of collecting restaurant grease and oil and converting it into bio-diesel fuel. Currently, restaurant grease and oil are collected and are either disposed in landfills or disposed through the waste water treatment system. The bio-diesel produced by CCSWD could fuel many of the vehicles in the County's fleet. It also is a means of recycling another organic product and removing it from the waste stream.

3.6 Waste Reduction Goals

3.6.1 Bio-Diesel Production Facility

- On line by 2009

3.6.2 Customer Recycling Convenience Centers (New)

- Feasibility Study by end of 2010

3.6.3 On-Site Weighing System

- Vegetative Waste Facility Evaluation by end of 2009

3.6.4 Recycling Baler or Compactor

- Evaluation by end of 2010



Section 4: WASTE COLLECTION ELEMENT

4.1 Core Planning Element 2 - Waste Collection

Waste Collection is the second of the five core planning elements required to be addressed in a Solid Waste Management Plan (SWMP). In accordance with Chapter 110-4-3, Minimum Planning Standards and Procedures for Solid Waste Management by the Georgia Department of Community Affairs (DCA), this planning element needs to address the adequacy of the collection programs as they relate to the overall population in the planning area.

4.2 Cobb County Solid Waste Ordinance

“Chapter 102 - Solid Waste” of the Cobb County Code of Ordinances, commonly known and referred to as the “Solid Waste Ordinance of Cobb County,” regulates what constitutes illegal dumping, the storage, collection, transportation and disposal of solid waste within the unincorporated areas of Cobb County. The provisions contained in the Cobb County Solid Waste Ordinance prescribe the rules and regulations for solid waste collection; provide for the permitting, licensing and regulation of solid waste collection and transportation; prescribe rules and regulations for the transportation of solid waste within and through the county; and prohibit the deposition of litter within the unincorporated areas of the county. The provision of the Cobb County Solid Waste Ordinance do not restrict or prohibit the disposal of solid waste by any individual from his, her or its own dwelling when done so as not to create a nuisance or a menace to health.

Intent and Purpose of Solid Waste Ordinance

The Cobb County Board of Commissioners passed the Solid Waste Ordinance with the declared intent and purpose to:

1. Protect the public health, safety and welfare by preventing the dissemination of and providing for the removal of inorganic refuse materials laden with bacterial elements and contaminants detrimental to the general well being of the citizens and environment; and
2. To provide for the uniform prohibition throughout the county of any and all illegal dumping and littering on public and private property and to curb thereby the desecration of the county’s scenic beauty; and



3. To protect and enhance the quality of water, air, and overall environment by guarding against any of the degradations which stem from the burial, deposition, burning, dumping, discard or disposal of litter and solid waste in Cobb County.



Waste Collection Permit and Registration Requirement

In addition to a business license or any other permit required by Cobb County, all persons or corporations engaged in the primary business of collection or transportation of solid waste in the unincorporated areas of Cobb County is required, under Section 102-53 of the Solid Waste Ordinance, to apply annually for a solid waste permit to operate such business. The application is to be filed with the Cobb County Business License Office, and neither a business license nor a solid waste permit is to be issued by the business license office until the Cobb County Solid Waste Division (CCSWD) has approved the solid waste permit application in writing.

As required under Section 102-55 of the Solid Waste Ordinance, in addition to a completed permit application, permit applicants are to provide the following information:

1. If the applicant is an individual, partnership or proprietorship, the names and addresses of all person, partners and owners (including corporations) and their percentages of ownership in the prospective collector's business in Cobb County.
2. If the applicant is a corporation, the name and addresses of the officers and directors.
3. Whether each driver of a motor vehicle employed by applicant possesses a valid Georgia drivers license, and whether this license is of the appropriate class and type to permit such a driver to operate the vehicle which has been employed by the applicant to operate.
4. A current certificate or certificates of insurance as evidence of compliance with the insurance requirements.
5. The contact person employed by applicant for customer service.
6. A verified statement that the application, if a corporation, is in good standing with the State of Georgia, and that the applicant, if a corporation organized under the laws of any other state, is licensed to do business in the State of Georgia.

Mandatory Reporting Requirements for Waste Collectors

Section 102-67(b) of the Cobb County Solid Waste Ordinance require that all solid waste collectors submit a written report on a yearly basis to the CCSWD no later than January 15. This report shall include the following information:

1. Tonnage figures showing total waste collected by that collector in the county.
2. Tonnage figures showing total municipal solid waste delivered to any and all disposal facilities and/or transfer stations outside the limits of Unincorporated Cobb County, including municipalities located within the county.
3. Tonnage figures showing total recyclable materials collected by that collector by segregated type newspaper, aluminum, glass and others, and the entity to whom the recyclable materials were sold or donated.
4. Total number of customers receiving waste collection service.
5. Total number of customers participating in curbside recyclable materials collection program.



6. The name, address, and location of any disposal facility used by any solid waste collector permitted under the Cobb County Solid Waste Ordinance

Requirements for Residential Customer

The Cobb County Solid Waste Ordinance, under Section 102-69, require that all persons receiving solid waste collection and disposal services from a permitted collector in residential areas comply with the following requirements:

1. All solid waste, except yard trimming, must be enclosed in plastic or plastic lined bags which have been tied.
2. Yard trimmings, if collected, shall be sorted and separated from all municipal solid waste in order to facilitate collection and ultimately handling in accordance with Section 102-70.

Streetside Containers Ordinance

The Cobb County Solid Waste Ordinance regulates the streetside placement of moveable garbage can, bag, box or other such container filled with garbage and municipal solid waste. Under Section 102-18 of the Solid Waste Ordinance, containers filled with garbage and municipal solid waste are not allowed to be at streetside prior to 6:00 p.m. on the evening prior to the scheduled day of collection. Such containers are also not allowed at streetside after 11:00 p.m. on the regularly scheduled day of collection.

This ordinance only applies to waste generated by households and does not apply to containers which cannot be manually moved without the aid of hydraulic or other heavy duty equipment. The streetside time limits also do not apply in the event the resident complies with the requirements, and the garbage collector fails to collect the items on the regularly scheduled day of collection. However, in no event shall the containers be left at streetside later than 9:00 p.m. on the third day after the regularly scheduled day of collection which was missed by the garbage collector.

Violations of this ordinance will be referred to the Cobb County Community Development Enforcement Department. The first violation will cause a warning to be issued from Cobb County Community Development Enforcement Department. The second or any further violations will cause a citation to be issued to the resident(s) occupying the address.

Hours of Collection

To reduce the impact of the noise generated by waste collection, transportation or disposal operation, the operating hours when collectors may engage in their operations is regulated under Section 102-71 of the Cobb County Solid Waste Ordinance. Except to perform emergency work required to safeguard the immediate health, safety and welfare of the public, the Solid Waste Ordinance prohibits waste collection, transportation or disposal of any solid waste or recyclables



between the hours of 11:00 p.m. and 7:00 a.m. Noise complaints received and recorded by CCSWD, the Cobb County Police Department, or the Code Enforcement Division of the Community Development Agency at a particular location will constitute a violation of the Solid Waste Ordinance provision and will result in the issuance of a report to the County Police Department, the Code Enforcement Division of Community Development Agency and CCSWD for full enforcement of the ordinance.

Waste Collection Vehicle Requirements

The Cobb County Solid Waste Ordinance, under Section 102-64, sets the requirements for vehicles used in the collection and disposal of solid waste in Unincorporated Cobb County. Following are Cobb County's the requirements on waste collection vehicles:

1. **Type and size:** Solid waste collection vehicles must comply with the regulations and licensing requirements of the Georgia Department of Transportation and with applicable local ordinances specifying weight and size restrictions for any streets or roads traveled to collect solid waste.
2. **Compactor and cover:** Vehicles used for the collection or transportation of solid waste must be compactor-type trucks and must be enclosed, weather-tight, substantially leak proof, easily cleaned and constructed of durable metal. Except during loading and unloading, collection or transportation vehicles must be covered at all times so as to prevent the contents from falling, leaking or blowing out of the vehicle.
3. **Scout or satellite vehicle:** A scout or satellite vehicle is a vehicle with a maximum material capacity of eight cubic yards, or 216 cubic feet. The "box" of the truck may be configured in any manner not to exceed eight cubic yards so long as the dimensions comply with all state and local laws. The scout should be used to collect materials in areas not easily accessible to compactor trucks after which the material can then be hydraulically or manually emptied into a compactor truck. The scout is not allowed to make direct use of disposal facilities such as landfills or transfer stations. The scout must be leak proof and covered in such a manner as to prevent waste from falling, leaking or blowing from the vehicle when travelling to the compactor truck.
4. **Audible alarm:** Each vehicle used for collection or transportation of solid waste must have an operating, audible alarm which sounds when any such vehicle backs up or in reverse.
5. **Emergency lights:** Each compactor vehicle used for the collection or transportation of solid waste must have an operation, flashing or revolving amber light mounted on top of the vehicle and visible from its rear. All collectors must comply with any corresponding state or federal laws or regulations.



6. Identification: Identifying information must be clearly visible on each and every vehicle used in the collection or transportation of solid waste, including temporary replacement vehicles and scouts. The identity and telephone number of the collector must be displayed on both sides of the vehicle by letters or characters at least three inches in height and the permit decal must be displayed on the front of the vehicle.
7. Ownership/lease: Registration of and title to the collector's vehicle must be in the name of the collector or a leasing agent with a duly authorized power of attorney issued in the name of the collector.
8. Exempt equipment: Roll-off and open-top equipment (to be used solely for the collection of construction debris and inert material which does not constitute solid waste); brush collector equipment; and knuckle-boom picker equipment are exempt from the vehicle cover requirements. However, these equipments must comply with all vehicle requirements in the Solid Waste Ordinance.

4.3 Inventory and Assessment of Existing Waste Collection

In 2007, CCSWD permitted a total of 54 waste collectors to operate in Cobb County. The CCSWD currently does not provide waste collection services in Cobb County. Waste collection for residential and commercial customers in the Unincorporated Cobb County is provided through an open market multiple hauler system. Homeowners and businesses in Unincorporated Cobb County contract directly with a private hauler of their choice.

Cobb County does not incur any expenses associated with the collection of waste. The waste haulers are responsible for finding disposal locations and paying tipping fees. The Cobb County Transfer Station, Compost Facility and Vegetative Waste site are such disposal locations. These facilities also function as disposal options to individual citizens of Cobb County as discussed in the Waste Disposal Element of this plan.

4.3.1 Residential Curbside Waste Collection

Multiple private haulers provide residential curbside collection services in Unincorporated Cobb County. The private haulers operate in an open market system and are responsible for promoting their own services. The haulers are also responsible for scheduling and overall coordination with the collection of municipal solid waste, vegetative waste and recyclables from their customers. In an open market, multiple haulers cross paths picking up waste throughout the county, and are limited only by the Cobb County Solid Waste Ordinance which sets operating requirements and guidelines to protect public health, safety and welfare.



Collectors are not required to collect, remove, or transport dead animals, or materials which exhibit toxic, ignitable, reactive, or corrosive characteristics. Section 102-70 of the Cobb County Solid Waste Ordinance requires that all residential waste collectors comply with the following requirements:

1. Collection schedule: Collectors are to provide residential collection service at least once per week. No undue disturbance shall be created in residential areas during residential collection.
2. Collection during holidays: During a week which includes a legal holiday, collectors shall alternate collection days, if necessary, to ensure that collection service is provided at least once during such holiday week.
3. Notice to customer and Cobb County: Residential collectors are to give written notice of any change in policy of level of services as follows:
 - a. To the county at least ten days prior to the implementation of any such change, including but not limited to sale of company, termination of business, or change of phone number; and
 - b. To the customer at least ten days prior to the implementation of any such change including but not limited to termination of service; change of phone number and change of rate, but excluding any sale of the company; however, the customer shall be notified of any such sale of the

Advantages and Disadvantages of Existing Waste Collection in Cobb County:

Advantages:

- Residents have a choice between numerous haulers, price ranges, and levels of service.
- County administration of the collection program is minimal.
- Low fees and minimal regulations allow almost anyone to get into waste collection business in Cobb County.

Disadvantages:

- Multiple haulers pick up in the same neighborhoods, increasing vehicle miles and auto emissions.
- Inefficient collection routes are more expensive.
- Recycling with the multi-hauler system is inefficient, ineffective and costly.
- The existing system is not conducive to implementing collection programs such as volume based rates.
- There is minimal protection for the resident who contracts with a non-reputable hauler and pays in advance for services that may not be received.
- There is minimal flexibility in designing a fee schedule to pay for additional or alternative solid waste programs through collection.



company within 30 days after the occurrence of such sale.

4. Disposal of Solid Waste: All collectors, including commercial collectors, must dispose of any solid waste in an approved disposal facility permitted and regulated by the Georgia Department of Natural Resources – Environmental Protection Division and/or by Cobb County.
5. Disposal of Yard Waste: Since September 1, 1996, it is unlawful within Unincorporated Cobb County to dispose of yard trimmings in a municipal solid waste landfill with liners or leachate collection system; and to dispose of yard trimmings in municipal solid waste landfills which have received a vertical expansion under O.C.G.A. §12-8-40.2. Collectors violating the Cobb County yard waste provision are subject to the penalties outlined in Section 102-14 of the Solid Waste Ordinance.

Collectors may combine municipal solid waste and yard waste which is transported to an authorized composting facility for processing. All collectors, including commercial collectors must dispose of yard trimmings, if collected, in the following manners:

- Sorting
 - Stockpiling
 - Chipping
 - Composting
 - Using as mulch
 - By otherwise beneficially reusing or recycling it to the maximum extent feasible
 - By delivering it to certain types of landfills that are permitted to accept yard trimming under O.C.G.A. §12-8-40.2
6. Customer Services: Each permitted collector is to maintain a published telephone number and a responsible person in charge of customer service. Collectors are also required provide CCSWD and to each customer a written policy specifying the terms of any and all services to be afforded to or agreements with each customer; and a customer service system to resolve disputes with or complaints against the collector.



4.3.2 Commercial Waste Collection

Section 102-73 of the Cobb County Solid Waste Ordinance makes it unlawful for any person to use privately owned commercial container without prior authorization of the owner. Person violating this provision are subject to penalties of fines and/or imprisonment outlined in Section 102-14 of the Solid Waste Ordinance.

In Unincorporated Cobb County, commercial establishments are free to contract with a hauler of their choice. Apartment complexes, restaurants, shopping malls, and hotels are examples of commercial waste generators. These establishments would contract for collection services for the balance of waste not recycled.

4.3.3 Residential Curbside Recycling Collection

Cobb County requires that all solid waste collectors offer recycling service to its residential customers. Section 102-65 of the Solid Waste Ordinance of Cobb County state that it is mandatory that all collectors offer to their residential customers the option of having recyclable materials collected at least once a week. As a minimum, the required recyclable materials to be collected are newspaper, glass, and aluminum. These recyclable materials have been shown to be practical to source-separate at the household level and manageable to collect in curbside programs.

The ordinance also state that in no event shall any of the recyclable materials collected by the collectors under this optional recycling service be disposed of in any landfill. In addition to offering recyclable materials collection, the collectors must also offer an appropriate container for those residential customers opting for this recycling service. The collector may charge a fee for such container.

4.3.4 Curbside Collection of Vegetative Waste

Vegetative waste is commonly known as green waste, yard trimmings, or yard trash. Vegetative wastes are materials such as grass clippings, leaves, brush, limbs, shrub, hedge clippings, tree pruning, landscape materials, and logs.

2007 PERMITTED WASTE HAULERS	USES COMPOST FACILITY
A OK SANITATION	
A&A SANITATION	X
A&H GARBAGE	
ADVANCED DISPOSAL	X
ALAN'S GARBAGE	X
ALFORD SANITATION	
ALL TERRAIN SERVICE CO	
ALLEGIANCE SANITATION	
ASP	X
BATES SANITATION	
BFI	X
BONDCCO	X
BRENT LAND	
BROWN SANITATION	X
COMMUNITY WASTE AND DISPOSAL	X
CUSTOM	X
CYCLE WORKS SANITATION	
D & D	
DIAMOND DISPOSAL	X
DIXIE	X
ELI	
GEORGIA WASTE	
HOLCOMB	X
HUGH'S	X
J & R	X
K & W	X
LIBERTY DISPOSAL	
NEIGHBORHOOD WASTE	
NORTH METRO	X
QUALITY	X
RELIABLE	
RURAL GARBAGE	
S & S	X
SID'S	X
SMITH	X
TAYLORS	X
TRASH BUSTERS	X
UNITED	X
WADE	X
WASTE INDUSTRIES	
WASTE MANAGEMENT	X
WEST COBB	X
WILLS	X



Private haulers in Unincorporated Cobb County provide residential vegetative waste curbside collection services to its customers as part of its overall curbside collection service or as an optional service.

The Cobb County Solid Waste Ordinance require that collected yard trimmings be sorted and separated from all municipal solid waste in order to facilitate collection and ultimately handling in accordance with Section 102-70. Section 102-10 of the Solid Waste Ordinance of Cobb County prohibits the placing or mixing yard trimmings with municipal solid waste within Unincorporated Cobb County. Yard trimmings are not to be disposed at any municipal solid waste disposal facility with liners or leachate collection system or any municipal solid waste landfill which have received a vertical expansion under the Official Code of Georgia Annotated (O.C.G.A.) §12-8-40.2. The Solid Waste Ordinance also dictate that if the yard trimmings are not collected, that it be sorted and stockpiled; chipped; composted; used as mulch; beneficially reused or recycled it to the maximum extent feasible; or disposed at landfills that are permitted to accept yard trimmings under O.C.G.A. §12-8-40.2. The Cobb County yard trimming prohibition became effective on September 1, 1996 and is still in effect to date.

Individuals may combine municipal solid waste and yard waste which is transported to an authorized composting facility for processing. Persons violating the this yard waste ordinance, if found guilty of this misdemeanor may be fined in an amount of up to \$1,000 and/or imprisoned for a period of up to 60 days for each such conviction. Any person, solid waste handler, collector, or permit holder, who violates this, in addition to the penalties, is subject to the procedures specified in Section 102-59 of the Solid Waste Ordinance.

4.4 Disaster preparedness in Waste Collection

As part of Cobb County's Emergency Management Plan, the collection of solid waste remains the domain of the private sector, with augmentation by County services and County provided staging areas and temporary processing facilities. Waste generated by disasters such as storms, ice, and other inordinate occurrences, to the extent that it interferes with the public well being and will be picked up at the street by County services (DOT). Citizens and their haulers remain responsible for disposal of their normal waste and disaster damage on private property.

Temporary storage / staging areas are identified at strategic spots around the county to manage debris increases over normal levels. Notification to the Public of these services will be disseminated through public service announcements on broadcast media, on the County' cable Channel-23, updates and banners on the County Web Site and the local newspaper. Processing, recycling and hauling of disaster debris are handled by firms under contract for such emergency response. These firms are experienced in GEMA/FEMA requirements and documentation.



4.5 Contingency Planning in Waste Collection

For many years, waste collection for residential and commercial customers in the Unincorporated Cobb County has been provided through an open market multiple hauler system. Homeowners and businesses in Unincorporated Cobb County contract directly with a private hauler of their choice.

Experience with failed collection service providers has proven that private market competition fills such voids with remarkable efficiency. Cobb County believes that the current waste collection services provided by the private waste collection businesses are adequate for the present and future needs of the community and this diversity of providers provides the contingency coverage for the collection element of the Solid Waste Management Plan.

4.6 Needs in Waste Collection

4.6.1 Collection Redundancy Reduction

One of the needs of an open market collection matrix is to reduce redundancy of service for given geographical areas. This reduces traffic in neighborhoods, costs, fuel consumption and traffic congestion as these vehicles concentrate as they approach their deposit sites such as transfer stations.

4.7 Goals in Waste Collection

4.7.1 Goal 1 - Negotiated Community Waste Collection

Waste collectors are more profitable if they are able to collect waste from as many homes possible in an area. The more homes a collector can service in an area the more it can profit by saving on fuel costs and labor costs. Residences of a subdivision or community can as a group negotiate with and enter into a contract with one of the waste collectors for better pricing and level of services. As a group, they can also invite several waste collection companies to submit price and level of services bids for their community. In addition to possible cost benefits to the group, having one waste hauler in a community would also reduce the traffic associated with having multiple haulers servicing an area. Investigate coordination of collectors by 2010.

4.7.2 Goal 2 - Disaster Preparedness Plan Update Program

Develop a scheduled review of the County's Emergency Management Disaster Preparedness Plan to ensure compatibility with the Comprehensive Solid Waste Management plan and the Solid Waste Division's ability to implement it's obligations.



Section 5: Waste Disposal Element

5.1 Core Planning Element 3 - Waste Disposal Element

Waste Disposal is the third of the five core planning elements required to be addressed in a Solid Waste Management Plan (SWMP) by the Georgia Department of Community Affairs. In accordance with Chapter 110-4-3, Minimum Planning Standards and Procedures for Solid Waste Management by the Georgia Department of Community Affairs (DCA), this planning element needs to provide an assessment of current and future disposal practices in Unincorporated Cobb County.

Capacity Assurance

Under the Georgia Comprehensive Solid Waste Management Act of 1990, each local government is required to provide 10-year capacity assurance whether that local government relies on its own landfill, another local government, regional authority, private entity or any combination thereof for disposal of the solid waste generated within the planning jurisdiction.

This section presents current disposal program being used in Cobb County and assesses whether such program is adequate for the 10-year planning period and that it meets the State's required assurance for 10-year disposal capacity. This section also includes a contingency strategy for the interim disposal of the County's solid waste in the event that the primary disposal option becomes interrupted. This section focuses on disposal options and technologies. For a discussion on the siting of solid waste handling facilities, please refer to Section 6, Land Limitation Element, which discusses the siting process that both the County and private entities must follow.

5.2 Solid Waste Disposal Practices

Landfills are the physical facilities used for the disposal of solid waste. A landfill is an area of land or an excavation in which solid waste is placed for permanent disposal. The area or excavation used as a landfill cannot be a land application unit, surface impoundment, injection well, or waste piles. Permanent disposal of solid waste requires the placement of daily, intermediate, and/or final earth, synthetic, or a combination of earth and synthetic cover over the waste. The term leachate with regards to landfills means a liquid that has passed through or emerged from solid waste and contains soluble or suspended materials removed from such wastes.

Georgia Environmental Protection Division (EPD) defines **Municipal Solid Waste (MSW)** as any solid waste derived from households, including garbage, trash, and sanitary waste in septic



tanks and means solid waste from single-family and multifamily residences, hotels and motels, bunkhouses, campgrounds, picnic grounds, and day use recreation areas. The term includes yard trimmings and commercial solid waste, but does not include solid waste from mining, agricultural, or silvicultural operations or industrial processes or operations.

Construction and Demolition (C&D) Waste is defined by Georgia EPD as building waste materials and rubble resulting from construction, remodeling, repair, and demolition operations of pavements, houses, commercial buildings and other structures. Such wastes include, but are not limited to asbestos containing waste, wood, bricks, metal, concrete, wall board, paper, cardboard, inert waste landfill material, and other any waste that cannot be quickly decomposed by microorganisms and which have a low potential for groundwater contamination.

Landfill Post-Closure Care

Landfills that have reached its designed capacity are formally closed in accordance with the requirements established by Georgia EPD. After closure construction and receipt of a final closure certificate from Georgia EPD, the landfill goes into a post-closure care period. Post-closure means a procedure approved by the Georgia EPD to provide for a minimum 30-year financial assurance, monitoring, and maintenance of a solid waste disposal facility to protect human health and the environment.

Today's Landfills

In the past, the term sanitary landfill was used to denote a landfill in which waste was placed on bare ground and was covered at the end of each day's operation. Today, sanitary landfill refers to an engineered facility for the disposal of municipal solid waste designed and operated to minimize public health and environmental impacts. Landfills are now designed and constructed with liner and leachate collection systems, and are monitored environmentally for its impact to the quality of the groundwater and air. Landfilling operation today includes monitoring of incoming waste stream, placement and compaction of the waste and application of a cover over the waste at the end of each day.

Historically, landfills have been the most economical and environmentally acceptable methods used for the disposal of solid waste both here in the United States and throughout the world. After the implementation of source reduction and waste reduction through recycling and composting, there still remain solid wastes that need to be disposed in landfills. Even in the process of burning waste as fuel source, such as in a waste-to-energy facility, there are still waste residues, in the form of ashes in this case, which need to be disposed in landfills. The disposal of solid waste in landfills still remains an important component of an integrated solid waste management system.

5.3 Inventory of Solid Waste Disposal Practices



This sub-section provides information on the current and future disposal practices in Unincorporated Cobb County. Cobb County no longer has any operational landfill and it currently does not have plans to site and build a new landfill within the county. All solid waste received at the Transfer Station for disposal are transported and disposed of in privately owned landfills outside Cobb County. In 1997, Cobb County began contracting with private companies for the disposal of its solid waste. Landfilling in out-of-county privately-owned landfills has been a good viable option for Cobb County for many years now. As a successful method for the disposal of its solid wastes, Cobb County will continue to use this method as part of its solid waste management practices.

5.3.1 Cobb County Landfills

In the past, Cobb County owned and operated three landfills. None of the three landfills have liner system and they were not equipped with leachate collection systems. Such systems were not available or required at the time of the design, permitting and construction of these landfills. Cobb County's County Farm Drive Sanitary Landfill and Cheatham Road Sanitary Landfill accepted municipal solid wastes. Both MSW landfills were closed in 1989 and 1997, respectively. The third Cobb County landfill is the County Farm Road C&D Landfill. This landfill was permitted to accept only construction and demolition debris and was closed in 1999. Today, there are no operational MSW and C&D landfill in Cobb County. All the waste generated and collected in Cobb County are now disposed in privately-owned landfills located outside the boundaries of Cobb County.

County Farm Drive Sanitary Landfill (Closed Landfill)

The County Farm Drive Sanitary Landfill, which operated under Georgia Department of Environmental Protection (EPD) Permit No. 033-039D(SL), is a municipal solid waste landfill on Al Bishop Drive (formerly known as County Farm Drive), in Marietta, Georgia. This landfill, owned and operated by Cobb County, is a 28 acre landfill on a 40 acre property.

County Farm Drive Sanitary Landfill began accepting municipal solid waste on June 1, 1972. After operating for 17 years, it finally accepted its last load of waste on November 1, 1989. It is estimated that the County Farm Drive Sanitary Landfill received approximately 860,000 cubic yards of waste.



Figure 5-1: County Farm Drive Sanitary Landfill



Final closure construction on County Farm Drive Sanitary Landfill was completed with the installation of a vegetated final cover system and improvements to its stormwater management control system. To control the off-site subsurface migration of landfill gas, passive venting wells were installed on the northern slope of the landfill, and interceptor trenches were installed along the north and western boundaries of the landfill. Cobb County received final closure certificate for County Farm Drive Sanitary Landfill from Georgia EPD on September 8, 2002 and the landfill is currently in its 30-year post-closure care period.

Cheatham Road Sanitary Landfill (Closed Landfill)

The Cheatham Road Sanitary Landfill, owned and operated by Cobb County, operated under GA EPD Permit No. 033-038D(SL). The landfill located at 2500 Pitner Road in Acworth, Georgia, is a 35 acre landfill on a 118 acre property. The landfill originally opened and operated as a balefill type landfill in 1974. Wastes received at the Cobb County Baler Facility (known today as the Cobb County Transfer Station) were unloaded into a compaction pit hopper equipped with a conveyor that moves the waste into a compactor. The compactor compresses the waste into bales. The bales are then loaded onto semitrailers and transported to the Cobb County Cheatham Road Sanitary Landfill for disposal. However, during the 1980's, the volume of waste received daily at the Cobb County Baler Facility gradually increased and finally exceeded the operational limit of the baler. Because of this, Cobb County terminated its waste balling operation in 1988 and converted the Cheatham Road Sanitary Landfill to an area fill landfilling operation.



Figure 5-2: Cheatham Road Sanitary Landfill

The Cheatham Road Sanitary Landfill received its final load of waste in 1997. Final closure construction on the Cheatham Road Sanitary Landfill was completed with the installation of a vegetated low permeability final cover system. During closure construction, improvements were made to the landfill's stormwater management control system. In addition, to control the off-site subsurface migrations of landfill gas from the landfill, passive well vents were installed on top of the landfill and a landfill gas interceptor trench were constructed along the western boundary of the landfill. Cobb County received the Georgia EPD final closure certificate for the Cheatham Road Sanitary Landfill on September 30, 1997. This landfill is currently under its 30-year post-closure care period.

The Cheatham Road Sanitary Landfill is also assigned the Federal Hazardous Site Inventory Number 58-600-804. This is relative to the volatile organic compound (VOC) found in the



onsite groundwater that exceeded regulatory limits. The VOC found in the onsite groundwater is currently being remediated by Monitored Natural Attenuation.

County Farm Road C&D Landfill (Closed Landfill)

The County Farm Road C&D Landfill is a 28 acre construction and demolition debris landfill, just south of the Cobb County Transfer Station. The landfill is at 1897 County Services Parkway (formerly known as County Farm Road) in Marietta.

The County Farm Road C&D Landfill, owned and operated by Cobb County, operated under GA EPD Permit No. 033-037D(SL) from 1980 through 1999. After 19 years operation, this landfill is estimated to have received a total of 800,000 cubic yards of construction and demolition debris. This landfill received its final load of wastes on March 31, 2000.

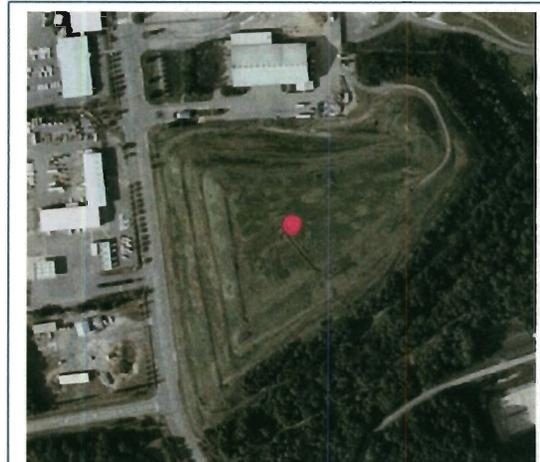


Figure 5-3: County Farm Road C&D Landfill

Closure construction for the County Farm Road C&D landfill included the installation of a vegetated final landfill cover system, improvements to the stormwater management system, and the installation of a landfill gas interceptor trench that runs along the western and northern boundaries of the landfill, and wraps around the northeast tip of the landfill. Cobb County received final closure certificate for the County Farm Road C&D Landfill from Georgia EPD on September 6, 2001. This landfill is currently under its 30-year post-closure care period.

5.3.2 Solid Waste Transfer Station

A **Transfer Station** is a facility used to transfer solid waste from one transportation vehicle to another for transportation to a disposal facility or processing operation. Typically, collection vehicles and other smaller vehicles are used to bring in solid waste into a transfer station. The solid wastes from these vehicles are tipped or dumped onto the receiving area of the transfer stations. The receiving area for the waste in a transfer station is commonly known as the tipping floor. And, the fee collected to dump, off-load or tip waste onto the tipping floor is called the tipping fee. The solid wastes on the tipping floor are then transferred into larger vehicles such as semitrailers which are then used to transport the waste to a disposal site. Transfer stations are typically classified with respect to its capacity. The capacity of transfer stations is generally



designated in tons per day, and is the amount of waste materials that can be transferred and hauled from the facility. There are currently five private transfer stations currently operating in Cobb County. These transfer stations accept wastes from private haulers and transport the wastes to landfills outside Cobb County.

Cobb County Transfer Station

The Cobb County Transfer Station was originally built in 1974 as a facility to bale waste, and was known back then as the Cobb County Baler Facility. The solid wastes received at the Cobb County Baler Facility were compressed into bales and transport by semitrailers to the Cheatham Road Sanitary Landfill for disposal. Due to the large population growth experienced by Cobb County, the volume of waste received daily at the Cobb County Baler Facility began to exceed the operational limit of the baler. Because of this, Cobb County terminated its waste balling operation in 1988, and converted the Cobb County Baler Facility into to a solid waste transfer station. After 14 years of use, the baler equipment was removed from the building, the compaction pit hopper was filled and overlain with reinforced concrete floor, and a covered loading tunnel was added to the facility for the final transformation of the building into a solid waste transfer station.

Currently, all solid wastes received at the Cobb County Transfer Station for disposal are transported and disposed in privately owned landfills outside Cobb County. The Cobb County Transfer Station can handle approximately 250 tons/day of Georgia EPD approved wastes.

5.3.3 Thermal Treatment Technologies

Cobb County currently does not utilize Thermal Treatment Technologies such as waste-to-energy, refuse-derived fuel, wood waste incinerator, tire-derived fuel, or co-firing industrial boilers as a method of disposing of its solid waste. The Cobb County Board of Commissioners (BOC) years ago decided not to pursue Thermal Treatment Technologies as waste disposal alternatives for Cobb County. For this 10-year planning period, the BOC once again does not want to implement Thermal Treatment Technologies as options for its integrated solid waste management system.

5.4 Hours of Operation and Disposal Fees

Under Section 102-6 of the Cobb County Solid Waste Ordinance, the Board of Commissioners retain the right to establish at any regular or special commission meeting the minimum and maximum rates to be charged for use of a county solid waste disposal facility. The rates established can be revised from time to time by affirmative action to support the financial need of the CCSWD. A notice specifying the rate to be established or revised is to be published in the official county organ once a week for three weeks immediately preceding the adoption or final



implementation of any such rate or revision. The current rate schedule is available from both the Clerk of Board of Commissioners and the CCSWD.

Tipping fees are assessed at the transfer station to cover the costs of operating the County’s solid waste management facilities. The Table 5-1 presents the Cobb County 2007 disposal rate schedule.

The Cobb County Board of Commissioners also establishes the hours of operation for the transfer station. Currently the facility is open to Cobb County citizens and businesses from 7:00am to 5:00pm Mondays through Fridays and from 9:00 am through 4:00 pm on Saturdays.

Table 5-1

COBB COUNTY 2007 DISPOSAL FEES

Classification	Disposal Fee
Standard Disposal Fee	\$35.00 per ton
Citizen Drop-off	\$7.00 minimum (Less than 400 pounds) Prorated at \$35.00 per ton (Over 400 pounds)
Scrap metal, motor oil, anti-freeze, electronics	\$7.00 minimum (Less than 400 pounds)
Tires	\$2.00 per tire (maximum of 5 tires) or \$100 per ton

Note: This disposal fee structure has been set and approved by the Cobb County Board of Commissioners. These fees are subject to change.

5.5 Assurance of 10-Year Disposal Capacity

Cobb County has written commitments from the owners of disposal facilities that the county uses for solid waste disposal. The owners of these facilities have written commitments certifying that its facility has sufficient capacity for the County’s solid waste over the 10-year planning period. Copies of the certifying letter of commitment are provided in Appendix B.

In 2007, Cobb County Solid Waste Division (CCSWD) solicited bids for the disposal of its solid waste. The contract awarded is for five years of disposal capacity and services at an agreed per



ton cost for transporting and disposing of solid waste in a landfill outside Cobb County. The contract agreement also provides CCSWD the option of being able to renew the contract for another five years without having to re-bid. This contract agreement could potentially give CCSWD ten years of disposal capacity and services. The private company that was awarded this contract is responsible for providing haulers who will take the solid wastes that have been gathered at the Cobb County Transfer Station and transport the solid waste via semitrailers to the Pine Bluff Landfill, in Cherokee County.

5.6 Waste Disposal Contingency Strategy

In the event that the current disposal method becomes interrupted, Cobb County could use other existing transfer stations in the Metro-Atlanta area for the transfer and disposal of its solid waste. There are several active transfer stations in and near Cobb County that could be used if such an event occurs. Cobb County could easily handle short-term waste disposal interruptions, but for long-term interruptions, CCSWD could manage disruption in operations by awarding emergency contract for waste disposal or through a bid process.

5.7 Needs in Waste Disposal

The Cobb County Transfer Station and the private transfer stations currently operating in Cobb County accept wastes from wastes haulers and transport the wastes to landfills outside Cobb County. Cobb County believes that its current waste disposal practice of using privately owned landfills is adequate for the 10-year planning period.

5.7.1 Need 1 - Structural Improvement in Transfer Station

The outstanding waste disposal element need is the structural improvement to the existing transfer station facility to address the deterioration accumulated over the years and to ensure continuing compliance with increasingly demanding environmental requirements.

5.8 Needs in Waste Disposal

5.8.1 Goal 1 - Cobb County Transfer Station Renovation

Needs have been assessed and improvements designed. It is likely due to the scope of the project that it will be implemented in stages over several years.



Section 6: Land Limitation Element

6.1 Core Planning Element 4 - Land Limitation

Land Limitation Element is the fourth of the five core planning elements required by the Georgia Department of Community Affairs to be addressed in a Solid Waste Management Plan (SWMP). In accordance with Chapter 110-4-3, Minimum Planning Standards and Procedures for Solid Waste Management by the Georgia Department of Community Affairs (DCA), this planning element needs to provide an assessment of land areas which, due to natural environmental limitations or land use factors, are considered unsuitable for solid waste management facilities.

6.2 Siting Limitations for Solid Waste Handling Facilities

Solid waste management facilities include, but are not limited to, recycling, recovery, composting, transfer station, solid waste handling and solid waste disposal facilities. Solid waste management facilities should be located where they have minimal adverse effects on the community and the environment. The siting for these facilities may be limited on a piece of land due to natural environmental limitations or due to land use factors.

Locations for solid waste management facilities must be chosen on a site-specific basis. This section does not attempt to identify any site as either acceptable or unsuitable as a location for a solid waste management facility. Instead, this section outlines the limitations that Cobb County and private entities will have to take into account during the siting of a new solid waste management facility or the expansion of an existing solid waste management facility. The limitations identified below do not exclude the development of a facility in an area where the limitations occur; rather, the limitation or concern must be taken into consideration, and if possible, mitigated when siting a facility.

This section discusses items that Cobb County and private entities will have to consider during the siting for solid waste management facilities. The subsections for this Section 6 - Land Limitation Element are outlined below:

- 6.1 *Core Planning Element 4 – Land Limitations*
- 6.2 *Siting Limitations for Solid Waste Handling Facilities*
- 6.3 *Natural Environmental Limitations on Siting*
 - 6.3.1 Water Supply Watersheds
 - 6.3.2 Groundwater Recharge Areas
 - 6.3.3 Wetlands
 - 6.3.4 River Corridors



- 6.3.5 Protected Mountains
- 6.3.6 Flood Plains
- 6.3.7 Fault Areas
- 6.3.8 Seismic Impact Zones
- 6.3.9 Unstable Areas
- 6.4 *Land Use Limitations on Siting*
 - 6.4.1 Zoning
 - 6.4.2 Airport Safety
 - 6.4.3 National Historic Sites
 - 6.4.4 Archeological Sites
 - 6.4.5 Parks and Recreation
 - 6.4.6 Other Regulatory Siting Requirements
- 6.5 *Required Applicant Actions Relating to Siting*
- 6.6 *Consistency With SWMP*
- 6.7 *Needs and Goals in Land Limitations*

6.3 Natural Environmental Limitations On Siting

The following subsections describe regulations that govern the location of solid waste facilities in environmentally sensitive areas. These include water supply watersheds, groundwater recharge areas, wetlands, river corridors, protected mountains, flood plains, fault areas, seismic zones, and unstable areas. When siting a solid waste handling facility, the goal is to adhere to the Federal, State, and local regulations. In areas where these environmentally sensitive areas cannot be avoided, Cobb County or private entity will have to follow the mitigation plans and procedures outlined and approved by the appropriate regulatory and permitting agencies.

6.3.1 Water Supply Watersheds

- *The DNR Rule 391-3-16-.01(7)(c) requires that at any location within a small water supply watershed, new solid waste landfills must have synthetic liners and leachate collection systems.*
- *According to Georgia DNR Rule 391-3-16-.01, unless there are no other feasible location, solid waste landfills should not be located within two (2) miles of a surface water intake for a public water source.*

A watershed is the area of land where all of the water drains to a particular stream, river or lake. The water in the watershed includes water that flows on the surface and below the earth's surface. When it rains, rain water that is not absorbed by the soil; detained by depressions,



ponds, or lakes; or intercepted by vegetation, flows off the land surface as run-off. As this surface water run-off flows into lower elevations, it combines with water released through the soil.

The boundaries of a watershed can be identified by tracing a line along the highest elevations between two areas on a map, often a ridge. Figure 6-1 is a graphical representation of a typical watershed – showing the watershed boundary, and the surface runoff from precipitation and the groundwater flow from infiltrated surface water as the source of water in a watershed.

Water Supply Watersheds are defined by the Georgia Department of Natural Resources (DNR) as areas of land upstream of a governmental owned public drinking water intake. DNR defines “Small Water Supply Watershed” as a watershed that is less than 100 square miles of land within the drainage basin upstream of a governmentally owned public drinking water supply intake.

DNR believe that large drainage basins are less vulnerable than small basins to the effect of contamination caused by land use development. DNR therefore established more stringent watershed protection criteria for water supply watersheds that are less than 100 square miles in size.

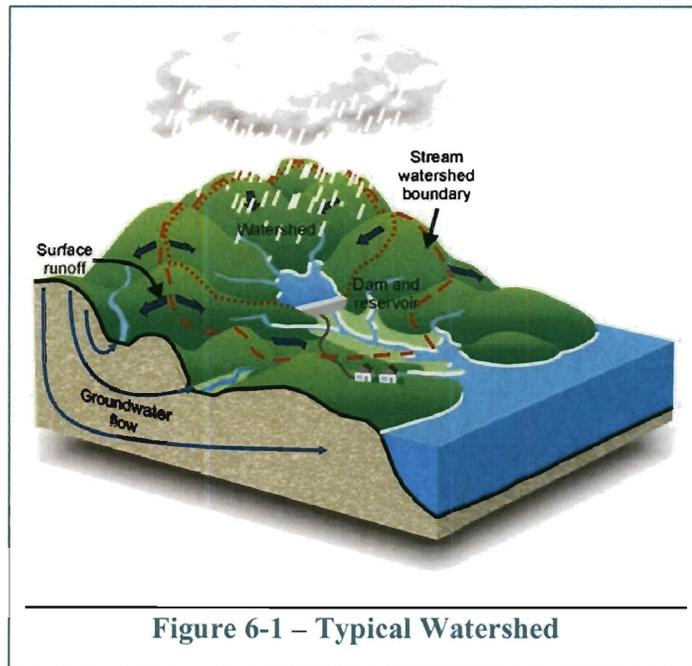


Figure 6-1 – Typical Watershed

According to the DNR Rules, the minimum criteria for Small Water Supply Watershed are:

- No solid waste handling facility is to be located in the 100-foot buffer on each side of the perennial streams 7 miles upstream from a water supply intake or reservoir (and a 50-foot buffer in small watersheds beyond the 7 miles).
- No impervious surface of a solid waste handling facility is to be located in the 150-foot setback on each side of the perennial streams 7 miles upstream from a water supply intake or reservoir (and a 75-foot setback in small watersheds beyond 7 miles).
- For small watersheds (less than 100 square miles), new municipal solid waste landfills must have synthetic liners and leachate collection systems.



According to the Georgia DNR Rule 391-3-4-.05(1)(k)8, solid waste landfills that are located within 2 miles of a surface water intake for a public drinking water source are required to have engineered modifications such as liners, leachate collection systems, and groundwater monitoring systems. Unless such a location is the only feasible location, other locations should be considered.

Cobb County Water Supply Watershed

There are three water supply watersheds within Cobb County. The Cobb County watersheds are:

1. The Chattahoochee River in East Cobb
2. Sweetwater Creek in Southwest Cobb
3. Lake Allatoona in the northwest portion of Cobb County.

Lake Allatoona is a multi-purpose reservoir that is owned by the United States Army Corps of Engineers and is excluded from most of the DNR water supply watershed standards. The Sweetwater and Chattahoochee watersheds are also exempt from most regulations due to their size and the fact that both watersheds are not impounded directly on water supply reservoirs.

6.3.2 Groundwater Recharge Areas

- DNR Rule 391-3-16-.02(3)(a) dictates that in significant groundwater recharge areas, that DNR shall not issue permits for new solid waste landfills not having synthetic liners and leachate collection systems.
- DNR Rule 391-3-4-.05(1)(j) requires new solid waste landfills or expansions of existing facilities within two miles of a significant groundwater recharge areas to have liners and leachate collection systems, with the exception of facilities accepting waste generated from outside the county in which the facility is located. In that case, the facility must be totally outside of any area designated as a significant groundwater recharge area.

Groundwater is surface water that has percolated through the surface of the earth and has filled the pores between materials such as sand, soil, gravel or rocks. Groundwater is the subsurface water found in what is referred to as the “zone of saturation” where all openings in sand, soil, gravel or rocks are filled with water. The upper surface of the groundwater in the zone of saturation forms the water table. **Recharge** is the process by which ground water infiltrates to the underground openings by seeping through the ground or by flowing directly into openings in exposed rock, adding to the volume of water stored in the pores and other openings beneath the earth’s surface.



Groundwater Recharge Areas are defined as any portion of the earth's surface through which surface water infiltrates the ground to replenish the groundwater. The areas with the greatest vulnerability to groundwater pollution from human activity are those with thick soils and relatively low slopes that may contain significant recharge areas.

Significant Groundwater Recharge Areas is defined as any area designated as such on the Hydrologic Atlas 18 Most Significant Ground-Water Recharge Areas of Georgia, 1989, published by the Georgia Geologic Survey, Georgia Department of Natural Resources Environmental Protection Division (EPD). Designation as a Significant Groundwater Recharge Area applies unless an applicant for a solid waste handling permit or other interested party can demonstrate to the satisfaction of the EPD Director that the area designated on Hydrologic Atlas 18 is or is not, in fact, a significant groundwater recharge area.

Protecting the Groundwater Recharge Areas

Groundwater recharge areas must be protected from potential contamination from solid waste landfills. The DNR Rule 391-3-4-.05(1)(j) limit solid waste landfills from being located in the groundwater recharge areas. Georgia law requires that new solid waste landfills or expansions of existing facilities within 2 miles of a significant groundwater recharge area be equipped with liners and leachate collection systems. If possible, groundwater recharge areas and the 2-mile buffer around them should be avoided, unless geological conditions indicate a groundwater flow that flows away from the groundwater recharge area.

Restrictions on Regional Landfills

A regional landfill cannot be located over an area of significant recharge. DNR Rules dictate that a regional landfill which accepts solid waste generated outside the counties or special districts constituting the region, or a municipal solid waste landfill which accepts solid waste generated outside the county in which the landfill is located cannot be within any area that has been designated as a significant groundwater recharge area.

Hydrological Site Investigation for Landfills

DNR Rule 391-3-4-.05(1)(k) require that a hydrological site investigation be conducted when siting a solid waste landfill. The hydrological site investigation conducted must, as a minimum, evaluate the following issues:

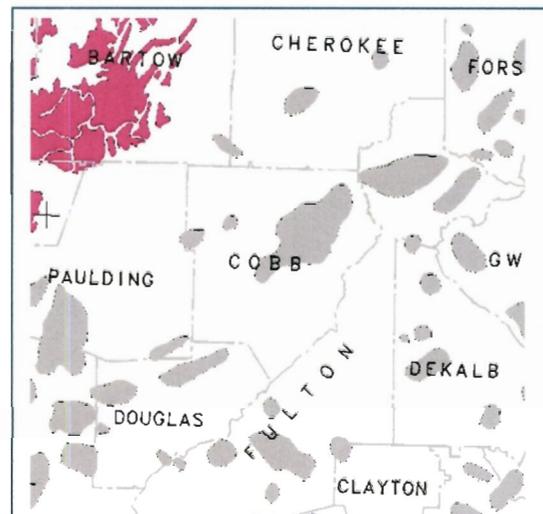
- Distance to the nearest point of a public or private drinking water supply: all public water supply wells or surface water intakes within 2 miles and private (domestic) water supply wells within one-half mile of a landfill must be identified.
- Depth to the uppermost aquifer: for landfills, the thickness and nature of the unsaturated zone and its ability for natural contamination control must be evaluated.



- Uppermost aquifer gradient: for landfills, the direction and rate of flow of groundwater shall be determined in order to properly evaluate the potential for contamination at a specific site. Measurements of water levels in site exploratory borings and the preparation of water table maps are required. Borings to water are required to estimate the configuration and gradient of the uppermost aquifer.
- Topographic setting: features which shall be provided include, but are not limited to, all upstream and downstream drainage areas affecting or affected by the proposed site, flood plains, gullies, karst conditions, wetlands, unstable soils and percent slope.
- Geologic setting: for landfills, the depth to bedrock, the type of bedrock and the amount of fracturing and jointing in the bedrock shall be determined. In limestone or dolostone regions, karst terrain shall not be used for waste disposal. This consideration does not preclude the siting of landfills in limestone terrains, but rather is intended to prevent landfills from being sited in or adjacent to sinkholes, provided, however, that the demonstration required by EPD for unstable areas has been made.
- Hydraulic conductivity: evaluation of landfill sites shall take into consideration the hydraulic conductivity of the surface material in which the wastes are to be buried, as well as the hydraulic conductivity of the subsurface materials underlying the fill.
- Sorption and attenuation capacity: for landfills, the sorptive characteristics of an earth material and its ability to absorb contaminants shall be determined.
- Distance to surface water: municipal solid waste landfills shall not be situated within two miles upgradient of any surface water intake for a public drinking water source unless engineering modifications such as liners and leachate collection systems and groundwater monitoring systems are provided

Groundwater Recharge Areas in Cobb County

Cobb County is underlain by a complex of metamorphic and igneous rock ranging in thickness from less than 10 feet to possibly more than 10,000 feet. The largest probable groundwater recharge area encompasses Marietta and stretches north and south of the city. Two



**Figure 6-2 – Cobb County
Groundwater Recharge Areas**

*Source: U.S Geological Survey, Most Significant
Recharge Areas of Georgia, Hydrologic Atlas 18*



smaller areas of significant recharge are found in West Cobb, south of Acworth and Kennesaw. Figure 6-2 presents the Groundwater Recharge Areas in Cobb County (*Source: Georgia DNR and US Geological Survey - Digital Atlas of State of Georgia, Most Significant Recharge Areas of Georgia, Hydrologic Atlas 18*).

The relatively flat areas of thick soils are the most significant areas of groundwater recharge as well as the most suited for industrial and commercial development. In addition, the Georgia Geologic Survey has documented numerous high-yielding wells across the Cobb County.

6.3.3 Wetlands

- *DNR Rule 391-3-16-.03(3)(e) establishes that solid waste landfills may constitute an unacceptable use of a wetland.*
- *DNR Rule 391-3-4.05(1)(e) prohibits the development of solid waste landfills in wetlands, as defined by the U.S. Army Corps of Engineers, unless evidence is provided by the applicant to EPD that the use of such wetlands has been permitted or otherwise authorized under all other applicable state and federal laws and rules.*

Wetlands are defined by Federal law as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The ecologic parameters for designating wetlands include hydric soils, hydrophilic vegetation, and hydrological conditions that involved a temporary or permanent source of water to cause soil saturation.

Wetlands are valuable for a number of reasons. Wetlands protect and improve water quality by trapping and filtering pollutants and sediment. They also recharge groundwater supplies and help to stabilize flood hazards by acting as natural flood control areas. Finally, wetlands are an essential breeding, nesting, and feeding habitat for many species.

Wetlands are normally found in flood plains, along stream banks, and surrounding ponds and lakes. Most tracts of land will have some amount of wetlands on site. The ideal site would have no wetlands or a minimal amount of wetlands. DNR Rules prohibits the development of solid waste landfills in wetlands unless evidence is provided by the applicant to the Director of EPD that use of such wetlands has been permitted or otherwise authorized under all other applicable state and federal laws and rules. DNR Rules establishes that solid waste landfills may constitute an unacceptable use of a wetland.

Development in wetlands will require other permits, mainly the United States Corps of Engineers 404 permit which can take a considerable amount of time to receive; therefore, every effort



should be made to avoid wetlands if possible. Wetland maps and soil survey maps are to be used to identify wetland areas for potential landfill sites.

Wetlands in Cobb County

The United States Fish and Wildlife Service (USFWS) has completed a series of detailed wetlands maps for Cobb County. According to the USFWS maps, Cobb has many wetlands of 5 to 15 acres in size and several that are 20 to 40 acres. For example, concentrations of wetlands are found along the Chattahoochee River, along Ward Creek in West Cobb, and along Nickajack Creek in South Cobb. Figure 6-3 is a map showing the wetland areas, shown in purple, in Cobb County (Source: U.S Fish and Wildlife Service National Wetlands Inventory – Wetlands Geodatabase).

The U.S. Environmental Protection Agency goal, as applied to the Section 404 permitting process required before disturbing wetlands, is to allow no long term degradation and no net loss of wetlands. Cobb County complies with the federal wetlands program under Section 404 of the Clean Water Act in order to maintain and protect these natural resources.

The Cobb County Department of Community Development routinely visits each potential development site that is submitted for review. If the person conducting the site visit determines that wetlands may exist on a site slated for development, the developer is responsible for requesting a determination of jurisdiction for any project that would result in altering over one acre of wetlands as required by the Clean Water Act. Cobb County does not allow land disturbing activity within delineated wetlands jurisdictions unless the U.S. Army Corps of Engineers has issued a permit allowing for such activity.

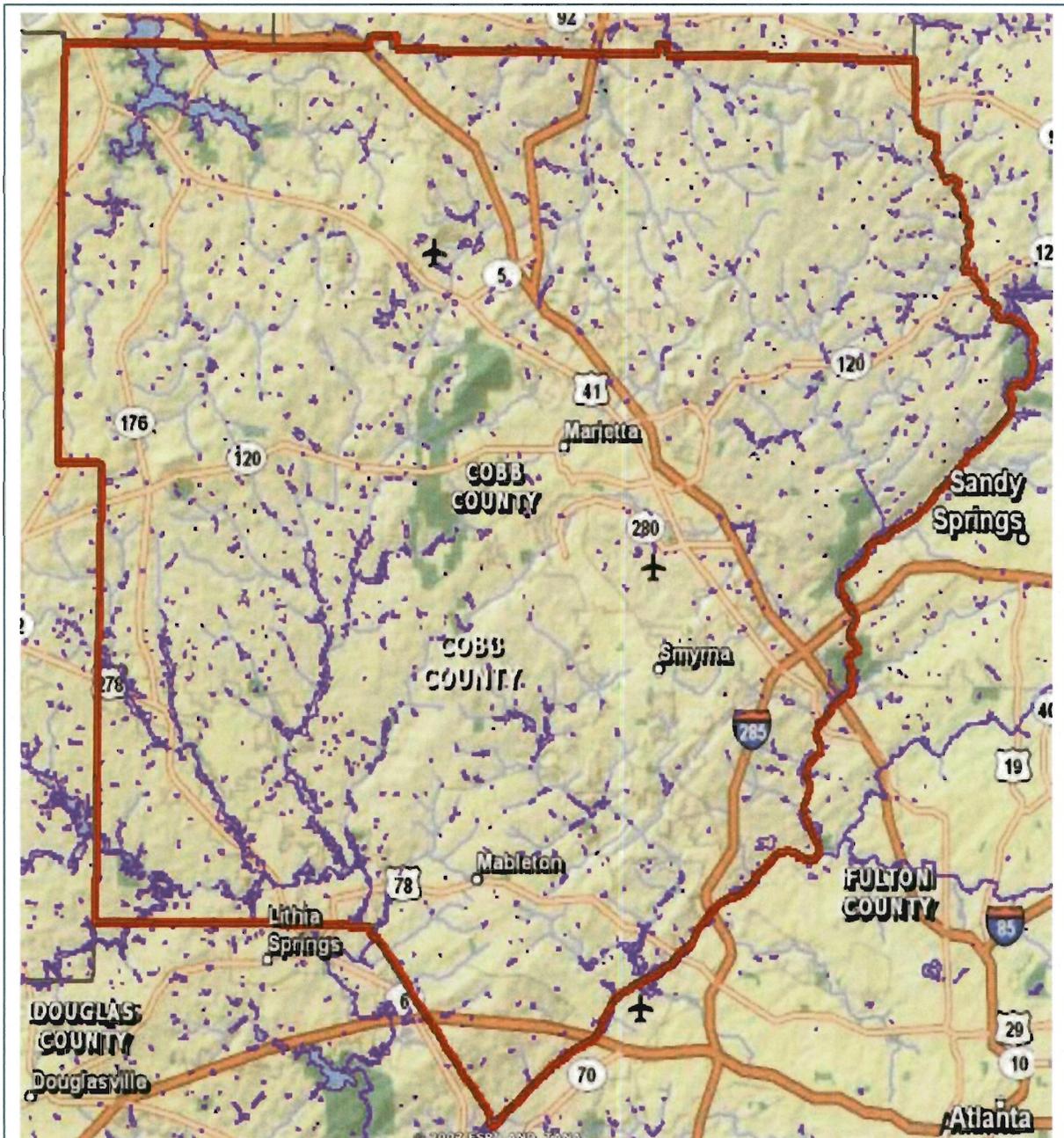


Figure 6-3 – Wetland Areas in Cobb County

Wetland Areas are shown in purple color. Source: U.S Fish and Wildlife Service National Wetlands Inventory



6.3.4 River Corridors

- *DNR Rule 391-3-16-.04(4)(h) prohibits the development of new solid waste landfills within protected river corridors.*

River Corridors are the strips of land that flank major rivers in Georgia. These corridors are of vital importance to Georgia in that they help preserve qualities that make a river suitable as a habitat for wildlife, a site for recreation, and a source for clean drinking water. River corridors also allow the free movement of wildlife from area to area within the state, help control erosion and river sedimentation, and help absorb flood waters.

DNR Definition of River Corridor

DNR defines River Corridor as all the land, inclusive of islands, not regulated under the Metropolitan River Protection Act (O.C.G.A. 12-5-440 through 12-5-457), or the Coastal Marshlands Protection Act (O.C.G.A. 12-5-280 through 12-5-293), in areas of a protected river and being within 100 feet horizontally on both sides of the river as measured from the river banks. The 100 foot buffer is measured horizontally from the uppermost part of the river banks, usually marked by a break in slope. Although not within the measured 100 foot wide buffer, the area between the top of the bank and the edge of the river is treated by the local governments in the same manner as the river corridor and shall be included within the River Corridor Protection Plan.

The river corridor may shift with time because stream channels move due to natural processes such as meandering, river bank erosion, and jumping of channels. For the purposes of these standards, the river corridor is to be considered fixed at its position at the beginning of each review period for local comprehensive plans. Any shift in the location of the protected river after at the start of the review period will require a revision of the boundaries of the river corridor at the time of the next review by the Department of Community Affairs.

Georgia Mountain and River Corridor Protection Act

The Georgia Mountain and River Corridor Protection Act of 1991 - House Bill 643 requires the maintenance of a natural vegetative buffer within the river corridor extending 100 feet from the mean bank of the river and prohibits activities which have a negative impact on drinking water quality. The provisions of this Act apply to the portion of the Chattahoochee River south of Peachtree Creek.

Existing land uses along the part of the Chattahoochee River in Cobb County covered by the provisions of the Mountain and River Corridor Protection Act of 1991 are primarily industrial and industrial compatible activities. The properties which are currently undeveloped but which have been recommended for activity center, industrial compatible or industrial use on the future



land use map, are recommended for such to reflect existing zoning decisions made prior to 1991. The county, through its zoning ordinance, will enforce the provisions of the Act which prohibit certain land uses within the buffer. Part of the Six Flags Amusement Park also lies within the established buffer.

Metropolitan River Protection Act

In order to bring future land uses into compliance with the standards set forth in the Mountain and River Corridor Act as well as identify which existing land uses have the potential to impact drinking water quality, the State of Georgia adopted the Metropolitan River Protection Act (MRPA). The MRPA is a response to the overload that urbanization has put on nature's ability to control stormwater run-off and pollutants. Land disturbance and construction causes more water to flow over the land, eroding soil and filling streams with sediment. The increase in concentration of pollutants and the increase of water temperature in stormwater run-offs ruin aquatic habitats. The Chattahoochee River is protected by the MRPA as it requires a 2,000 foot protection corridor surrounding the Chattahoochee and its impoundments from Buford Dam to Peachtree Creek, a distance of 48 miles.

In the 1998 session of the Georgia General Assembly, MRPA was amended to extend protection of the Chattahoochee River from the Atlanta water intake to the southern limits of Fulton and Douglas Counties. The 2,000 foot corridor must be shown on all official county maps. Additionally, the requirements include the maintenance of a 50 foot undisturbed natural buffer along the river bank, a 35 foot buffer along tributary streams, a 150 foot building set back along the river, and limits on the amount of land disturbance and impervious surface within the remaining 2,000 foot corridor.

ARC's Chattahoochee Corridor Plan

To ensure a proactive approach to the implementation of the MRPA, the Atlanta Regional Commission (ARC) was required to adopt a plan and procedures to protect the river as well. The Chattahoochee Corridor Plan adopted by ARC includes development principles and standards to minimize the negative effects of development on the river. The review process established by MRPA requires that all land-disturbing activity and development within 2,000 feet of the banks of the Chattahoochee within Cobb County must be reviewed by ARC and the Cobb County Community Development Department. Additionally, the development must also be approved by the Board of Commissioners and show consistency with the standards of the Corridor Plan. The South Chattahoochee River Corridor Study is a second regional effort to study the potential of the Chattahoochee River as an economic resource, recreational area, and aesthetic amenity as well as preserve the river's natural areas and water quality.

Local Protection of the Chattahoochee River

The Chattahoochee River, which flows along the southeastern portion of Cobb County, is a protected river. Cobb County has taken an extra step toward river protection by adopting the



Chattahoochee River Tributary Buffer Ordinance in accordance with MRPA. This ordinance aims to protect stream tributaries in the Chattahoochee River that are outside the 2,000 foot corridor. The ordinance affects all perennial streams including Willeo, Rottenwood, and Sope Creeks. In the ordinance, the "Protection Area" is defined as the stream channel and the land area extending outward 25 feet horizontally from the top of the banks on each side of all flowing tributaries of the Chattahoochee River downstream of Buford Dam and upstream from the City of Atlanta intake facility adjacent to State Road #3. The first 25 feet extending outward from the tributary banks is to be a natural, undisturbed buffer with land disturbing activities permitted only in accordance with the ordinance. A land disturbance permit is required for any activity which may alter the hydrologic or vegetative characteristics inside a "protection area" or buffer. The Tributary Buffer Ordinance is administered by the Cobb County Department of Community Development.

6.3.5 Protected Mountains

- *DNR Rule 391-3-16-.05(4)(l) prohibits the development of new solid waste landfills in areas designated as protected mountains.*

Protected Mountain means all land area that are 2,200 feet or more above mean sea level, that has a percentage slope of 25 percent (25%) or greater for at least 500 feet horizontally, and shall include the crests, summits, and ridge tops which lie at elevation higher than any such area.

Steep Slopes and Unprotected Mountains in Cobb County

According to the 1973 Soil Survey of Cobb County prepared by the U.S. Department of Agriculture's Soil Conservation Service, Cobb is made up of broad, convex ridgetops that are divided by many drainageways. The elevation in Cobb County is about 750 feet above sea level along the Chattahoochee River and ranges from about 900 feet to more than 1,800 feet on the ridgetops and mountains. Steep slopes are found on the small mountains in the county; Pine, Lost, Sweat, Blackjack, Kennesaw, and Little Kennesaw. Steep slopes are also found along major stream banks such as Noonday Creek and Allatoona Creek.

Sweat Mountain and Blackjack Mountain in East Cobb have been developed residentially, as have many of the steep slopes rising from the Chattahoochee. Pine Mountain and Lost Mountain in West Cobb have also seen residential development in the past several years, but so far this development has occurred at a slower rate and lower density than in East Cobb. The steep slopes of West Cobb may require more environmentally sensitive developments in lower densities than are found on Sweat and Blackjack Mountains.



Protected Mountains in Cobb County

Kennesaw and Little Kennesaw Mountains are protected by the Federal government from development because they are part of the 2,800 acre Kennesaw Mountain Battlefield National Park. National park lands are protected from development and other intrusions within their boundaries.

6.3.6 Flood Plains

- DNR Rule 391-3-4-.05(1)(d) stipulates that any solid waste landfill located in the 100-year flood plain shall not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the flood plain, or result in a washout of solid waste so as to pose a threat to human health or the environment.

Flooding is the overflowing of water onto land that is normally dry. Water standing for short periods of time in areas of low elevation after a rainfall is not considered as flooding, nor is water that is part of a permanent or semi-permanent pool, such as a swamp or marsh. The severity of flooding is rated in terms of frequency, duration, and area of coverage.

Flood Plain means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands that are inundated by the 100-year flood. A "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period. Flood plains are the relatively flat areas of land adjacent to stream banks. Flood plains in their natural, undisturbed, and undeveloped state provide storage of flood waters, channelization, silt retention, and groundwater recharge.

Landfills in Flood Plains

An ideal municipal solid waste landfill will have little or no flood plain areas within its boundaries. If flood plains and floodways are present, the design must provide adequate capacity without impacting the flood plain areas. Flood plain and floodway maps, as well as soil survey maps, are to be used to determine the amount of flood plain present on a proposed site.

Flood Plain Regulations

Development in the flood plain and in areas adjacent to flood plains is closely regulated by Cobb County ordinances. Since the early 1970s, Cobb County has been actively involved in managing stormwater run-off from new developments. Cobb adopted its first Flood Protection Ordinance in 1973, setting an example for the six cities within the county, some of which followed by adopting similar ordinances.

Floodway is the area that defines the channel of a river or other watercourse, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively



increasing the water surface elevation more than one foot. Development is not permitted in the Floodway. The revised Cobb County Flood Damage Prevention Ordinance, adopted October 11, 1988, states that development may be permitted in the **Flood Fringe Area**, which is the area of the flood plain lying outside the floodway but still lying within the base of the flood plain, and which complies with the requirements of the Ordinance. The ordinance, administered by the Cobb County Department of Community Development, requires a permit for any improvement or development, including grading and filling within an area of Special Flood Hazard. The ordinance also includes regulations that outline construction precautions for development in Flood Hazard Areas.

Cobb County participates in the National Flood Insurance Program, a federally-backed insurance program for the protection of property owners within flood hazard areas. FEMA identifies and maps most areas in the county that are subject to flooding based upon the 100-year flood plain standard.

Flood Plains in Cobb County

The State of Georgia solid waste regulations Rule 391-3-4-.05(1)(d)) and the Federal Resource Conservation and Recovery Act (RCRA) Subtitle D restrict solid waste handling facilities from being located in areas that may restrict the flow of the 100-year flood, reduce temporary water storage capacity of the flood plain, or result in the washout of solid waste facilities so as to pose a hazard to human health and the environment.

With its numerous streams, Cobb County has land in the 100-year flood plain throughout the county. It has been estimated that over 20 percent (20%) of Cobb County is flood plain. The Sweetwater Creek basin in the Austell area and the land along the Chattahoochee River in South Cobb are particularly vulnerable. Any fill material placed in a flood plain takes the place of the water that would be stored there in a flood. This causes the water level to rise and previously dry land is flooded. The Federal Emergency Management Agency (FEMA) has developed official flood plain maps which show areas that are prone to flooding. Figure 6-4 presents the Flood Prone Areas in Cobb County (*Source: Federal Emergency Management Agency Flood Insurance Rate Map (FIRM), Cobb County, Georgia Map #13067C0000, effective date of August 18, 1992*).

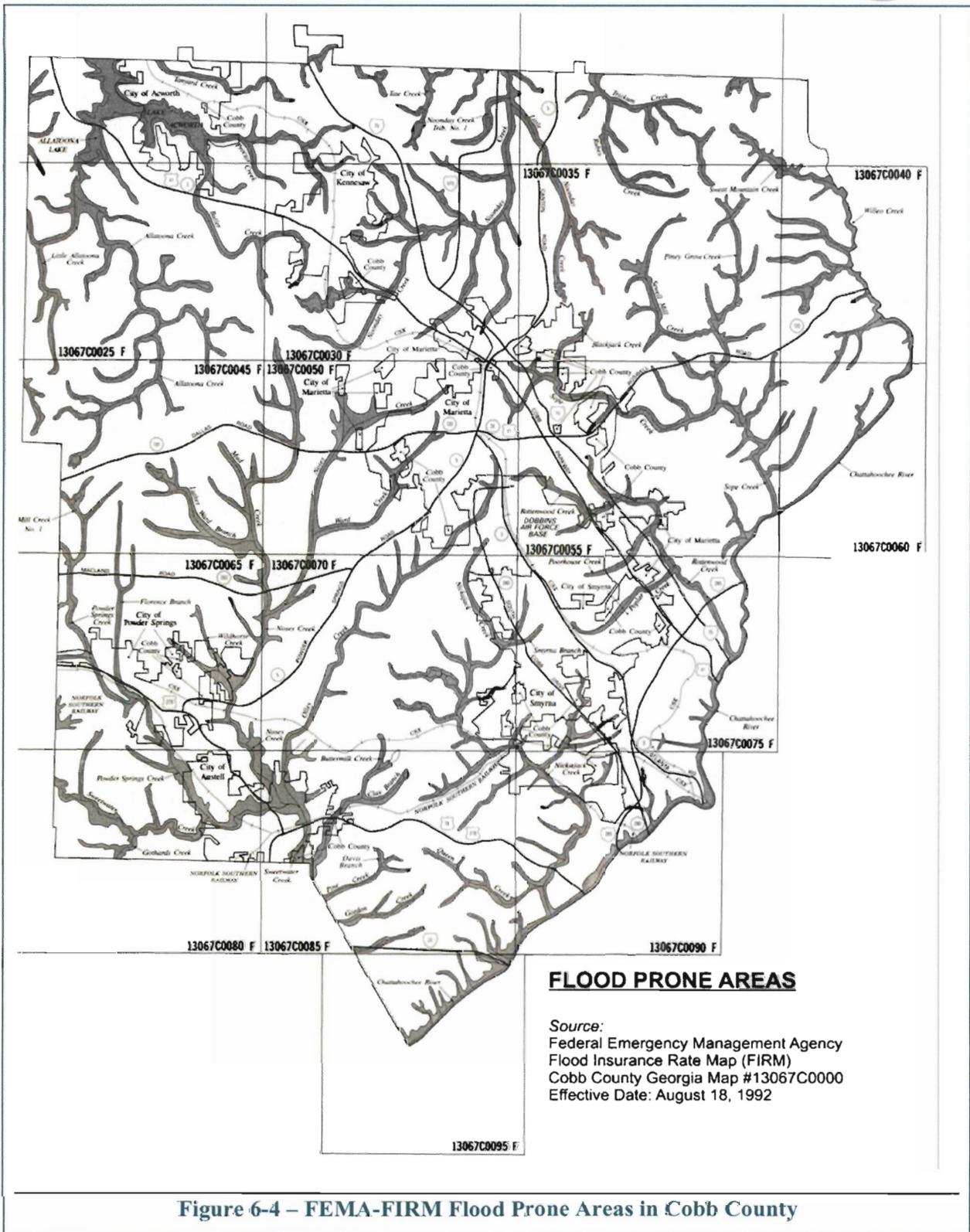


Figure 6-4 – FEMA-FIRM Flood Prone Areas in Cobb County



6.3.7 Fault Areas

- DNR Rule 391-3-4-.05(1)(f) requires that new landfill units and lateral expansions of existing landfills shall not be located within 200 feet of a fault that has had displacement in the Holocene Epoch unless the owner or operator demonstrates to EPD that an alternative setback distance of less than 200 feet will prevent damage to the structural integrity of the landfill unit and will be protective of human health and the environment.

Fault means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to that on the other side. Displacement means the relative movement of any two sides of a fault measured in any direction, and Holocene means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present. Since faults do not usually consist of a single, clean fracture, the term **Fault Zone** is used when referring to the zone of complex deformation that is associated with the fault plane.

Large faults within the Earth's crust are the result of shear motion and active Fault Zones are the causal locations of most earthquakes. Earthquakes are caused by energy release during rapid slippage along faults.

Fault Zones located within two miles of a potential solid waste landfill site could be reason enough for declaring the site unsuitable by EPD. The unstable nature of the rock in a Fault Zone can increase the potential of ground water contamination should movement of the rock occur.

There are several Fault Zones in the state of Georgia. Fault Zones such as the Brevard Fault Zone, Cartersville Fault, and Rome Fault are near the northwest corner of Georgia. Brevard Fault Zone is the closest to Cobb County and would be the one most likely to impact Cobb County.

Seismicity is the frequency or magnitude of earthquake activity in a given area. Figure 6-5, presents the Georgia Seismicity map which also shows the location of the Brevard Fault Zone.

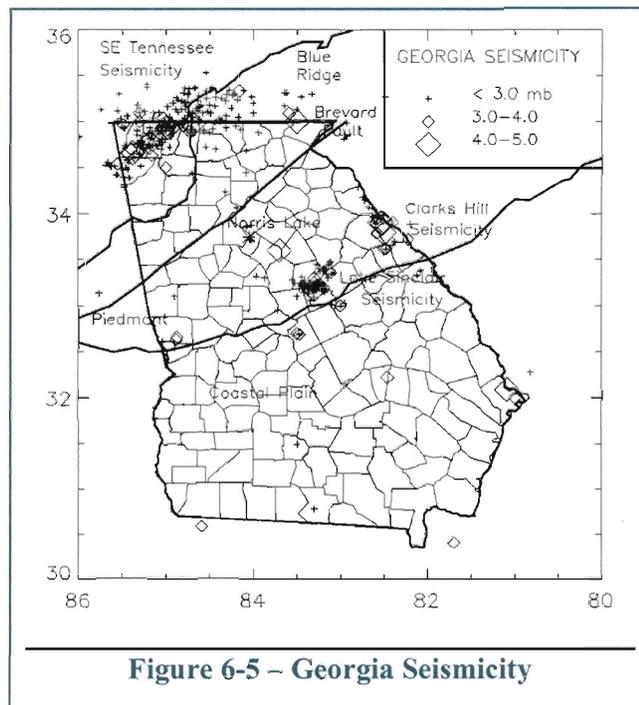


Figure 6-5 – Georgia Seismicity



Brevard Fault Zone

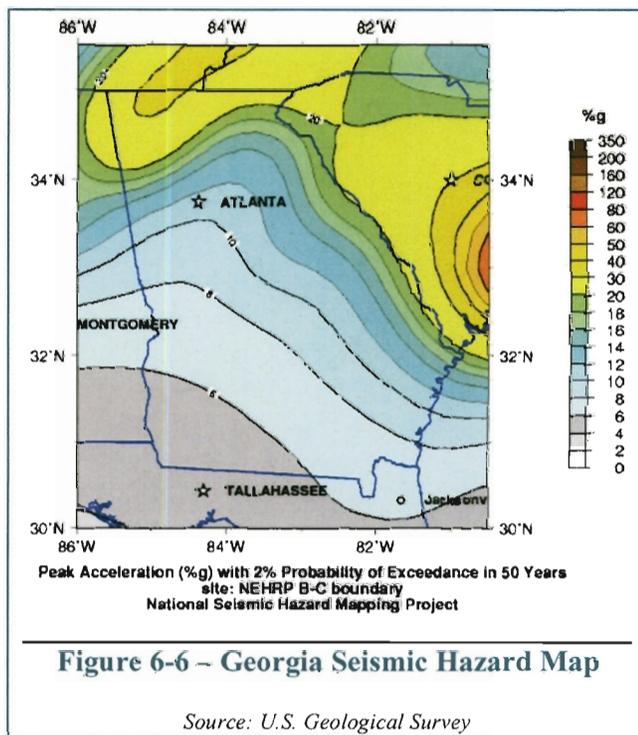
The Brevard Fault Zone begins to cross the state of Georgia in the high eastern ridge of the southern Blue Ridge Mountains. The fault continues along the Blue Ridge and Piedmont Provinces' border until approximately Jasper, Georgia. At this point, it turns southward and continues south by southwest through Marietta, Georgia, and into Alabama. Although the Brevard Fault Zone is believed to be more active than the San Andreas Fault in California, it is less notorious because the plate movement rarely produces noticeable earth movements. The Chattahoochee River flows through the Brevard Fault Zone primarily within Cobb and Douglas Counties.

6.3.8 Seismic Impact Zones

- DNR Rule 391-3-4-.05(1)(g) prohibits the development of new landfill units and lateral expansions in seismic impact zones unless the owner or operator demonstrates to EPD that all containment structures, including liners, leachate collection systems, and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

Seismic Impact Zone means an area with a ten percent (10%) or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull will exceed 0.10g in 250 years. Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent (90%) or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by hardening of loose sediments. Lithified earth material does not include man-made materials, such as fill,





concrete, and asphalt, or unconsolidated earth materials, soil, or regolith (the layer of loose rock resting on bedrock) lying at or near the earth surface.

Seismic Hazard in Cobb County

The United States Geological Survey (USGS) provides seismic hazard assessment for the U.S. and areas around the world. The USGS hazard maps serve as the basis for seismic provisions used in building codes. Figure 6-5 presents a seismicity map of Georgia. Figure 6-6 presents the USGS State of Georgia Seismic Hazard Map.

6.3.9 Unstable Areas

- DNR Rule 391-3-4-.05(1)(h) requires owners or operators of new landfill units, existing landfill units, and lateral expansions located in unstable areas to demonstrate that engineering measures have been incorporated in the landfill unit's design to ensure that the integrity of the structural components of the landfill unit will not be disrupted.

Unstable Area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains. Karst areas, or areas where sinkholes have formed over limestone bedrock, should not be used for future landfill sites. This limitation does not preclude all limestone bedrock areas, but only those areas that have a high probability of new occurrences of sinkholes.

When determining whether an area is unstable, the DNR Rule requires that the owner or operator of new or existing landfills must consider, at a minimum, the following factors:

- a. On-site or local soil conditions that may result in significant differential settling;
- b. On-site or local geologic or geomorphologic features; and
- c. On-site or local human-made features or events (both surface and subsurface)



6.4 LAND USE LIMITATIONS ON SITING

The following subsections describe land use limitations and regulations that Cobb County or private entity will consider when siting a solid waste management handling facility. These issues include land use and zoning restrictions, airport safety restrictions, national historic sites, archaeological sites, parks and nature preserves, and other regulatory siting requirements.

6.4.1 Zoning

- *DNR Rule 391-3-4-.05(1)(a) requires that the site must conform to all local zoning/land use ordinances, and that written verification of such be submitted to EPD.*

Zoning is the division of the county by legislative regulations into areas or zones, specifying the uses allowable for the property in these areas. Zoning is used to easily identify the areas where the proposed activities are permitted. Cobb County uses its zoning regulations and restrictions to control and direct the development of property within its borders.

For EPD to review an application for a solid waste handling permit, evidence documenting that a potential landfill site conforms to all zoning and/or land use ordinances must be provided. Therefore, any potential site must be zoned properly or be able to be zoned for use as a municipal solid waste landfill.

There are no siting criteria that relate to the proximity to populated areas. Landfills are designed with a minimum of 200 feet of on-site buffer that generally protects the adjacent property owner from effects as a result of the landfill operation. Potential landfill sites located more than two miles from a city boundary or 0.5 miles from a subdivision would receive a more favorable rating from EPD when being reviewed for approval. Location of a potential site adjacent to a populated area does not in itself exclude the site from consideration; however, it does reduce its desirability for use as a landfill site.

Cobb County Zoning Ordinance

Chapter 134 of the Cobb County Code of Ordinances contains the Zoning Code. The Zoning Code provides land use and zoning regulations that control and direct the development of properties within Cobb County. The Zoning Code specifically regulates the use of land on a by-parcel basis. Every parcel of land in Cobb has one (1) of forty four (44) zoning districts which regulate the types of land uses, height of structures, etc. Each of these districts has a purpose and intent section which specifies that the district is established to provide locations for uses which are located within one (1) of the thirteen (13) Future Land Use Categories.

In Cobb County, the Cobb County Zoning Division provides professional advice on zoning matters to the Planning Commission, Board of Zoning Appeals, Historic Preservation Commission, and Board of Commissioners. The Cobb County Zoning Division has jurisdiction



over properties located within unincorporated Cobb County. Each of Cobb County's six cities regulates zoning within their respective city limits.

Special Land Use Permit

According to Cobb County Zoning Ordinances, regardless of the zoning classification or district for realty, certain uses of property will require Special Land Use Permit. Section 134-37(a) of the Cobb County Ordinances presents a list of property uses that would require the acquisition of such permit. The use of a property for solid waste management purposes will require application for a Special Land Use Permit. Following are some of the property uses listed in Section 134-37(a) involving solid waste management operations:

1. Private landfills
2. Composting facilities
3. Waste transfer stations
4. Trash/garbage handling, hauling or disposal facilities or any use associated with these uses.
5. Chipping, grinding or reduction of materials, stumps, trees, limbs, construction debris, glass, concrete, asphalt, rock, etc.
6. Used or discarded tire storage/disposal facilities
7. Scrap metal, iron or steel collection/recovery
8. Any manufacturing or industrial use which also requires a permit from the Environmental Protection Division of the Department of Natural Resources under the provision of O.C.G.A. tit. 12, Ch. 5, 8 or 9 (O.C.G.A. §§ 12-5-1 et seq., 12-8-1 et seq. or 12-9-1 et seq.).

The Cobb County Board of Commissioners (BOC) may grant Special Land Use Permits for these types of solid waste management operations. The BOC has the power to grant such permit for any period of time. The granting of the permit is also conditional upon the site plan considered by the BOC. Applicants applying for Special Land Use Permits are required to advertise and appear in public hearings in the same manner as applications for rezoning. Under Section 134-37(e) of the Cobb County Ordinances, the BOC, at a minimum, is required to consider the following in its determination on whether or not to grant an applicant Special Land Use Permit:

- Adverse effect of the proposed land use on the neighborhood
- Compatibility with the neighborhood
- Will the proposed use result in a nuisance as defined under state law
- Will the quiet enjoyment of surrounding property be adversely affected
- Will the values of surrounding property be adversely affected
- Adequate provisions made for parking and traffic
- Will site or intensity of the use be appropriate



- Will proposed special use or unique conditions overcome the BOC's general presumption that residential neighborhoods should not allow non-compatible business uses
- Adequate provisions on hours of operation
- Adequate controls and limits are placed on commercial and business deliveries
- Adequate landscape plans are incorporated to ensure appropriate transition
- Adverse affect on public health, safety, welfare or moral concerns
- Application complies with any applicable specific requirements for particular types of uses
- Applicant provide sufficient information to allow a full consideration of all relevant factors

In all applications for a Special Land Use Permit, the burden will be on the applicant to produce sufficient information to allow the county to fully consider all relevant factors and to demonstrate that the proposed land use complies with all applicable requirements and is consistent with the policies reflected in the factors in the Cobb County Ordinances for consideration by the county.

Future Land Use

Figure 6-7 presents the Cobb County 2007 Future Land Use Map.

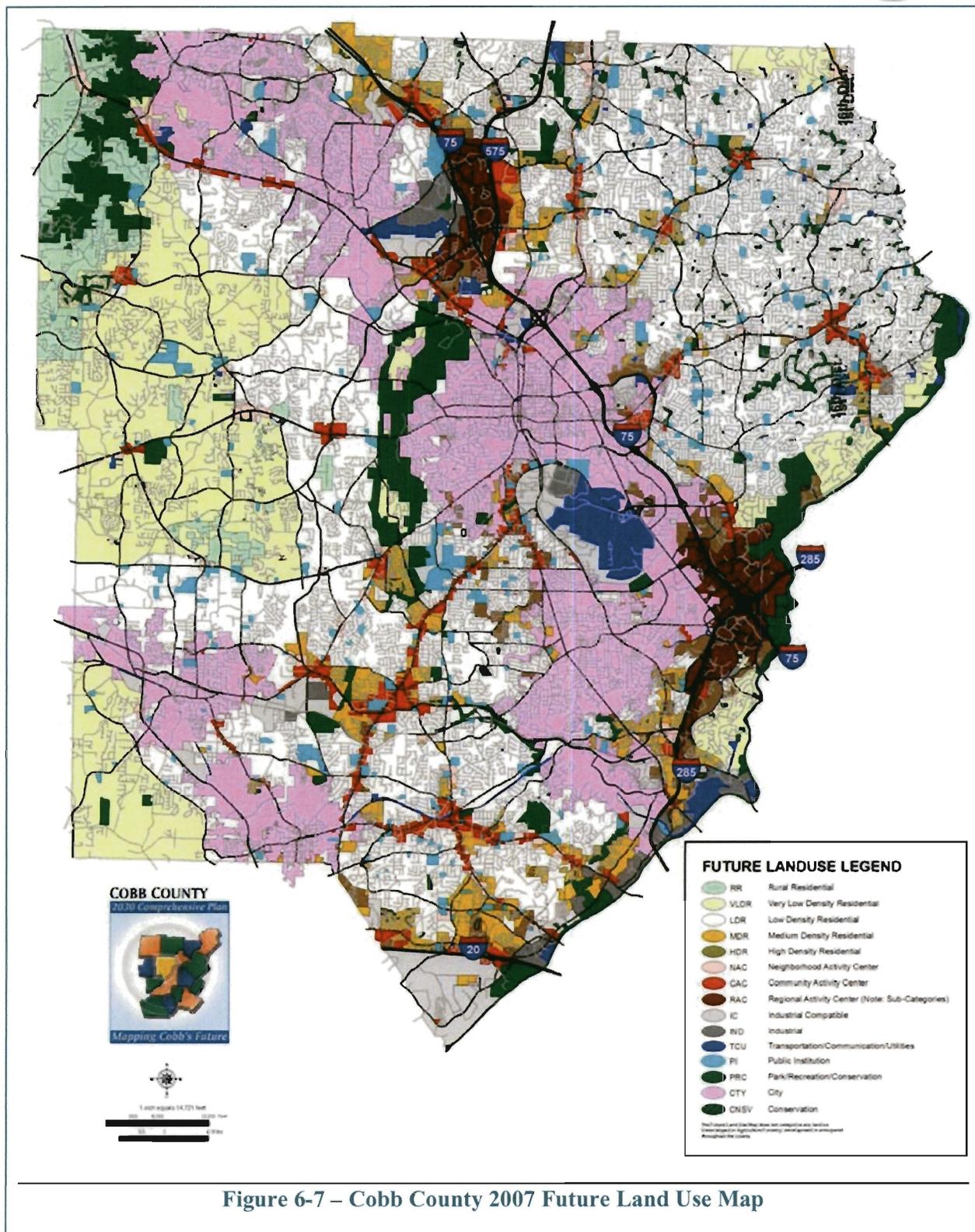


Figure 6-7 – Cobb County 2007 Future Land Use Map



6.4.2 Airport Safety

- DNR Rule 391-3-4-.05(1)(c) requires that new solid waste landfill units or lateral expansions of existing units shall not be within 10,000 feet of any public use or private use airport runway end used by turbojet aircraft or within 5,000 feet of any public use or private use airport runway end used by only piston type aircraft.

A **Public-Use Airport** is an airport that is open to the public without prior permission and without restrictions within the physical capacities of available facilities. A **Private-Use Airport**, on the other hand, is an airport that is not open to the public and which may not be used without prior permission of the airport owner and which has restrictions other than the physical capacities of available facilities.

RCRA Subtitle D require owners or operators proposing to site new solid waste landfills and lateral expansions for landfills that are within a 5-mile radius of any airport runway used by turbojet or piston-type aircraft to notify the affected airport and the Federal Aviation Administration (FAA). According to EPD requirements, siting criteria mandates that municipal solid waste landfills are not allowed to be:

- (1) Within 10,000 feet of any runway used or planned to be used by turbojet and piston-type aircraft; or
- (2) Within 5000 feet of any runway used or planned to be used by piston-type aircraft only. FFA regulations add that any landfill that attracts birds should not be located within five miles of a runway.

On September 28, 1999, the Board of Commissioners adopted Land Use Guidelines for the areas adjacent to the Cobb County Airport, McCollum Field. The guidelines, which apply to government owned and privately owned properties, establish criteria which will trigger additional review by the Cobb County airport manager and the Federal Aviation Administration.

Airports Affecting Cobb County

There are 109 public use airports in Georgia. The airports in Georgia are supported by the state in their functioning. Many of the airports in Georgia have been converted from air and military bases into public use airports.

Of the total 109 airports in Georgia, three affect the siting of municipal solid waste landfills in Cobb County. The three airports are the two Cobb County airports, Dobbins Air Reserve Base and the McCollum Field, and the out of county Fulton County Airport-Brown Field. Figure 6-8 is a map that shows the location of these airports.



Dobbins Air Reserve Base

The Dobbins tract was acquired by the U.S. Government from Bell Aircraft in 1943. Dobbins Air Reserve Base is one of the busiest air reserve bases in the country. It is located on a 2,843 acre tract of land on U.S. Highway 41 between the cities of Marietta and Smyrna; and is just a little over two and a half miles northwest of the I-75 and I-285 interchange in Cobb County. The base's primary mission is reserve training, and it supports units of the U.S. Air Force Reserve, Georgia Air and Army National Guard, U.S. Naval Reserves, and U.S. Marine Corps Reserve.

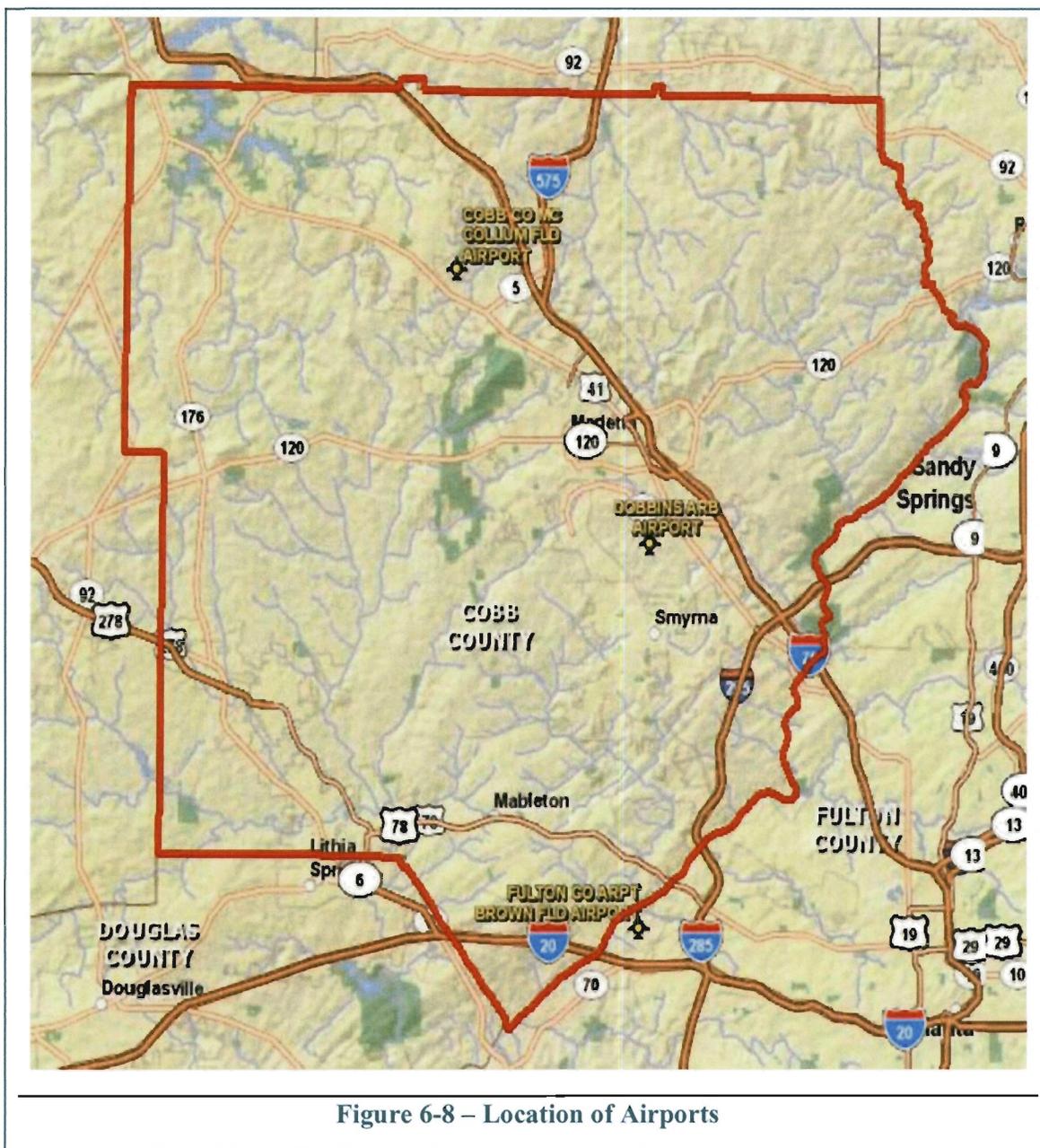


Figure 6-8 – Location of Airports



The Air Base also provides runway access for Lockheed.

Cobb County Airport-McCollum Field

Cobb County Airport-McCollum Field is Public-Use Airport located on a 309 acre tract of land just east of U.S. Highway 41. The airport is between the Kennesaw and Marietta, and is less than two miles northwest of the I-75 and I-575 interchange in Cobb County. McCollum Field is the third busiest airport in the State of Georgia. McCollum Field has over 300 aircraft based in its facilities for business and pleasure use.

Fulton County Airport-Brown Field

The Fulton County Airport-Brown Field is located outside Cobb County, but is less than a quarter mile from the Fulton-Cobb boundary line. Fulton County Airport-Brown Field is a Public-Use Airport on 985 acre tract of land between the City of Atlanta and Mableton. It is located approximately two miles northwest from the intersection of I-20 and I-285, west of Atlanta.

6.4.3 National Historic Sites

- *Municipal solid waste landfills are not permitted within 5,708 yards of a National Historical Site (O.C.G.A. Section 12-8-25.1).*

The **National Historic Preservation Act** (NHPA) of 1966 provides policy for the protection of historic resources from adverse impacts associated with federal actions. The Protection of Historic Properties (36 Code of Federal Regulation [CFR] 800) provides specific procedures that federal agencies or local governments implementing federally funded projects must follow, such as consultation with the Georgia Division of Historic Preservation, to ensure compliance with the NHPA. The **National Register of Historic Places (NRHP)** is the country's official list of historic places worthy of preservation. In Georgia, this list is maintained by the Georgia Division of Historic Preservation.

Historic sites listed on the NRHP must meet specific criteria set forth by the Advisory Council on Historic Preservation. These criteria generally include the following:

- Properties must be at least 50 years old
- Have physical integrity
- Be significant for at least one of four broad criteria

No solid waste handling facility should be located in, adjoin, or negatively impact a district or site on or potentially eligible for the NRHP. The O.C.G.A. § 12-8-25.1 states that in order to preserve historic sites and their natural and built environments, no permit shall be issued for a



solid waste disposal facility within 5,708 yards of the geographic center of any of the sites currently designated in Georgia as a National Historic Site. Specific information on these historic sites can be obtained from the Georgia Division of Historic Preservation.

National Historic Sites in Cobb County

Cobb County has been known in the past for its abundance and variety of historic resources. Physical evidence of the county's rich Indian, Civil War, agricultural, industrial, and commercial heritage can still be found today. Historic sites are inherent characteristics of a community that help to give it a unique identity and contribute to the list of assets that may attract new residents or investors. Historic sites are also sensitive community elements that cannot be regained once destroyed. In Cobb County, there are approximately 43 sites listed in the National Register of Historic Places. The two National Historic Sites in Cobb County that are well known are Kennesaw Mountain National Battlefield and Chattahoochee River National Recreational Area.

Kennesaw Mountain National Battlefield

Kennesaw Mountain National Battlefield contains more than 2,884 acres. It is managed by the National Park Service. The Battlefield is primarily a Civil War historic site and the park offers hiking, picnicking, and educational opportunities. A Visitor Center offering a museum and a slide show is open to the public year round.

Chattahoochee National Recreation Area

The Chattahoochee River National Recreation Area is managed by the National Park Service. Cobb County contains 1,829 of the recreation area's 4,109 acres and four of its 14 parks along the waterway.

6.4.4 Archaeological Sites

The **Archaeological Resources Protection Act** of 1979 requires federal agencies or local governments utilizing federal funds to conduct archaeological investigations on lands under their jurisdiction to determine the nature and extent of the protected cultural resources. Specific information concerning the location and contents of archaeological sites is protected by Georgia Code (O.C.G.A. § 50-18-72(a)(10)), direct access to the complete archeological information is restricted to qualified archaeologists and archaeology students.

No solid waste handling facility should be located so as to negatively impact an area of concentrated or known archaeological sites on file with the Georgia Archaeological Site File (GASF). GASF is the official repository for information about known archeological sites in the Georgia. Consultation with the State Archaeological and the State Historic Preservation Office (SHPO) is required if a proposed facility has the potential of impacting an area of concentrated or known archaeological sites.



6.4.5 Parks and Recreation

The Cobb County Parks, Recreation and Cultural Affairs Department currently operate 44 park sites and facilities totaling over 2,500 acres. As the primary provider of leisure services and facilities within the county, the department provides a wide range of athletic, artistic, therapeutic and educational services. Specialized facilities include the Cobb County Civic Center Complex, Al Bishop and Lost Mountain Softball Complexes, 4 recreation centers, 4 community centers, 3 arts centers, the Mable House Barnes Amphitheatre, the Cobb Gymnastics Center, 6 tennis centers and 112 tennis courts, 4 indoor aquatic centers and 2 outdoor pools, 20 miles of trails, 2 golf courses and the fairgrounds at Jim Miller Park.

In addition to the Cobb County owned parks, there are three Federal parks in Cobb County. The Lake Allatoona Reservoir occupies some 4,165 acres of park property near the northwest corner of the Cobb County. The Kennesaw Mountain National Battlefield, located near the center of Cobb County occupies 2,884 acres. And, the Chattahoochee River National Recreation Areas, located along the river and at the eastern boundaries of Cobb County, occupies 1,829 acres of land. Figure 6-9 is a map showing the parks in Cobb County.

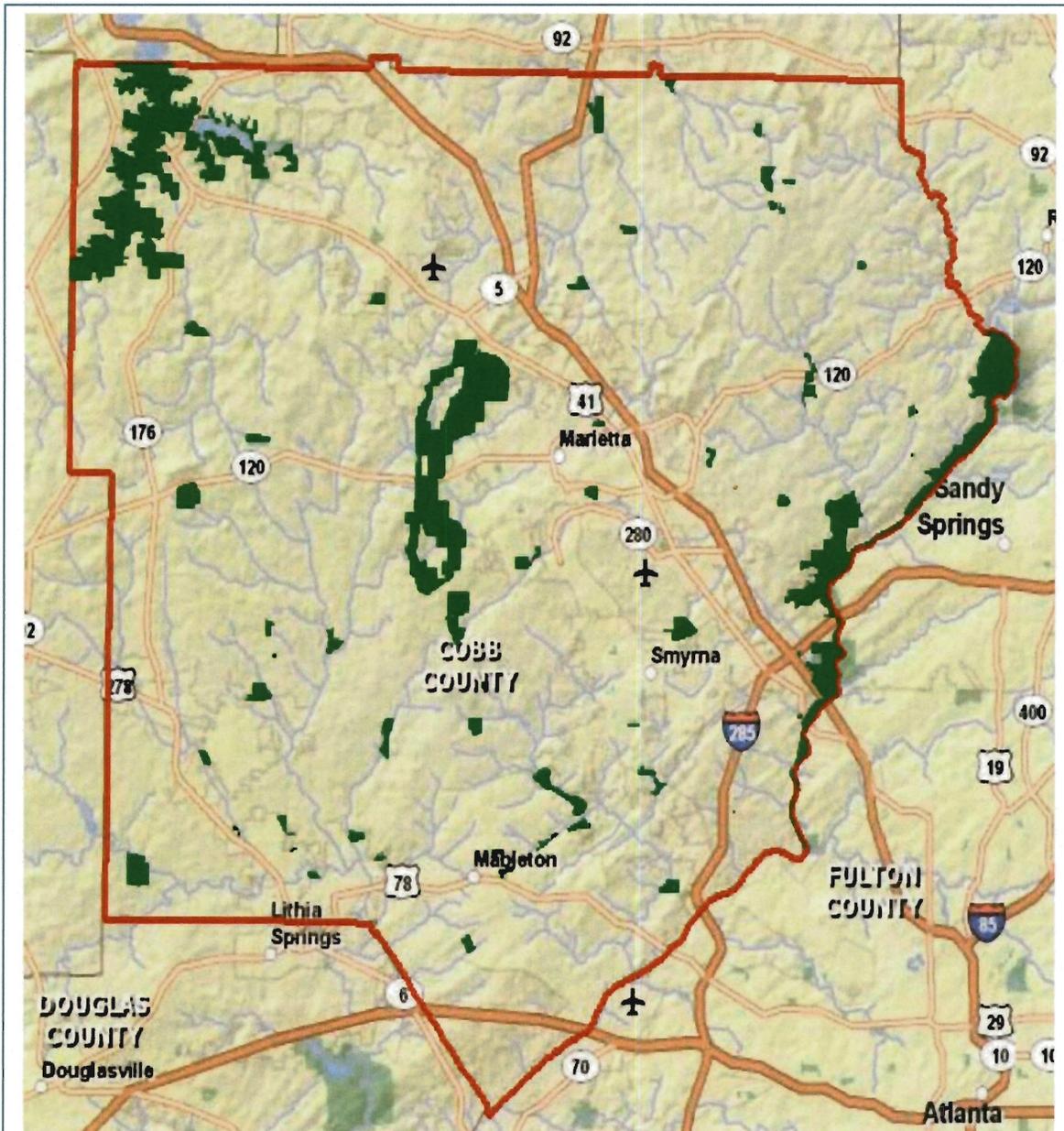


Figure 6-9 – Parks in Cobb County



6.4.6 Other Regulatory Siting Requirements

Co-Located Landfills

Section 12-8-25.4 of the O.C.G.A. states that no solid waste handling facility, excluding materials recovery facilities and composting facilities, can be sited on a site that falls within a two-mile radius of three or more solid waste landfills (including closed landfills that received waste on or after June 29, 1989). This law provides a limited degree of protection against any given community becoming an involuntary host to an excessive concentration of landfills.

Adjacent Jurisdiction

O.C.G.A. Section 12-8-25 prohibits the siting of an MSW landfill within one-half mile of another County's borders without approval of the jurisdiction's governing authority. EPD requires that a potential landfill site cannot be located within 0.5 mile of a county boundary unless approval is secured from the adjoining county. This requirement does not prohibit the siting of a landfill near the boundary but represents a potential obstacle to the permitting of the site and should be avoided if possible.

Private Recreational Camp

O.C.G.A. Section 12-8-25.5 states that no permit shall be issued for any new municipal solid waste disposal facility if any part of the premises proposed for permitting is within one mile of any private recreational camp operated primarily for use by persons under 18 years of age and which camp has been so operated at its location for 25 years or more.

Facilities Issues Negotiation Process

Under O.C.G.A. § 12-8-32, if conflicts arise in the solid waste facility permitting process, the applicant or affected parties can undertake the Facilities Issues Negotiation Process. This process allows for a negotiation process to be initiated if at least 25 affected persons sign a petition. A facilitator will be named by the host local government and paid for by the applicant. A Citizens Facility Issues Committee will be formed to discuss mediation of issues such as hours of operation, recycling measures, protection of property values, traffic routing, and maintenance. Additional detail on the negotiation process is provided in O.C.G.A. § 12-8-32.



6.5 Required Applicant Actions Relating to Siting

Applicants should always check with DNR, Cobb County Community Development (Zoning Division and Planning Division) and Cobb County Solid Waste Division (CCSWD) to verify procedures for siting solid waste management facilities that include but are not limited to the following:

1. *Disposal Facility Siting Decision*

DNR Rule 391-3-4-.05(1)(b) requires that whenever any applicant begins a process to select a site for a solid waste disposal facility, documentation demonstrating compliance with O.C.G.A. § 12-8-26(a) be submitted to EPD; further, whenever any applicant takes action resulting in a siting decision for a publicly or privately owned solid waste disposal facility, documentation demonstrating compliance with O.C.G.A. § 12-8-26(b) be submitted to EPD.

2. *Hydrological Assessment*

Once a site has been selected, the applicant must conduct a Hydrological Assessment in accordance with the provisions of DNR Rule 391-3-4-.05(1)(k). Preparation of the land limitation element of a solid waste management plan should comply with the Solid Waste Management Act and the Rules of the Department of Natural Resources (DNR) for Solid Waste Management (Chapter 391-3-4) relating to historic sites, airports, jurisdictional boundaries, access, etc. These documents should be consulted for specifics on land limitations and siting of solid waste management facilities.

6.6 Consistency With SWMP

In order for EPD to issue or renew a permit for a solid waste handling facility or facility expansion in Cobb County, the proposed public or private facility must be consistent with Cobb County Comprehensive Solid Waste Management Plan.

This Comprehensive Solid Waste Management Plan for the period from 2007 through 2017 shall provide continuity in all planning requirements incorporated in the previous Comprehensive Solid Waste Management Plan and associated Short Term Work Program Update.

Permitting procedures for a solid waste handling facility or facility expansion will be in accordance with the requirements of the Cobb County Code of Ordinances. In accordance with Section 134-37 - Zoning Ordinances, solid waste handling facilities such as private landfills; composting facilities; waste transfer stations; trash/garbage handling, hauling or disposal facilities or any use associated with these uses; chipping, grinding or reduction of materials, stumps, trees, limbs, construction debris, glass, concrete, asphalt, rock etc.; and scrap metal, iron or steel collection/recovery facilities, are required to be permitted under the county's Special Land Use Permit provisions with the Cobb County Board of Commissioners (BOC).



No proposed facility or facility expansion will be sited in Cobb County without formal review and approval by the BOC. In all applications for Special Land Use Permit for solid waste handling facilities, the burden shall be on the applicant both to produce sufficient information to allow Cobb County to fully consider all relevant factors and to demonstrate that the proposed property use complies with all applicable federal, state and local requirements, and is consistent with the Cobb County Comprehensive Solid Waste Management Plan.

Permitting for solid waste handling facilities will follow the same procedures and protocols used for rezoning and land use permit applications, under Section 134-121 of the Cobb County Ordinances. Applicants are required to advertise and attend public hearings.

Public Notice and Advertising of Hearings

Applicants are required to post and maintain public notice signs supplied by the Cobb County Zoning Division. Signs are to be placed on or near the right-of-way of the nearest public street so as to be visible from the street for at least 30 days immediately preceding the date for any public hearings on the application, which shall remain posted until a final decision by the applicable boards. In addition to the requirements of O.C.G.A. § 36-66-4, the Cobb County Zoning Division shall supply a sign that contains the following language:

"PURSUANT TO THE OFFICIAL CODE OF COBB COUNTY, ZONING - SECTION 134-124(b) THE COBB COUNTY BOARD OF COMMISSIONERS IS AUTHORIZED TO CONSIDER AND MAY CONSIDER ALL CONSTITUTIONALLY PERMISSIBLE ZONING CLASSIFICATIONS, INCLUDING, BUT NOT LIMITED TO, INTERVENING CLASSIFICATIONS AND/OR THE CLASSIFICATION(S) SOUGHT BY THE APPLICANT."

It is the responsibility of the applicant to post the signs and to maintain the signs during the posting period. Failure to post and maintain the signs continuously may prohibit consideration of the application at any scheduled public hearing. If the signs are not posted continuously, the applicable board, in its sole discretion, may require reposting and re-advertising prior to any future public hearing, for which the applicant shall pay an additional re-advertising fee. The applicable board may also, in its sole discretion, continue, hold, approve or dismiss the application.

The Cobb County Clerk shall be responsible for advertising in the legal organ of the county pursuant to O.C.G.A. § 36-66-4, as amended from time to time. In addition, the advertisement shall contain the following language:

"PURSUANT TO THE OFFICIAL CODE OF COBB COUNTY, ZONING - SECTION 134-124(b) THE COBB COUNTY BOARD OF COMMISSIONERS IS AUTHORIZED TO CONSIDER AND MAY CONSIDER ALL CONSTITUTIONALLY PERMISSIBLE ZONING CLASSIFICATIONS, INCLUDING BUT NOT LIMITED TO, INTERVENING CLASSIFICATIONS AND/OR THE CLASSIFICATION(S) SOUGHT BY THE APPLICANT."



Attendance at Hearings

The applicant or representative of the applicant shall be required to attend all public hearings on the application. The failure to attend may result in dismissal with prejudice, rejection of the application or continuance of the hearing at the board's sole discretion. Failure of the applicant or his representative to appear at the next regularly scheduled hearing shall result in automatic dismissal with prejudice.

Statement of Plan Consistency

Proposed solid waste handling facility or expansion of existing solid waste handling facility must be consistent with the Cobb County Solid Waste Management Plan. Applicants are required to provide compulsory and requested information and a written "Statement of Plan Consistency" to the BOC with its application. The applicant, as a minimum, must submit written document with the following information:

1. Impact to Current Solid Waste Management Facilities:

How the proposed facility or facility expansion will meet the specific goals and/or needs identified in the Solid Waste Management Plan. Provide information on the following:

- a. The impact of the proposed facility or facility expansion on collection capability within the county.
- b. The impact of the proposed facility or facility expansion on disposal capacity.
- c. The impact of the proposed facility or facility expansion on waste reduction and recycling efforts in the county, specifically, how the proposed facility or facility expansion will further progress toward achieving the State's 25% per capita waste disposal reduction goal.
- d. The impact of the proposed facility or facility expansion on underserved geographic areas and segments of Cobb County such as individuals, businesses and/or waste types (residential, industrial/commercial, construction and demolition, inert) as identified in the Solid Waste Management Plan.

2. Impact to the Community:

How the proposed facility or facility expansion and its operation will impact the community. Provide information on the following:

- a. The impact to vehicle traffic and public safety around the proposed facility and throughout the planning area.
 - b. The impact of the proposed facility to the financial viability of the existing solid waste management system within the planning area.
 - c. The impact of the proposed facility to individual and business solid waste management rates.
 - d. The impact of the proposed facility or facility expansion to other natural or cultural resources within the planning area.
 - e. The impact of the proposed facility or facility expansion to the current public and private solid waste management infrastructure within the planning area.
3. How the owner/operator of the proposed facility (and any subsequent owner/operators, if sold) will satisfy the local ordinances.



4. That the proper public notification process was followed, to include a public hearing and notification of all adjacent property owners.
5. That the proposed facility or facility expansion is sited in a suitable area.
6. That the proposed facility or facility expansion is sited in a location that is consistent with current and future land uses.

Cobb County will review the applicant's submittal and its "Statement of Plan Consistency," and determine if the proposed facility or facility expansion is consistent with the Solid Waste Management Plan. Upon review completion, Cobb County will notify the applicant whether or not the proposed facility or facility expansion is consistent with the Plan. If the proposed facility is not consistent with the Plan, the applicant may address the inconsistencies and resubmit their request for another review.

6.7 Disaster Preparedness - Land Limitations Element

Cobb County's Emergency Management Plan makes provision for *temporary* sites for staging disaster debris awaiting processing and/or hauling to permanent approved disposal or processing sites.

6.8 Contingency Plans for Land Limitations Element

Cobb County can address existing and future solid waste facility siting issues through the implementation of the Cobb County's Solid Waste Ordinance (Chapter 102) and the Special Land Use Permit provision under Cobb County's Zoning Ordinances (Chapter 134). The BOC may grant Special Land Use permits for any period of time at the discretion of the BOC. In addition, CCSWD through the Solid Waste Ordinance carries annual permitting authority

6.9 Needs in Land Limitations

The Cobb County Code of Ordinances and State regulations will help to ensure that any proposed solid waste handling facility or expansions of existing facilities are sited in an area which is suitable for such development and compatible with the surrounding area. No additional ordinances are contemplated at this time.

6.10 Goals in Land Limitations

6.10.1 - Map Overlay

Take existing overlays depicting restricted areas and overlay them to depict those areas remaining that could be considered suitable for solid waste management facilities.



Section 7: EDUCATION AND PUBLIC INVOLVEMENT ELEMENT

7.1 Core Planning Element 5 - Education and Public Involvement

Education and Public Involvement Element is the fifth of the five core planning elements required to be addressed by the Georgia Department of Community Affairs in a Solid Waste Management Plan (SWMP) under “Chapter 110-4-3 - Minimum Planning Standards and Procedures for Solid Waste Management.” This section presents an inventory of current Educational and Public Involvement Programs in Cobb County that affects the management of solid wastes in the County. This section also includes the planning period’s “Needs and Goals” with respect to Education and Public Involvement initiatives for reducing the amount of solid waste generated, controlling litter, and supporting and participating in the community’s solid waste management programs.

7.2 Cobb County’s Keep Cobb Beautiful

Keep Cobb Beautiful (KCB) is a nonprofit organization established in 1984 (as the Cobb Clean Commission) with the support of the Cobb County Board of Commissioners for the purpose of "assisting the County and Board in establishing, promoting and maintaining a countywide policy for improved environmental and waste management." KCB was created in accordance with Section 102-111 of the Cobb County Solid Waste Ordinance. Keep Cobb Beautiful is an affiliate of Keep America Beautiful (KAB), a national, non-profit public education organization dedicated to improving waste handling practices in American communities. Keep America Beautiful educates millions of Americans on all aspects of waste handling and solid waste issues.

Mission of Keep Cobb Beautiful

Promoting stewardship of our communities through litter prevention, beautification, recycling and environmental education.

Cobb County understands that good extensive environmental Education and Public Involvement Programs is the one of the keys to successfully reducing and managing solid waste. KCB is the communication and education arm of Cobb County Solid Waste Division (CCSWD) and has been immensely successful in its programs, winning Keep America Beautiful’s National Affiliate of the Year and placing second nationally in the last several years. In partnership with the CCSWD and other County departments, KCB has the responsibility of promoting litter prevention, beautification, recycling and environmental education in Cobb County. Through years, KCB has initiated programs to keep Cobb County’s citizens, informed, educated, trained



and involved in litter control, waste reduction and recycling. In its objective to keep the public involved in the improvement of Cobb County's environment, KCB depends heavily on volunteers to help with implementing its programs. Using volunteers also keeps the cost down in carrying out the KCB's programs.

The majority of the volunteers for KCB's programs are adolescents from Cobb County schools. Because of this, KCB's programs become the first steps in teaching the youth of Cobb County the importance of environmental stewardship. In addition, most of the KCB waste reduction and recycling programs are first advertised within the schools, and so the students become the main supplier of public relations for the programs.

KCB focuses its programs on the environmental concept of "Reuse, Reduce and Recycle," commonly known as the "Three R's". When citizens and students are educated about reusing, reducing, recycling, and proper waste management, they are more likely to be involved in many of the programs provided by KCB and CCSWD. Citizens and student begin seeking facilities and find ways to practice the Three R's, thus starting a trend of environmental stewardship now and in the future.

7.2.1 Keep Cobb Beautiful Board

Section 102-112 of the Cobb County Solid Waste Ordinance mandate that the Keep Cobb Beautiful Board consist of 21 members. Fifteen of the KCB Board members are to be appointed by the Cobb County Board of Commissioners, with each commissioner able to appoint a maximum of three members. The Commissioners' appointees should represent the areas of business and industry, communications, community and civic organizations, and educational institutions. The remaining six members are to be appointed by the governing body of each of the six municipalities in Cobb County. With each municipality having a Keep America Beautiful System, the municipality's representative may be chosen from its system. The qualifications, method of selection, procedure for removal and method of filling vacancies are determined by each respective appointing entity.

The KCB Board meets once a month. The general public is always welcome at the monthly Board meetings. The meeting is held the first Tuesday of each month from 6:00 p.m. to 8:00 p.m. in a large meeting room at the Cobb County Water Department Water Laboratory Building located at 660 South Cobb Drive, Marietta, GA 30060.

For the year 2007, the KCB Executive Board consists of a Chairperson, two Vice Chairpersons, a Treasurer, a Secretary, and a Parliamentarian.



7.3 Inventory and Assessment of Existing Education and Public Involvement

The current Cobb County Educational and Public Involvement Programs offered by KCB and CCSWD can best be presented grouped under the following five categories:

1. Recycling and Waste Reduction Programs (Section 7.4)
2. Litter Prevention, Beautification and Community Improvement Programs (Section 7.5)
3. Community Involvement and Leveraging Resources Programs (Section 7.6)
4. Media and Public Awareness (Section 7.7)
5. Recognition Programs (Section 7.8)

The Cobb County Education and Public Involvement Programs presented in this section have been kept alive and successful because of the strong support in KCB, the volunteers, the community, and the cooperation with Cobb County's various departments. Programs such as Adopt-A-Mile, Adopt-A-Trail, America Recycles Day School programs and Rivers Alive have been in place for years and continue to attract new volunteers. KCB has also ventured in producing video on recycling. The feedback KCB received on the new education video, "Three R's for Saul" has been great and requests for this education program have been numerous.

Litter Index

The Litter Index is a national initiative of Keep America Beautiful that provides a starting point for the litter prevention process. The Litter Index is conducted by volunteer teams who rank areas of Cobb County on a cleanliness scale of one to four. KAB guidelines signify that a "1" means "virtually no litter can be observed," while a designation of "4" indicates that "major illegal dumpsites are present, requiring equipment or extra manpower for removal." The lower the Litter Index number, the lower the amount of litter in the area.

In 2006, the Litter Index rating for Cobb County was 0.78, an improvement of 0.22 from the previous year. Education in litter prevention and the Three R's, continue to show results. Parents and teachers want programs to be presented to preschool as well as school age children. There is an increase in involvement from Cobb schools, and the continued rise in the adults in the volunteers, phone calls and litter line hits, indicates that the citizens of Cobb County are concerned about their county, and are willing to help improve its appearance. KCB and CCSWD, and other County departments are making a concerted effort to fight litter and to educate our citizens in its prevention.

The inventory and assessment of existing Education and Public Involvement Programs in Cobb County, grouped under the five categories listed above, are presented in the following subsections.



7.4 Recycling and Waste Reduction Programs

Following are existing Cobb County KCB and CCSWD Education and Public Involvement Programs impacting recycling and waste reduction programs.

7.4.1 Electronics Recycling Day

The KCB and CCSWD *Electronic Recycling Day (ERD)* was introduced to the community in May of 2005. The ERD is a scheduled drive up and drop off collection event in Cobb County for the sole purpose of diverting electronic waste items away from landfills. This is a day when citizens could drop off their unwanted electronics for recycling, free of charge. The ERD program allow for the reduction in electronic waste items through recovery and reuse of valuable materials. An ERD event is a quick, safe process and very convenient way for the community to reduce the amount of electronics waste items that would have been disposed of in landfills.

The community found it easy to participate in this drive up and drop off recycling program. While the best scenario would be to offer curbside pickup for the electronic items, offering different locations for the event makes the recycling effort more economically viable. The community's positive participation and the positive feedback received for this event identified a need for a permanent location to recycle electronics. In response, the ERD is offered once a year now, but it is supplemented with a year-round and 6 days a week Electronics Recycling Station (ERS) operated by CCSWD at the Cobb County

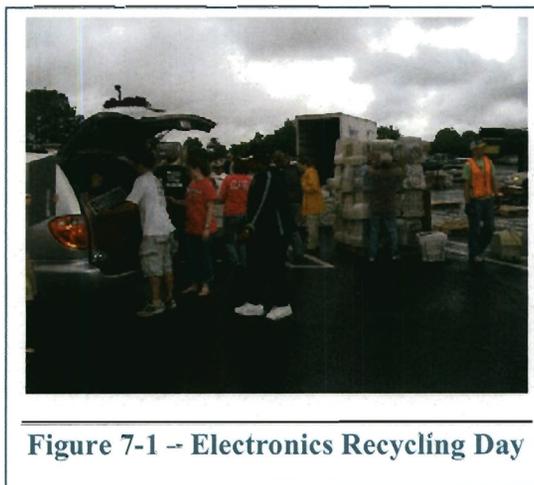


Figure 7-1 -- Electronics Recycling Day

Transfer Station Recycling Facility. Since its introduction in May 2005, in over a period of 18 months, there have been a total of four ERD events. For each ERD events, there are two drive up and drop off locations offered within the county. These four ERD events were recorded as having 5,550 participants dropping off 4,586 computers, 4,643 monitors, 1,556 televisions, and countless other pieces of equipment. The totals of these four days of electronics recycling yielded 631,925 pounds of recyclable materials. This is 316 tons of old electronics collected in eighteen months and diverted away from landfills. The typical costs for an ERD event are presented in the Table 7-1.



Reaching the Public

Cobb County is aggressive in reaching the public for participation in the ERD events. KCB circulates thousands of flyers through emails, and places information at pick up locations at government buildings, businesses, and churches three months preceding each event. All the Cobb County schools receive the flyers. Teachers (8,400 in Cobb Schools) make announcements in their classrooms and send flyers home with their students. The Cobblina a county newsletter, included in Cobb resident’s monthly water bill, promote the event dates for two months. The Cobblina is mailed to approximately 185,000 households each month and reaches an additional 3,500 households weekly via email. Each event was advertised on TV23, Cobb County’s access Cable Channel, which is viewed by approximately 200,000 residents each month. The event dates are posted on the Cobb County Government Website and on the Keep Cobb Beautiful Website, receiving approximately 2-3 million hits per year.

<i>Table 7-1</i>	
TYPICAL EVENT COSTS FOR ELECTRONICS RECYCLING DAY	
Descriptions	Costs
<i>Cost Savings through Donated Services:</i>	
Location Space	\$ 4,000
ARS Processing Fee	\$ 15,900
Advertisement	\$ 161,340
In Kind Government Services	\$ 15,150
Volunteer Refreshments	\$ 820
Total Donated Services (Cost Avoidance)	\$197,210
<i>Actual Costs to KCB:</i>	\$ 900
<i>Savings to Residents (Avoided Recycling Fees):</i>	\$ 39,913
<i>Dollar Cost Value of Volunteers Hours:</i>	\$ 16,104



The community supports these types of environmental events, and sponsors are proud to put their name on such a positive result. Organizations, civic groups or businesses can easily plan and implement an ERD or similar event, often with little or no funding. This type of waste reduction/recycling program can accommodate any size demographic and will be an on-going aspect of the County's Comprehensive Solid Waste Management Plan.

7.4.2 Electronics Recycling Station

The successful ERD program has demonstrated a need for a continuous electronics' recycling program. After the first ERD event, CCSWD opened an ***Electronics Recycling Station (ERS)*** in June 2005. The ERS is at the County's Solid Waste Transfer Station. Cobb County's ERS is open six days a week to customers who want to bring any of their old electronics and recycle them for a nominal fee.

Security becomes an issue when dealing with electronics recyclable material. Toxic materials, valuable surplus and secure information cannot be left in an open area for anyone to have access. When a customer brings their electronics to the ERS, they will place their old electronics in a safe container inside a secure gated area. The nominal fee collected by CCSWD from the ERS customers reflects the operating costs incurred in the secure collection and storage of the recycled electronic equipments. Atlanta Recycles Solutions (ARS) provides the collection container and picks up regularly, still at no charge to Cobb County or KCB.

7.4.3 Cobb County Transfer Station Recycling

KCB and CCSWD receive 20 to 30 calls per day from the citizens of Cobb to learn about recycling and the recycling programs offered in Cobb County. CCSWD operates a recycling center at the Cobb County Solid Waste Transfer Station on County Services Parkway. Paper, corrugated cardboard, plastics, aluminum, glass, newspaper, phonebook, metal, tin, car battery, motor oil, electronics, asphalt, concrete, carpet padding, and tires are recycled at the CCSWD recycling operation.



7.4.4 Cobb County Composting Facility

KCB recommends educational tours of the Cobb County Composting Facility (CCCF) to the public. In addition to the tour, CCCF has a Give-Away Program for its compost/Bio-Blend product. Approximately 56% of the waste taken in at the Composting Facility is converted into compost or recycled. KCB has seen from the public a renewed interest in the benefits of composting and more customers have taken advantage of the County's free Compost. In 2006, twenty-one tours at the CCCF were completed with 113 visitors touring the facility, and CCCF had 3,388 customers that participated and picked up 275,000 pounds of compost/Bio-Blend under its Give-Away Program.

7.4.5 Bring One for the Chipper

The Cobb County residents count on the *Bring One for the Chipper* Christmas tree recycling event each year. This is the one recycling program that everyone always knows about. In this program, residents are responsible for bringing their trees to the sites, but some scout troops offered hauling services for residents who did not have a way to get their tree to the sites. In 2006, this KCB's annual tree recycling program drew a record breaking 228 volunteers working a total of 1368 hours, and donating \$24,624 in services to collect over 26,000 trees to recycle at 13 volunteer operated drop-off centers throughout Cobb. An estimated 35,000 participants recycled their trees in one day.



Figure 7-2 – Bring One for the Chipper

7.4.6 Teacher Supply Storehouse

The National Award winning *Teacher Supply Storehouse* program is one of Cobb County's waste reduction programs. In this program, usable materials are collected and given to schoolteachers for use in their classrooms. KCB serves on the steering committee for KAB's "Teacher Supply Storehouse".



In 2006, KCB's 63 volunteers assisted with three open houses and handed out items such as school supply materials, office furniture, and other equipments to 296 educators. These items would otherwise have ended up in the landfills. Cobb County's communities have become more generous each year in its donations of usable materials to the Teachers Supply Storehouse.



Figure 7-3 ~ Teachers Supply Storehouse

7.5 Litter Prevention, Beautification and Community Improvement Programs

Following are existing Cobb County KCB and CCSWD Education and Public Involvement Programs that impacts litter prevention, beautification and community involvement programs.

7.5.1 Adopt-a-Mile

In KCB's *Adopt-a-Mile (AAM)* program, club, civic group or business sign up to keep Cobb County beautiful by removing trash from a single, mile-long stretch of road on a quarterly basis – January, April, July and October. This program is carried out in collaboration with the Cobb County Department of Transportation (Cobb DOT). AAM volunteers provide the manpower, and Cobb DOT supplies the familiar orange bags, and the great signs. Cobb DOT also schedule pick up of the volunteer's trash bags after the cleanups. Many volunteers however take the trash to a dumpster or to the Cobb County Transfer Station themselves. In joining AAM, the club, civic group or business agrees to:

1. Recruit participants 13 or older
2. Attend safety training before initial cleanup



Figure 7-4 ~ Adopt-a-Mile



3. Submit releases of liability, parental consent forms, organization roster and other paperwork.
4. Organize four cleanups within a 12-month period.
5. Check your mile on a regular basis and conduct additional cleanups if necessary
6. Submit reports after each cleanup.

The AAM program has had an incredible upsurge in interest, as more citizens see the results of hard work and dedication. In 2006 alone, KCB has sponsored over 552 cleanups, using 4,672 volunteers. This is approximately \$84,096 in volunteer hours donated to this program alone. Twenty-four new miles of road were added in 2006 to bring a total of 92 miles of County road looked after for the benefit of all in Cobb County.

Georgia DOT Involvement with AAM

In 2006, the Georgia Department of Transportation (DOT) allowed KCB to attach KCB's logo to the State Highway Fine signs. Sixteen of these signs, located on state roads coming into Cobb County, now display the KCB logo. Drivers on these roads now notice a sign that was somewhat invisible to a passerby, and get the message that Keep Cobb Beautiful is serious about littering. Georgia DOT also donated several thousand daffodil bulbs to KCB, which we in turn were distributed to KCB's AAM volunteers to plant along adopted mile of road.

7.5.2 Coming Clean in Cobb

Coming Clean in Cobb is Cobb County's part of the *The Great American Cleanup (GAC)*. The GAC, held from March 1st through May 31st, is an annual, nationwide, community improvement campaign started by Keep America Beautiful in 1999. KCB supports the cleaning and beautification efforts by neighborhoods, businesses, churches, scouts and civic group by supplying the volunteers with garbage bags, gloves, litter bags for cars, certificates, posters, stickers and activity sheets for the children.

This litter prevention, beautification, and community improvement program has been a great success. Coming Clean in Cobb volunteers has painted over graffiti, cleaned the roads, collected garbage, picked up recyclables, and planted trees, flowers, plants and shrubs to beautify public spaces. In the 2006 Coming Clean in Cobb event, KCB had 19,404 volunteers from schools, neighborhoods, and businesses that worked a total of 49,612 hours, with a total



Figure 7-5 – Great American Cleanup



service hours valued at \$200,732. The volunteers collected and disposed of 74,730 lbs of litter and debris; and recycled 49,389 lbs of newspaper, and over three million pounds of aluminum and steel.

Schools Coming Clean in Cobb

KCB challenged Cobb County Schools to get involved with the Schools Coming Clean in Cobb program. In 2006, KCB received 37 applications from schools anxious to participate in this program. KCB handed out gloves, garbage bags, and other supplies to all schools that made a request. Schools could choose to be involved in the Litter-Free Events, Clothing Collections, Roadside Cleanups, Recycling, River / Lake Cleanup, Park Cleanup, and School Beautification Projects. Cobb County schools rebuilt playgrounds and painted. A school built a nature sanctuary with a pond to study wildlife, and another school utilized an outdoor classroom constructed for environmental lessons.

The 2006 winners (six were recognized) of the GAC Coming Clean in Cobb received a check to be used for more beautification projects, or to continue their recycling efforts at their school. The winning schools received a \$900 reward.

Homeowners/Subdivision/Business/Churches/Scouts/Civic Groups

Through several media releases, the word got out about KCB's challenge and it received applications for supplies from 17 subdivisions in Cobb County. Neighbors took to their streets and generated enthusiasm to clean up their common areas. Front entrances were made more attractive with flowers and trees. Thousands of daffodils donated by Georgia DOT, planted in the fall came out during the GAC. Not only did the GAC bring the neighbors together in a community effort, but also the value of their homes will be enhanced when an entire subdivision takes pride in their homes. All in all, volunteers planted over 6065 plants, flowers, shrubs and trees in 2006.

7.5.3 The Litter Line

The *Litter Line*, started in 2002, is an interactive on-line litter reporting service for KCB volunteers and County residents. Now in its fifth year, the *Litter Line* has received almost 400 email reports, and KCB's website has had over 82,000 hits. KCB works closely with the Cobb DOT, Community Development, Code Enforcement and the Cobb Anti Gang Enforcement (CAGE) unit for Graffiti reports. As complaints come in, KCB determine the best department to handle a particular situation. KCB then forward the complaints to the contact for that department. KCB performs follow-up with the citizen to let them know that their complaint has been registered.



7.5.4 Rivers Alive Program

The *Rivers Alive Program* is a volunteer cleanup event that targets all waterways in the State of Georgia, including streams, rivers, lakes, beaches and wetlands. The mission of Rivers Alive is to create awareness of and involvement in the preservation of Georgia's water resources. Rivers Alive is held annually and is sponsored by the Georgia Department of Natural Resources, Georgia's Adopt-A-Stream Program, and the Georgia Department of Community Affairs' Keep Georgia Beautiful Program.



Figure 7-6 – Rivers Alive

7.5.5 KCB Education Video

With grant money from KAB and Waste Management, in 2006, KCB was able to write and produce an education video on Recycling for elementary school students. A professional writing major who was a KCB staff member wrote the script. Using professional actors along with Cobb County's Communication department, KCB produced an entertaining, as well as educational 13-minute video on the three R's (Reduce, Reuse, and Recycle) of managing and reducing solid waste. The video, "Three R's for Saul," was released on America Recycles Day during a KCB school wide sponsored Recycling program. The entire student population viewed the video and it was determined at that time that "Three R's" is the perfect education component for 3rd, 4th, and 5th graders. A workbook was also designed to accompany the video, with lessons, games and activities for the class.

7.5.6 Earth Fair

The *Earth Fair* is an educational fair that is open to all Cobb County educators. KCB began Earth Fair in 2000. Now in its 7th year, this program continues to be a success. This well attended educational fair gives Cobb County educators an opportunity to find free environmental programs for their students. All principals, PTA presidents, PTA Environmental Chairs, and school



Figure 7-7 – Earth Fair



representatives from each Cobb County School are invited to attend this event.

The Earth Fair consists of exhibits hosted by many local nonprofit organizations and businesses that provide environmental education programs for the classroom. This event enables representatives from a Cobb school to speak directly with these organizations and gather information on programs that are of interest to their school. The Georgia Forestry Commission, Parks and Recreation, Adopt-a-Stream, Pollution Prevention Assistance Division, and The Clean Air Campaign are a few of the groups that participate in this educational event. The event has resulted in tours of the Cobb County Transfer Station, Cobb County Composting Facility and the County Farm Road Landfill site, helping to educate the public about solid waste and its impact on our communities and environment.

7.5.7 America Recycles Day

In the *America Recycles Day* program, KCB work with the Parent Teacher Association (PTA) Environmental Chair and the principal of a school to implement a school wide paper and aluminum-recycling program. In this program, KCB come into a school and does a training program on recycling for each grade level.

As part of the program, each grade level in the school participated in a two-week contest to see who would bring in the most recyclables. All students received giveaways and gifts from KCB for participating. At the end of the contest, the winning grade level was announced and was awarded with free homework passes from their principal.



7.5.8 Cobb Trees

The *Cobb Trees* is a branch of KCB that was founded on Tuesday, October 24, 2000 when the Cobb County Board of Commissioners unanimously voted to plant 84 trees in five locations throughout Cobb County. In its seventh year, Cobb Trees program works with its volunteers to plant trees in an effort to replenish a disappearing “inventory” of trees and green space in Cobb County. The Cobb Trees program provides education activities, contests, public plantings, mulching and upkeep activities, tree dedications, tree adoptions, arbor workshops, and other activities for residents of Cobb.



During the 2006 planting season, KCB planted 1,416 trees with 719 volunteers and staff, equaling 4,304 volunteer hours at \$77,472 in volunteer service dollars and \$20,488 in kind goods and services. Volunteers planted the trees with an educational piece given by the County arborist at the beginning of each Saturday planting. KCB also gave away over 3,500 hardwood and pine tree seedlings for individuals to plant.

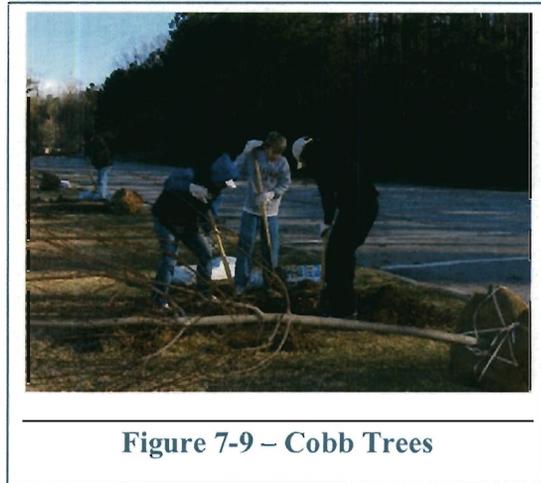


Figure 7-9 – Cobb Trees

7.5.9 Earth Day Programs

In 2006, KCB hosted an eco-friendly poster contest at one elementary school. KCB volunteers also read environmental stories to 412 students during Earth Day programs at a local preschool and elementary school.

7.6 Community Involvement and Leveraging Resources

The Cobb County School system benefits by participating in KCB Earth Fair each year. Educators take the message of environmental responsibility back to their students. KCB's success in its programs and activities rely heavily on its volunteer workforce. Without support from its volunteers, donors, the community and Cobb County Government, most of the programs and activities managed by KCB would be hard to accomplish, maintained and too cost prohibitive to perform. It is through the community's involvement that the KCB programs have become a success.

Associate Board Members Program

In 2006, KCB introduced the new Associate Board Members program. This is a student program for high school junior and seniors, and undergraduate students in college. Students apply to be a part of the regular programming of the KCB Board.

Litter Free Events

Litter Free events got the word out about KCB. In 2006, the North Georgia Fair and the Big Shanty Festival in Kennesaw were official Litter Free events. Over 50,000 people saw KCB's signs and hopefully Put Litter in its Place.



7.7 Media/Public Awareness

KCB works diligently to increase the public awareness for its programs to both the young and older citizens of Cobb County. To help with reaching out to the school children, KCB introduced its own mascot in 2006, “Detective Kasey B”. KCB utilizes the presence of “Detective Kasey B” in reaching out to the school children during KCB’s educational and training programs.

The positive impact that volunteers make on Cobb County and the difference they make on daily lives is important. Newspapers, such as the Marietta Daily Journal and the Atlanta Journal Constitution, along with the Cobblin, calendared KCB events, and published photos and recognitions of the KCB volunteers. Cobb County’s own TV 23, viewed by 200,000 residents of Cobb, advertised all of the KCB events on the stations *crawl*, and ran feature stories on KCB events or programs.

KCB sent press releases out for every event and were featured on 11Alive news in a preview for “Bring One for the Chipper” in January. Radio coverage from 750AM WSB, 640AM WGST and 94.9 FM announced KCB’s “Bring One for the Chipper” in January to the public. Television station Fox5 carried KCB’s Earth Day tree planting, with Ken Cook (Chief Meteorologist for the station) serving as emcee for the day. Three radio stations advertised the Earth Day event, the day before, as well as on the day of.



**Figure 7-10 – KCB Mascot
“Detective Kasey B”**



**Figure 7-11 – Detective Kasey with
Students**

The Cobb County Board of Commissioners Proclamation presentation to KCB on three separate occasions was televised live on TV23 and repeated 60 times. The Cobb County website has direct links to KCB’s web pages. Schools boast the KCB Litter free school zone, School Yard Shade Program, and the new Green School signs, 24 State Highway littering signs now have the KCB logo attached, as well as 175 Adopt-A-Mile signs on County roads. KCB conducted 159 classroom education programs, 27 civic & youth group presentations, and 25 Community outreach presentations. Thousands of KCB promo items



were given out this year. KCB produced an education video on recycling, to be aired on the County's and schools television stations and presented in schools.

7.8 Recognition Programs

KCB knows that its greatest asset is its volunteers. To help maintain and improve the high Community Involvement and Public Awareness exhibited by the citizens of Cobb County, KCB gives out awards and certificates in recognition of the important work that its volunteers provide. Following are some of the recognition programs implemented by KCB:

- All schools that participated in the GAC are presented with frame ready certificates congratulating them on their participation.
- Schools received public recognition in the local papers along with a plaque and check presentation during their end of year awards programs.
- First place Home Owner's group are awarded a permanent plaque for its GAC efforts, to place in their common area.
- KCB's hosted catered Awards dinner to its volunteers
- Most of KCB's events are taped and televised on Cobb County's cable station. Volunteers can see themselves on television, as well as be recognized by their friends as an active participant.
- KCB gives out T-shirts at all of its large events.
- Adopt-A-Mile volunteers receive a specially designed t-shirt, along with a personalized road sign on their adopted mile.
- The Board of Commissioners recognizes volunteer efforts with public televised presentations.

7.9 Needs and Goals in Education and Public Involvement

Cobb County, through KCB, is involved in a variety of public education efforts aimed at providing its citizens with information, education, and opportunities for involvement. Following are Cobb County's needs and goals for education and public involvement initiatives for reducing the amount of solid waste generated, controlling litter, and supporting and participating in the community's solid waste management programs.



7.9.1 Schools (Enhancement)

KCB will continue its promotion of environmental education in the schools in Cobb County and encourage each one of the schools to achieve Green School status. This would include all schools participating in a paper/cardboard recycling program.

7.9.2 Adopt-a-Mile (Enhancement)

KCB, Cobb DOT and other Cobb Government departments will work to have an increased number of volunteers participating in the Adopt-A-Mile program and work towards 100% adoption of all County maintained roadways.

7.9.3 Recycling (Enhancement)

KCB's goal is to increase education and public awareness for recycling options. KCB's approach is to reach the citizens of Cobb through groups, clubs, and community presentations.

7.9.4 Environmental Court (New)

In conjunction with the Governors' *Litter It Costs You* campaign, the creation of an Environmental Court for Cobb County would be a great step forward to promoting litter prevention and environmental improvement. Enforcement, prosecution and awarding fines to those who violate the law would exhibit the seriousness of environmental pollution. It would send a message to anyone living in or driving through, that Cobb County is concerned about the environment and is willing to penalize those who would not want to Keep Cobb Beautiful.

7.9.5 Customer Convenience Centers (New)

Cobb County currently offers only one drop-off recycling location to the residents of Cobb. The Cobb County Transfer Station Recycling Facility is the only CCSWD operated drop-off recycling location. The establishment of Recycling Centers in other areas of the County would make it easier for those Cobb residents who recycle in their homes. A convenient location to drop off a variety of different recyclables would give families the incentive to be more diligent in their recycling at home and may inspire others to begin their own recycling efforts.

Siting a solid waste management facility, even for a very beneficial program such as a drop-off recycling center, attracts oppositions from many "Not in my backyard" (NIMBY) folks. KCB can assist by reaching out to its volunteers of environmentally conscious citizens to help create strong public and local neighborhood support for siting and implementation of Recycling Centers in other areas of Cobb County.



Section 8: IMPLEMENTATION

8.1 Final Planning Element - Implementation Strategy

Implementation Strategy is the final planning element required to be addressed in a Comprehensive Solid Waste Management Plan (SWMP). In accordance with Chapter 110-4-3, Minimum Planning Standards and Procedures for Solid Waste Management by the Georgia Department of Community Affairs (DCA), this planning element present the culmination of the information gathered in the preceding planning elements.

This section presents a 10-year Long-Term Implementation Strategy for each of the current relevant programs and future planned programs that were identified in each element. The first half of the Implementation Strategy (first five years) serves as the first Short-Term Program. The second half of the Implementation Strategy will be updated in accordance with the planning schedule established and revised from time to time by DCA.

8.2 Financing Mechanism

Cobb County operates the Cobb County Solid Waste Division (CCSWD) as an Enterprise Fund. In an Enterprise Fund, revenues must cover expenses, and fees for services provided are charge to outside customers including local governments. Tipping fees (customer disposal fees) collected are the primary source of revenue for CCSWD. The tipping fees are evaluated annually and the Cobb County Board of Commissioners (BOC) must approve all fee increases. Other source of revenue for CCSWD are in the sales of recyclable materials, compost product, wood chips and mulch which are sold at current market prices.

Each year, Cobb County provides detailed accounting of all revenues and expenses related to solid waste services. The CCSWD financial information is published annually as the Solid Waste Disposal Fund in the Cobb County Comprehensive Annual Financial Report. The Solid Waste Disposal Fund accounts for the operation of the County's public landfills and solid waste processing. This full cost accounting is required and is submitted to DCA every year.

Cobb County Solid Waste Division (CCSWD) develops an annual budget, which is approved and appropriated by the Cobb County Board of Commissioners (BOC). This budget process involves projections for the following expenses:

- Personnel
- Operating
- Debt Service



- Capital Improvements

8.3 Updating the Plan

Cobb County's process for updating this Comprehensive SWMP will include annual reviews of this SWMP, submittal of the Annual Solid Waste Survey to the State, and the submittal of the Short-Term Work Program progress report to the State every five years. After five years, the entire SWMP will be revisited and updated as necessary.

8.4 Implementation Strategy

Table 8-1 shows the implementation schedule and associated costs for each existing program already in place, and each new program suggested in this Comprehensive SWMP. Costs presented in Table 8-1 are estimates only since it is hard to project with accuracy future costs. Most of the new programs are only evaluation and feasibility studies, and are not a commitment by Cobb County to implement the program.

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017		
Section 2: Waste Disposal Stream Analysis																
2.5 Collect better data to analyze	X	X	X	X	X	X	X	X	X	X	X	X	X	\$3,000	CCSWD	EF
2.6 Modify existing database to fit SWMP categories			X	X	X	X	X	X	X	X	X	X	X	\$3,000	CCSWD	EF
Section 3: Waste Reduction Element																
3.4.1 Georgia P2AD Program	X	X	X	X	X	X	X	X	X	X	X	X	X	\$5,000	Cobb Businesses	NP
3.4.2 Cobb County Composting Facility	X	X	X	X	X	X	X	X	X	X	X	X	X	\$5,400,000	CCSWD	EF
3.4.3 Cobb County Vegetative Waste Recovery Center	X	X	X	X	X	X	X	X	X	X	X	X	X	\$600,000	CCSWD	EF

funding Key: EF=Enterprise Fund, NP = Non-Profit, NA = Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented											Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017						
	Section 3: Waste Reduction Element (continued)																
3.4.4 Residential Curbside Recycling Service	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	Residential Customers	Residential Customers
3.4.5 Electronics Recycling Day	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$1,000	KCB and CCSWD	NP
3.4.6 Electronics Recycling Station (ERS)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$2,000	CCSWD	EF
3.4.7 Bring One for the Chipper	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$1,000	KCB and CCSWD	NP
3.4.8 Teacher Supply Storehouse	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	KCB	NP

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017		
Section 3: Waste Reduction Element (continued)																
3.4.9 Cobb County Transfer Station Recycling (CCTSR)	X	X	X	X	X	X	X	X	X	X	X	X		\$66,200	CCSWD	EF
3.4.10 Cobb County Metal Recycling	X	X	X	X	X	X	X	X	X	X	X	X		\$5,000	Cobb County Government and CCSWD	EF
3.5.1 Expanded Transfer Station Recycling (Enhancement) – Evaluation and feasibility study, Engineering, and Implementation			X	X										\$250,000	CCSWD	EF
3.6.4																
3.5.2 Expanded Vegetative Waste Recovery Center (Enhancement) -			X											\$300,000	CCSWD	EF
3.6.3																

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Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented											Responsible Party	Estimated Operations Costs/Year	Funding Source		
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017					
Section 3: Waste Reduction Element (continued)																
3.5.3 Customer Convenience Centers (Evaluation and feasibility study)				X											\$40,000	EF
3.5.4 Bio-Diesel (Evaluation and 3.6.1 feasibility study)			X												\$200,000	EF

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source		
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017	
	Section 4: Waste Collection Element														
4.3.1 Residential Curbside Waste Collection	X	X	X	X	X	X	X	X	X	X	X	X	Residential Customers	N/A	Residential Customers
4.3.2 Commercial Waste Collection	X	X	X	X	X	X	X	X	X	X	X	X	Commercial Customers	N/A	Commercial Customers
4.3.3 Residential Curbside Recycling Collection	X	X	X	X	X	X	X	X	X	X	X	X	Residential Customers	N/A	Residential Customers
4.7.1 Negotiated Community Waste Collection			X										Residential Customers & Haulers	N/A	Residential Customers
4.7.2 Disaster Preparedness Update Program			X	X	X	X	X	X	X	X	X	X	CCSWD	\$2,000	EF

Financing Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Financing Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017		
Section 5: Waste Disposal Element (continued)																
5.3.2 Cobb County Solid Waste Transfer Station	X	X	X	X	X	X	X	X	X	X	X	X	CCSWD	\$540,000	EF	
5.4 Use of Private Landfill for Disposal	X	X	X	X	X	X	X	X	X	X	X	X	CCSWD	First 5 Years \$2,600,000 Second 5 years \$3,400,000	EF	
5.7.1 Cobb County Transfer Station Renovation and Improvements			X										CCSWD	\$4,000,000	EF	
5.8.1																

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Table 8-1
Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017			
Section 6: Land Limitation Element																	
6.7.1 Develop County Map showing areas available for SW facilities				X See 6.7.1												\$1,000 EF	
Section 7: Education and Public Involvement Element																	
7.4.1 Electronics Recycling Day	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$1,000	NP/EF
7.4.2 Electronics Recycling Station	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$1,000	NP/EF
7.4.3 Cobb County Transfer Station Recycling	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	\$1,000	NP/EF

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Table 8-1
Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017		
Section 7: Education and Public Involvement Element (continued)																
7.4.4 Cobb County Composting Facility	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF
7.4.5 Bring One for the Chipper	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF
7.4.6 Teacher Supply Warehouse	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF
7.5.1 Adopt-a-Mile	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF
7.5.2 Coming Clean in Cobb – The Great American Cleanup	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF
7.5.3 The Litter Line	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NP/EF

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented											Responsible Party	Estimated Operations Costs/Year	Funding Source				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017							
Section 7: Education and Public Involvement Element (continued)																		
7.5.4 Rivers Alive Program	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$1,000	NP/EF
7.5.5 KCB Education Video										X				X		KCB	\$5,000	NP/EF
7.5.6 Earth Fair	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,000	NP/EF
7.5.7 America Recycles Day	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$1,000	NP/EF
7.5.8 Cobb Trees	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$6,000	NP/EF
7.5.9 Adopt-a-Trail Program	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$1,000	NP/EF

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA =Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017			
Section 7: Education and Public Involvement Element (continued)																	
7.5.10 Green School Initiative	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,500	NP/EF
7.5.11 Earth Day Programs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,000	NP/EF
7.5.11 Graffiti Abatement	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$1,000	NP/EF
7.6 Community Involvement and Leveraging Resources	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,000	NP/EF
7.7 Media/Public Awareness	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$4,000	NP/EF
7.8 Recognition Programs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$6,000	NP/EF

Funding Key: EF=Enterprise Fund, NP=Non-Profit, NA=Not Applicable

Table 8-1

Cobb County Comprehensive SWMP Implementation Plan

Activity	Year To Be Implemented										Responsible Party	Estimated Operations Costs/Year	Funding Source			
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				2017		
Section 7: Education and Public Involvement Element (continued)																
7.9.1 Schools (Enhancement)	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,000	NP/EF	
7.9.2 Adopt-a-Mile (Enhancement)	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$1,000	NP/EF	
7.9.3 Recycling (Enhancement)	X	X	X	X	X	X	X	X	X	X	X	X	KCB	\$3,000	NP/EF	
7.9.4 Environmental Court (New) – Evaluation and feasibility study			X										KCB	\$5,000	EF	
7.9.5 Customer Convenience Centers (New) – Evaluation and feasibility study			X										KCB	\$10,000	EF	

Funding Key: EF=Enterprise Fund, NP = Non-Profit, NA=Not Applicable



Appendix A:

Education Materials



An affiliate of Keep America Beautiful



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kcb.cobbcountyga.gov

WHO WE ARE

Keep Cobb Beautiful, Inc. (KCB) is a 501-c3 nonprofit organization that promotes stewardship of our communities through litter prevention, beautification, recycling and environmental education. KCB is an affiliate of Keep America Beautiful and is funded by Cobb County Government, recycling revenue and private contributions. The KCB Board consists of appointees of the Cobb Board of Commissioners and the cities of Acworth, Austell, Kennesaw, Marietta, Powder Springs and Smyrna, along with at-large members chosen by the Board.

PROGRAMS WE OFFER

- Adopt-a-Mile
- Adopt-a-Trail
- America Recycles Day
- Associate Board Member
- Bring One for the Chipper
- Cobb Trees
- Electronics Recycling Day
- Great American Cleanup
- Green School Initiative
- Rivers Alive

RECENT ACCOMPLISHMENTS

- ❖ 2007 National Association of Counties Acts of Caring Award
- ❖ 2006 Georgia Urban Forestry Commission Grand Award for the Cobb Trees program
- ❖ 2006 & 2005 Keep Georgia Beautiful 1st place Affiliate
- ❖ 2006 & 2005 Keep Georgia Beautiful 1st place Waste Reduction
- ❖ 2006 & 2005 Keep America Beautiful (KAB) National 1st place winner for Waste Reduction - Electronics Recycling
- ❖ 2006 KAB 2nd place National Affiliate; 2005 KAB 1st place National Affiliate

HOW YOU CAN HELP

Our organization relies on hard-working volunteers and generous donors who are committed to giving back to our area. It is through their time, energy, enthusiasm and expertise KCB has been able to positively impact the community for more than 20 years. You can ensure Cobb County continues to be one of the Southeast's most attractive communities by volunteering your time and knowledge or by making a contribution. All donations are tax deductible. For more information or to sign-up for news alerts, visit us on the Web at kcb.cobbcountyga.gov.

Communications Department 7/07

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This is an official publication of the Cobb County Board of Commissioners.



Cobb County...Expect the Best!

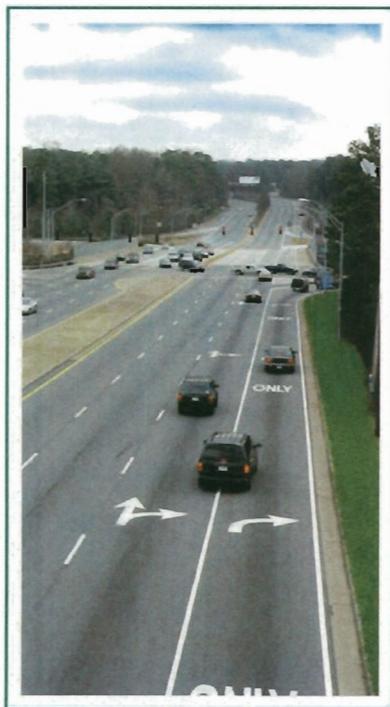
Sam Oless, Chairman
Helen Gresham, District One
Joe Thompson, District Two
Tim Lee, District Three
Annelle Hasting, District Four

David Hankerson, County Manager



Adopt-a-Mile

A program of Keep Cobb Beautiful



1897 County Services Pkwy.
Marietta GA 30008
770-528-1135
KeepCobbBeautiful@cobbcounty.org
kcb.cobbcountyga.gov



LITTER

Litter is a problem on our roadways. It's unsightly, expensive to remove and poses a real threat to motorists and wildlife. In 2004, the state spent a staggering \$14 million in roadside litter removal. And the problem is here, too, in Cobb County.

WHAT YOU CAN DO

Your club, civic group or business can keep Cobb beautiful by joining the Adopt-a-Mile Program. As part of this program, you agree to remove trash from a single, mile-long stretch of road on a quarterly basis - January, April, July and October.

HOW YOU CAN JOIN

- Select someone 21 or older to be your coordinator.
- Identify the one-mile section you want to adopt.
- Call 770.528.1135 to receive an application or visit kcb.cobbcountyga.gov/adoptamile.htm to download it.

YOUR ROLE

In joining Adopt-a-Mile, you agree to:

- Recruit participants 13 or older.
- Attend safety training before initial cleanup.
- Submit releases of liability, parental consent forms, an organization roster and other paperwork.
- Organize four cleanups within a 12-month period.
- Check your mile on a regular basis and conduct additional cleanups if necessary.
- Submit reports after each cleanup.

THE COUNTY'S ROLE

Cobb DOT provides cleanup supplies, signs and trash bag removal. Many volunteers, however, opt to take the trash to a dumpster or the Transfer Station themselves.

YOUR WORK ACKNOWLEDGED

After the first cleanup, Cobb DOT will post signs at either end of "your" mile, identifying you as the volunteer who has gone the *extra mile* to help keep our county clean.

A SENSE OF COMMUNITY

Program volunteers serve as visible reminders to those who drive our roadways that we are all stewards of the land. It is an ideal way for groups to work together to **Keep Cobb Beautiful**. Cobb County has a reputation as one of the Southeast's most attractive communities. Let's keep it that way!

Communications Department 5/07

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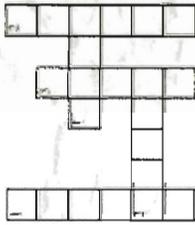
This is an official publication of the Cobb County Board of Commissioners.

Sam Olers, *Chairman*
Helen Goreham, *District One*
Joe Thompson, *District Two*
Tim Lee, *District Three*
Annette Kesting, *District Four*

David Hankerson, *County Manager*

Cobb County...Expect the Best!

14. Fill out the Crossword Puzzle



Down:

1. Recycling helps the _____.
2. Plastic containers can be _____ in the sink and reused.
3. _____ plates cannot be reused.

Across:

1. Grocery store _____.
2. Means to use again.

Recycle

Sometimes people throw away things that can be recycled. These people have no respect for their environment. When people take their items and recycle them, it helps everyone. Recycling items is fun, easy and in some places makes kids lots of money! In "3 R's for Save!" Seal tried to throw away items just like these:



These items are called **recyclables**.
 recycle (v): A product that is able to be processed into a new material.

15. Which of these things can be made new?



16. Before things can be recycled, what must happen first?

- a. they have to be microwaved
- b. they have to be washed, sorted and put in the correct bins
- c. they have to go to school
- d. they have to be folded

17. Which of these things can be recycled?



18. You can recycle things like soda cans, your homework, even your sneakers. What other kinds of items can be recycled?



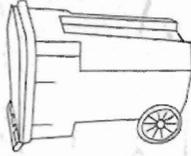
The Truth About Trash



Name _____

Trash

People create trash every day. Responsible people put trash in a trashcan or wastebasket. Many items people toss in the garbage are not actually trash. They are recyclables or reusable that have no business anywhere near a garbage can.



1. Which of these items is actually trash?

- a. A used plastic bottle
- b. A used napkin or Kleenex
- c. A used soda can
- d. A used sheet of notebook paper

2. Which of these items is not trash?

- a. A dirty paper towel
- b. A fur ball of cat hair
- c. A steel soup can
- d. A greasy, cheese stained hamburger wrapper

Trash goes into a trashcan or wastebasket. Then the trash is taken to a larger can or dumpster. There it waits for a garbage truck to pick it up. The trash is taken to a place where it is stored with other trash. This place is called a **TRANSFER STATION**. The trash is loaded in a great, big truck where it is carried to a landfill.

3. What do you think happens to trash at the landfill?

- a. It grows into bigger trash
- b. It burns and melts away
- c. it decomposes (breaks down)
- d. It flies away

4. Match the following words to their definitions from the video:

- | | |
|------------------|---|
| Landfill | a place where trash is stored before going to the landfill to break down. |
| Transfer Station | the proper place to put your garbage |
| Decompose | the last stop for trash |
| Trash Can | |

The Three R's

5. What are the "Three R's"?

Made possible by grants from:





6. What do the "Three R's" mean?

Which one means to make new?

Which one means to use again?

Which one means to use less?

7. Match the item with what can be done with it.



use less

make into something new

use again

8. Fill in the blanks:

Cleaning, sorting and _____ items helps make less trash.

Refilling old bottles is _____ things, making less garbage.

Taking one napkin instead of 37 helps by _____ the amount of trash I make.

Words

Recycling
Reducing

Reusing
Repairing

Resolving
Reusing

Reduce

Everyone can help reduce trash. Using less creates more for the future. The less you use, the more space there is to plant trees and make parks and nature trails. The less trash you create the longer it takes for landfills to fill up. That means more land for other things, like playing and having fun!

9. Unscramble the following words to create a word and a definition:

erwdele of ssm uebr

10. Write what you can do to reduce trash.

2

11. Can you find the words?

S M S W P B B B P H M O Q D L P **Reduce**
 P T K S C C K K E R X G S S W A
 E H Y H E D K S X Y H P N J P P **Use Less**
 P K Q R K L H A X N A S I A E
 O X N O O B E D X P O O K K R **Trash**
 V P R E Q P W S E E D T P S P
 F U T U R E O R U C E O A B L **Napkins**
 J U L G I E T A R N A E N Y A **Paper Plates**
 J J O T C O K F M T J L H D T **Styrofoam Cups**
 I X B U W N I M P C R G F X E **Paper Towels**
 M H D E K T X O I X U A Y I S **Future**
 Q E L E N O Y R E V E P S K E
 R S L Y R I I N Q K N U S H K
 V I I C B Z T Y H K P N M E I **Everyone**
 L S U V C N B Z V W U S C Z V

Reuse

Reusing items also helps the environment. You do it every day and probably don't even know it. Do you make toys or music instruments out of old t-shirts? Do you store things in boxes or bins that once held something else? Do your parents wash and reuse plastic containers when they are empty? So Reusing is smart and it's a very easy way to help the environment. Reusing also saves money! So before you throw something away, think about how you can reuse it again, and again and again...

12. Which of these items can you reuse?



13. Why should you eat on real plates and not paper ones?

- a. Because they are harder
- b. Because they are bigger
- c. Because they can be reused
- d. Because they can be broken

3



TALKING POINTS FOR TRASH TALK

1. WHAT IS TRASH? Something that we have used or that we no longer want, or think has no value...and we throw it away.
2. DO YOU KNOW WHERE GARBAGE OR TRASH COMES FROM?
 - a. EACH OF US CREATES OVER 4 POUNDS OF TRASH A DAY
3. WHAT HAPPENS TO IT WHEN YOU THROW IT AWAY?
4. WHERE DOES IT GO?
 - a. YOU THROW IT IN THE WASTEBASKET, THEN IT IS PUT IN YOUR GARBAGE CAN AND YOU TAKE IT TO THE CURB.
 - b. TRASH HAULER PICKS IT UP AT YOUR HOME.
 - c. TAKES IT TO A TRANSFER STATION (PLACE WHERE THE TRASH IS TRANSFERRED TO A HUGE TRUCK)
 - d. THAT TRUCK TAKES THE TRASH TO A LANDFILL.
 - a. WHAT IS A LANDFILL?
 - i. A LARGE DEEP HOLE IN THE GROUND THAT HAS BEEN PREPARED TO TAKE OUR WASTE.
 - e. WHAT HAPPENS WHEN IT FILLS UP?
 - a. FIND A NEW PLACE, TAKES AWAY PLACE FOR US TO LIVE AND WORK AND PLAY.
 - f. HOW CAN WE HELP REDUCE WHAT GOES INTO THE LANDFILL?
 - a. **REDUCE**
 - i. **USE LESS**
 1. WHEN YOU ARE AT MCDONALD'S, DO YOU REALLY NEED TO TAKE 10 NAPKINS IF YOU WILL ONLY USE 2.
 2. INSTEAD OF USING PAPER PLATES AT HOME, USE REAL DISHES THAT CAN BE WASHED AND REUSED.
 3. WHEN YOU GO SHOPPING, TAKE YOUR OWN GROCERY BAGS WITH YOU.
 - b. **REUSE**
 - i. **USE OVER**
 1. THOSE SHOPPING BAGS...USE THEM AGAIN.
 2. BUTTER CONTAINER...USE THEM AGAIN
 3. WHAT ELSE CAN WE USE AGAIN?
 - c. **RECYCLE**
 - i. **TO MAKE NEW AGAIN**
 1. PAPER – new paper
 2. ALUMINUM CANS – new cans
 3. PLASTIC BOTTLES – into bottles, carpet, clothing
 4. GLASS – into glass
 5. Steel Cans – more cans, cars, planes

SHOW EXAMPLES FROM BAG THAT CAN BE REUSED, RECYCLED OR WHAT WE CAN USE LESS OF...AND OF COURSE TRASH.

TRASH – SOME THINGS CANNOT BE RECYCLED = NAPKINS, PAPER PLATES, KLEENEX, GREASY FOOD WRAPPERS...



THE GREAT TRASH RELAY

OBJECT / LESSON

For children to distinguish between trash and recyclable materials.

DIRECTIONS

Provide relay area with a start and finish line.

Divide children into 2 teams. At finish line end of course place one trash and one recycling bin for each team.

Spread "Trash" and Recyclable" materials between start and finish line.

Direct children at GO for the first child in line, of each team, to pick up **one** item on the floor and **skip** it down to the containers. When they get to the containers they must decide to deposit the item into either the "Trash" or the "Recyclable" bin. An adult will be at the containers to coach the child with the right decision. If the child puts the item in the wrong bin, they must fish it out and place it in the right bin.

The child must then return (crab walk) to the team, tag the next child, go to the back of the line and sit down.

First team to rotate all children through wins.

SUPPLIES

2 Recycle Bins

2 Trash Cans

2 Adult Coaches

Stickers – to Winners and 2nd place



LIVING LANDFILL ACTIVITY

SET UP

LARGE COLLECTION OF HOUSEHOLD OR SCHOOL TRASH DISPLAYED ON TABLES

DISCUSS TRASH, LANDFILLS AND RECYCLING

ASK EACH CHILD TO TAKE ONE PIECE OF TRASH

GROUP TOGETHER

NOW ASK THOSE WHO ARE HOLDING

PLASTIC BOTTLES

ALUMINUM CANS

STEEL CANS

PAPER

SOMETHING THAT CAN BE REUSED

TO STEP ASIDE

THOSE WHO ARE LEFT ARE TRASH

LESSON: IF WE EACH DID OUR PART EACH DAY TO REDUCE, REUSE AND RECYCLE, LOOK AT THE DIFFERENCE WE WOULD MAKE IN OUR LANDFILLS.



The Trash You Make

My name is _____ and I am from Keep Cobb Beautiful! Today, we are going to talk some trash. But first, I have 2 rules. **No talking unless I call on you and everyone needs to pay attention to up here.** So raise your hands if you know the answer, and wait for me to call on you. If we can all do that today, then everyone will get a super surprise at the end. Okay, let's begin!

How many of you recycle? **(RAISE HANDS)** Are you proud of yourselves? **(SHAKE HEADS)** Well, you should be, but some people still throw lots of stuff away. **Every day Georgia residents make 36 million pounds of trash. That's 4 pounds per person per day.** That's over three and-a-half million tons of trash. Do you know how much trash that is? **It is enough to pile a typical city street 5 feet deep, from curb to curb, for over 200 miles.** That's the distance from here down to Savannah.

What do people throw away? **(PICK 3 STUDENTS)** That's right, they throw away lots of other stuff like **tubes of toothpaste, TV sets, funky old shoes, broken Dora the Explorer dolls, pizza crusts, birthday present wrappers, old Pokémon bed sheets, computers from 1988, baby furniture...** WOW! The list is endless. BUT, there are other things you can do with trash. The best thing you can do is to try and not create any trash or as little as possible, that's called **REDUCING**. Of course it's kind of impossible to make zero trash no matter how hard we try, because eventually we'll always have something to throw away. But, the best kids try and make the least amount of trash. Some people take things that are sturdy, wash or rinse them out and use them again, that's called **REUSING!** Reusing is great because you can make lots of fun things out of old stuff or make practical things like storage containers and lunch bags out of whipped cream bowls and shopping bags. And once we are done, we can always take those items and make them into something new. This is called **RECYCLING** and this school knows all about that!

Let me have a volunteer come up here and let's see how easy it is to make four pounds of trash in one whole day! (We can reuse this, oh, we can reduce that, and wow...this can definitely be recycled.) Go sit down. Good job, child!

Wow! Just look at all that trash. Well, boys and girls, what are three things we can do to help make less trash in Georgia? 1) **use/make less-REDUCE**, 2) **use things over again-REUSE** and 3) **we can make them new again-RECYCLE**. **Let's see if you were paying attention...we are going to play a game!**

Then, explain the **RULES** of the game. **(Skipping/crab-walking only, no running)**. 2 groups, bins or trash can. Helper will tell you if you're wrong. It's a race so go fast!



GARBAGE PIZZA

Objectives

Students will be able to: 1) describe the composition of Municipal Solid Waste (MSW); 2) identify items within each waste category; and 3) visualize the amount of waste and categories of MSW.

Method

Students will construct a garbage pizza, a three-dimensional pie chart, which represents the MSW discarded in the United States; each slice of the pizza will represent a different solid waste category.

Materials

For pizza dough: large mixing bowl, spoon, rolling pin, pizza pan, 2 c. flour, 2 c. salt, 1 c. water, oil or shortening.

For pizza "sauce": school glue, red food coloring, small paint brush.

For pizza "toppings": solid waste samples from these categories: paper and paperboard, yard waste, plastics, metals, wood, food, glass and other (e.g., rubber, leather, textiles, misc. inorganic waste), permanent marker, polyurethane or lacquer (optional)

Vocabulary

Garbage, Municipal Solid Waste (MSW), trash

Procedure

1. Before class, prepare a "Garbage Pizza" crust, using the following recipe:
 - Mix 2 cups flour, 2 cups salt, and 1 cup water (adjusting water per altitude and/or humidity) until a stiff dough forms.
 - Knead the mixture, as you would bread dough. Flatten the dough into a well greased, 12" round, deep dish pizza pan, pressing the edges up the inside of the pan until it looks like a pizza.



- Cut the pizza into the same slices or sections to look like the Municipal Solid Waste by Weight, pie chart template included in this lesson.
 - Using a fork or knife, puncture each slice several times before baking to avoid expanding air pockets. Bake at 350° for 40-45 minutes, or until golden brown. Check the pizza every 10 minutes or so and re-cut the sections. Remove the pizza from the oven and let cool completely. The dough should be hard and dry.
 - Label the underside of each pizza slice with the correct type of waste and the percent it represents. A permanent marker works well. This makes it easier for students to glue the proper waste on the proper slice.
 - Mix approximately 4 oz. of white school glue with approximately 2 oz. of red food coloring (adding a drop of blue food coloring will darken the red, but is not necessary for a successful "sauce") until you achieve the desired red tomato sauce look.
 - Apply sauce with a small paint brush (an apron is highly recommended). Allow to dry thoroughly.
2. Ask students to define the words GARBAGE and TRASH. Garbage refers to only the organic or food waste thrown away. Trash represents broken, discarded or worthless things (e.g., rubbish and other forms of refuse which are not food).
 3. Brainstorm with students and list on the chalkboard all the waste items thrown away at home or school. Use the following categories: paper, yard waste, plastics, metals, wood, food, glass and other.
 4. Introduce the concept of municipal solid waste (MSW). MSW is made up of trash and garbage from household, commercial, and institutional sources in a community. Ask the class if the items listed on the board would also be found in a community's MSW.
 5. Draw a circle on the board. Have the students pretend that all the waste thrown away in the United States will fit into this circle. This circle is filled with waste from all the categories (paper, yard waste, plastics, metals, wood, food, glass and other). Show students how much paper is thrown away by drawing a slice for paper (see chart included in this lesson). Repeat this demonstration for all eight categories.

Reinforce the fact that the biggest slice, marked "paper," means that there is more paper by weight than any other item in MSW. The next largest slice by weight is yard waste, etc. Ask the students why it might be important to know the amount and kinds of



waste thrown away. By understanding the solid waste stream (MSW), and local conditions, (distance from recycling centers, available space for landfills, etc.), communities can implement responsible, integrated solid waste management programs. Integrated solid waste management includes:

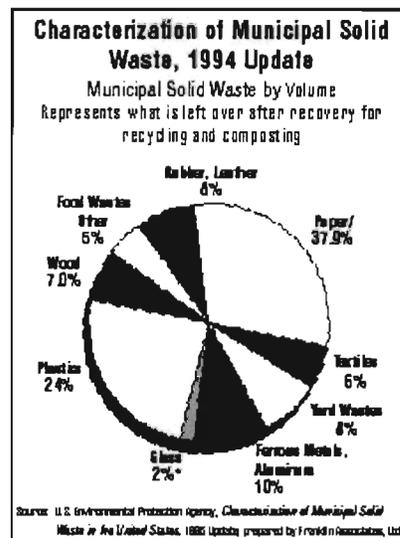
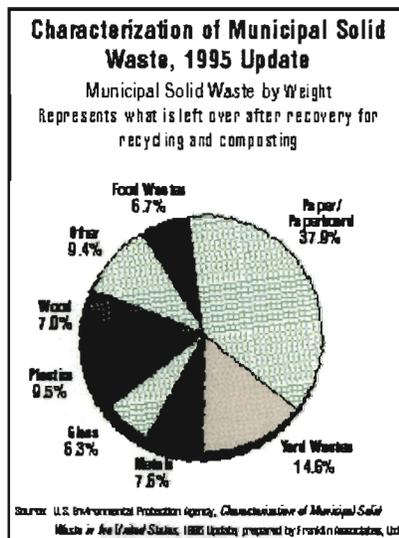
- Source Reduction is any activity that reduces the amount of material we use in production, distribution or disposal of products or packaging. Simply put, source reduction means using less stuff.
 - Recycling is the collection and reprocessing of discards for use in the manufacture of new products.
 - Composting is the process of breaking down organic materials (food, yard waste, paper products) by exposing them to the elements, resulting in a nutrient-rich soil enhancer.
 - Waste-to-Energy (WTE) is a process in which solid waste is burned and the heat generated is used to produce energy, which may be sold to municipalities in the form of heat, steam or electricity.
 - Landfill is a carefully engineered site for the safe disposal of solid waste. Solid waste is deposited in a landfill, compacted, and covered with soil. Modern landfills, often called sanitary landfills, are equipped with collection systems for groundwater contaminants, methane gas controls, and - environmental monitoring systems.
6. Announce that the class is going to make a garbage pizza (with garbage and trash). Collect the items you need for the toppings, or have the students bring them from home. For example:
- paper: newsprint, shredded paper, boxes, wrappers;
 - yard waste: grass, sticks, leaves, potpourri;
 - plastics: disposable food service products (cups, plates, cutlery), bread bag clips, jug lids, miniature toys;
 - metals: paper clips, staples, aluminum can pull tabs, nuts and bolts;
 - wood: tooth picks, building blocks, cedar chips, golf tees;
 - food: egg shells, pasta, pretzels, dry cereal;
 - glass: marbles, sea glass;



- other: rubber band, candle, washers.
7. Show the students the “pie chart” pizza dough. Glue the waste items onto their corresponding pizza slices with uncolored glue or a hot glue gun. For an added touch after the glue has dried, spray the garbage pizza with polyurethane or -lacquer, available at your local hardware store.
 8. Share the garbage pizza model with other classes or the entire school. Have students team-up and teach students in other grades about MSW using the garbage pizza model.

Assessment

Set up a table with items from the eight categories of MSW: paper, yard waste, plastics, metals, wood, food, glass and other. Make signs for each category, and have students separate the waste items into the appropriate piles.



Enrichment

For more advanced students, discuss the difference(s) between MSW measured by weight and volume by making two pizzas: one using statistics for percent by weight (as used in this lesson), and one using statistic for percent by volume. Weight reflects total municipal solid waste generate; volume represents what’s left over after recovery for recycling and composting. Discuss the advantages associated with a reduction in the



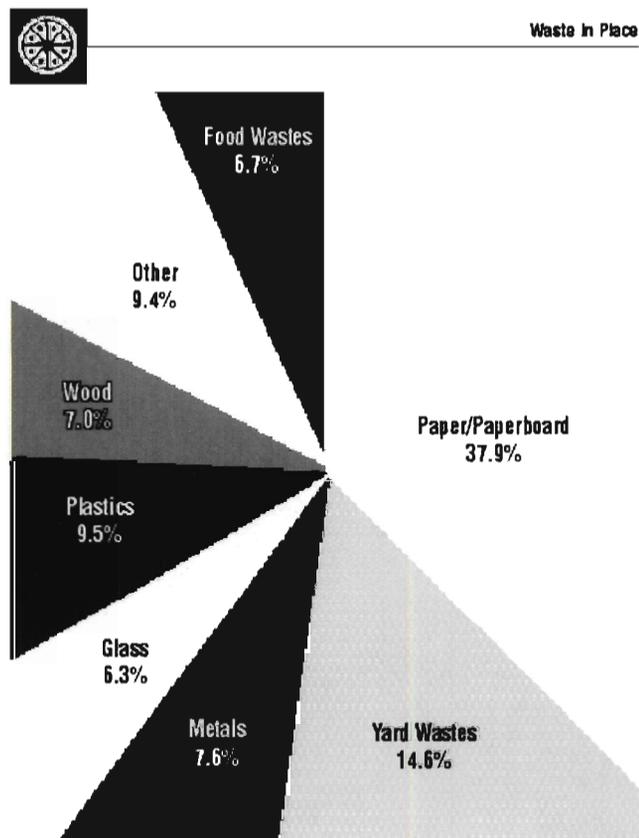
weight of garbage (less energy to transport, less expensive to deposit at a landfill) vs. reduction in volume (less landfill space required).

Ask students to look through magazines for pictures of items from each MSW category. Have each student draw a garbage pizza on poster board and glue the pictures on the appropriate sections. Display the posters in the cafeteria.

Discuss with students, integrated solid waste management using source reduction, recycling, composting, waste-to-energy, and landfill in combination. Ask students to discuss what mix of solid waste management options might work best in your community, based on local conditions.

Discuss ways students can help better manage solid waste in school. For example:

- don't waste paper, use both sides of paper, start a reuse box for all kinds of paper;
- start a paper recycling program, determine what materials your solid waste management company accepts;
- start a composting program;
- think of creative ways to reuse different products and materials.





Appendix B:

Assurance of Disposal Capacity



BOLTON ROAD LANDFILL

2236 Bolton Road, NW
Atlanta, GA 30318
(404) 799-1047
(404) 799-1328 Fax

Mr. Dick Krause
Senior Project Manager
Cobb County Solid Waste Division
1897 County Services Parkway
Marietta, GA 30060

July 22, 2008

Dear Mr. Krause,

This letter serves as a disposal capacity assurance for municipal solid waste generated by Cobb County Solid Waste Division from 2007 to 2017. The Georgia EPD permit for our MSW disposal facility, Pine Bluff Landfill, is 028-039D(SL). Pine Bluff is located at 13809 East Cherokee Drive, Ball Ground Georgia, 30107. This assurance is based upon Cobb County Solid Waste Division disposing of approximately 236,000 cubic yards of municipal solid waste or approximately 166,000 tons of municipal solid waste at our facilities on an annual basis.

Separately, we provide disposal assurance for the County's construction and demolition waste. The Georgia EPD permit numbers for our C&D facilities are 060-0072D(L) and 060-089D(C&D), which represent Chadwick Road Landfill and Willow Oak Landfill, respectively. Chadwick Road Landfill is located at 13700 Chadwick Farm Road, Roswell Georgia. Willow Oak Landfill is located at 7395 Roosevelt Highway, Fairburn Georgia. This assurance is based upon Cobb County Solid Waste Division disposing of approximately 118,000 cubic yards of construction and demolition waste or approximately 82,600 tons of construction and demolition waste at our facilities on an annual basis.

We thank the Cobb County Solid Waste Division for this business partnership and look forward to providing environmentally sound waste disposal options for the foreseeable future.

Sincerely,
Waste Management of Metro Atlanta, Inc.


David Stuart
Director of Atlanta Landfill Operations

Cc: Jo Ann Birrell, Waste Management

From everyday collection to environmental protection, Think Green.™ Think Waste Management.



Appendix - C:

REFERENCES

Georgia Planning Standards:

Rules of Georgia Department of Community Affairs, "Chapter 110-4-3 Minimum Planning Standards and Procedures for Solid Waste Management"

Waste Composition:

Georgia Department of Community Affairs, "Georgia Statewide Waste Characterization Study," Final Report, June 22, 2005.

Population Data/Projections:

- Atlanta Regional Commission (ARC) "Population & Housing 2005", published in December 2005
- ARC 2005 Population & Housing (spreadsheet)
- ARC "2006 Population & Housing in the Atlanta Region", published November 2006
- ARC 20-County Population Forecasts (spreadsheet)
- Office of Planning and Budget, "Georgia 2015 Population Projections," Policy, Planning and Technical Report, 2005.
- Cobb County Community Development Agency, Planning Division, "2004 Data Report"
- U.S. Census Bureau, "Cobb County, Georgia: Census 2000 Demographics Profile Highlights," <http://factfinder.census.gov/servlet>
- U.S. Census Monitoring Board, Presidential Members, "August 7, 2001 – PricewaterhouseCoopers Census Study: Selected County Estimated 2000 Census Undercount," <http://govinfo.library.unt.edu/cmb/cmbp/reports>

Regulations/Ordinances:

- Georgia EPD "Circular 14 – Criteria for Performing Site Acceptability Studies for Solid Waste Landfills In Georgia"



- Georgia EPD Chapter 391-3-4: Solid Waste Management Regulations, August 1997
- Georgia EPD Guidance Document: Transfer Station Guidance, Nov. 28, 2006
- Georgia EPD Guidance Document: Criteria for Siting a Composting Facility, April 8, 1994
- Cobb County Code of Ordinances: Chapter 102 – The Solid Waste Ordinance of Cobb County, Georgia
- Cobb County Code of Ordinances: Chapter 134 – Zoning Ordinances

Mapping and GIS Information:

- Cobb County GIS Dataset
- ARC Maps and GIS Dataset
- Cobb County 2007 Future Land Use Map
- Cobb County Solid Waste Management Division – 2006-2007 Historical Waste and Recycling Data
- Cobb County FEMA FIRM Map
- DCA USGS – Georgia’s Groundwater Recharge Areas Map
- USGS – Georgia Seismic Hazard Map (generated from USGS website)
- U.S. Fish and Wildlife Services – GIS Wetlands Dataset for Cobb County

Cobb County Reports/ Documents:

- Cobb County Comprehensive Plan: A Policy Guide 1995-2015 (Last amendment date: Jan. 18, 2005)
- Cobb County “2006 Comprehensive Plan Amendment (Nov. ’04 through Oct. ’05)
- Cobb County “Mapping Our Future - 2030 Comprehensive Plan”, Adopted July 23, 2007
- Cobb County Pre-Disaster Mitigation Plan, July 18, 2005
- Cobb County Comprehensive Financial Report, For Fiscal Year Ended September 30, 2006



DCA/ARC Reports/Documents:

- DCA 2005 Solid Waste Management Update

Georgia EPD:

- EPD Inert Disposal Facilities (Excel Spreadsheet)
- EPD Landfill Remaining Capacity (Excel Spreadsheet)
- EPD List of Solid Waste Collection Operations (Excel Spreadsheet)
- EPD Solid Waste Disposal Facilities (Excel Spreadsheet)
- EPD Solid Waste Transfer Stations (Excel Spreadsheet)

Solid Waste Management Plans:

- Department of Community Affairs, Department of Natural Resources, and Georgia Environmental Facilities Authority, "State of Georgia Solid Waste Management Plan," Adopted May 3, 2006.
- Cobb County Solid Waste Division, "Short Term Work Program Update - Cobb County Board of Commissioners – Solid Waste Management Plan," 2003.
- Cobb County Solid Waste Department, "Comprehensive Solid Waste Management Plan for Cobb County, Georgia – The 1993 Revised Plan," October 1993.



Appendix D:

Public Hearing Announcements

ADVERTISEMENT FOR PUBLIC HEARING
COBB COUNTY SOLID WASTE DIVISION

REGARDING
THE COMPREHENSIVE SOLID WASTE MANAGEMENT MASTER PLAN

AUGUST 21, 2007 6:30 PM

COBB COUNTY PURCHASING DEPARTMENT
BID CONFERENCE ROOM
1772 COUNTY SERVICES PARKWAY
MARIETTA, GA 30008

Cobb County is conducting a Public Hearing for the Community Participation Program in development of the Comprehensive Solid Waste Management Master Plan as required by Chapter 110-4-3 of the Rules of Georgia Department of Community Affairs (DCA).

The Comprehensive Solid Waste management Master Plan is to provide assurance of adequate solid waste handling capability and capacity within the planning area for a minimum of ten years. The State has established a protocol to demonstrate this assurance in the Minimum Planning Standards and Procedures developed by the Georgia DCA. These Standards and Procedures are designed to promote and reinforce the link between Solid Waste Plans, and to encourage integrated comprehensive solid waste management planning at the local, multi-jurisdictional, and regional levels.

This hearing is to provide the public with information on the planning process and to solicit input from the public on issues to be considered in the formation of the plan.



ADVERTISEMENT FOR PUBLIC HEARING
COBB COUNTY SOLID WASTE DIVISION

REGARDING
THE COMPREHENSIVE SOLID WASTE MANAGEMENT MASTER PLAN

OCTOBER 23, 2007 6:30 PM

COBB COUNTY PURCHASING DEPARTMENT
BID CONFERENCE ROOM
1772 COUNTY SERVICES PARKWAY
MARIETTA, GA 30008

Cobb County is conducting the second public hearing for the Community Participation Program in development of the Comprehensive Solid Waste Management Master Plan as required by Chapter 110-4-3 of the Rules of Georgia Department of Community Affairs (DCA).

The Comprehensive Solid Waste management Master Plan is to provide assurance of adequate solid waste handling capability and capacity within the planning area for a minimum of ten years. The State has established a protocol to demonstrate this assurance in the Minimum Planning Standards and Procedures developed by the Georgia DCA. These Standards and Procedures are designed to promote and reinforce the link between Solid Waste Plans, and to encourage integrated comprehensive solid waste management planning at the local, multi-jurisdictional, and regional levels.

This hearing is to provide the public with information on the planning process and to solicit input from the public on issues to be considered in the formation of the plan.



Appendix E:

Resolution

(This page is left blank – This blank page will be replaced with the Cobb County Board of Commissioners adopted resolution.)



10. SUPPORT SERVICES (CONT.)

10A. AUTHORIZATION TO PURCHASE 17.133 ACRES OF PROPERTY LOCATED AT 1150 POWDER SPRINGS ROAD, MARIETTA, AND APPROVAL OF A THREE (3) YEAR CAPITAL LEASE WITH RBC LEASING FOR SAID PURCHASE – SUPPORT SERVICES (CONT.):

Budget Transfer for funding FY09 capital lease interest payments as follows (assumes 9 months of interest payments in FY09):

Transfer from Undesignated Contingency: 010-015-0145-8820	\$ 792,990
Transfer from Designated Contingency: 010-015-0145-8810	\$ 823,662
Transfer to Lease Interest Payment: 010-014-0140-6971	\$ 1,523,662
Transfer to Lease Interest Payment: 010-014-0140-6972	\$ 92,990

VOTE: **ADOPTED** unanimously

11. SOLID WASTE

11A. ADOPTION OF RESOLUTION ADOPTING THE 2007-2017 COBB COUNTY COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN AS APPROVED BY THE ATLANTA REGIONAL COMMISSION (ARC) AND THE DEPARTMENT OF COMMUNITY AFFAIRS (DCA) – SOLID WASTE:

MOTION: Motion by Olens, second by Lee, to **adopt** by resolution the 2007-2017 Cobb County Comprehensive Solid Waste Management Plan, as approved by the Atlanta Regional Commission (ARC) and the Department of Community Affairs (DCA) on September 16, 2008. Copy of said resolution attached and made a part of these minutes. Copy of 2007-2017 Cobb County Comprehensive Solid Waste Management Plan on file in the Office of the County Clerk.

VOTE: **ADOPTED** unanimously

12. BOARD OF COMMISSIONERS

12A. APPROVAL OF THE RANKING OF THE MOST QUALIFIED FIRMS FOR THE OPERATION OR CONVERSION OF THE COBB COUNTY COMPOST FACILITY, TRANSFER STATION, AND VEGETATIVE WASTE OPERATION – BOARD OF COMMISSIONERS:

MOTION: Motion by Olens, second by Goreham, to **approve** the ranking of the most qualified firms as follows: Advanced Disposal/Smurfit Stone Container to convert the Compost Facility into a Recycling Facility and operate same; Advanced Disposal to replace and operate the Transfer Station; and TAG Grinding Services, Inc. to operate the Vegetative Waste Site; and **authorize** negotiations for final contracts with the firms beginning with those determined to be most qualified.

VOTE: **ADOPTED** unanimously

COBB COUNTY BOARD OF COMMISSIONERS

RESOLUTION

WHEREAS, The Georgia Comprehensive Solid Waste Management Act requires county and municipal governments to prepare a local solid waste management plan and periodic update; and

WHEREAS, Cobb County, Georgia has compiled, reviewed and modified an update to the Comprehensive Solid Waste Management Plan for Cobb County; and

WHEREAS, Cobb County, Georgia has complied with the Rules of Georgia Department of Community Affairs Minimum Planning Standards and Procedures for Solid Waste Management (Chapter 110-4-3) including public participation requirements;

NOW, THEREFORE, BE IT RESOLVED that the Cobb County Board of Commissioners officially approve and adopt the 2007 – 2017 Cobb County Comprehensive Solid Waste Management Plan.

This the 28th day of October, 2008.

COBB COUNTY BOARD OF COMMISSIONERS

By: *Samuel S. Olens*
Samuel S. Olens, Chairman

By: *Helen C. Gorham*
Helen Gorham

By: *Annette Kesting*
Annette Kesting

By: *Timothy D. Lee*
Timothy D. Lee

By: *Joe L. Thompson*
Joe L. Thompson



APPROVED
PER MINUTES OF
COBB COUNTY
BOARD OF COMMISSIONERS
10/14/08

