

# GREENE COUNTY, GEORGIA

## PRE-DISASTER MITIGATION PLAN 2007



### **Mission Statement**

The Greene County Emergency Management Agency Staff is committed to do all that we can to safeguard the citizens of Greene County and minimize damage to property from all kinds of disasters, both natural and man-made. The EMA staff works closely with all first responders and public safety organizations to achieve this goal. In addition to the paid staff of public safety personnel, we have approximately 175 volunteer fire fighters that give of their time on a daily basis to safeguard our citizens.

**This plan has been prepared by and for the following communities:**

**Greene County and  
The City of Greensboro  
The City of Siloam  
The City of Union Point  
The City of White Plains  
The City of Woodville**

**In conjunction with The Northeast Georgia Regional Development Center  
(NEGRDC)**

## **CHAPTER 1-INTRODUCTION**

### **I-PURPOSE & NEED, AUTHORITY & STATEMENT of PROBLEM, PURPOSE of the PLAN**

The Greene County Pre-Disaster Mitigation Plan is the result of a combined effort on the part of Greene County and the cities of Greensboro, Siloam, Union Point, White Plains, and Woodville. This plan is to serve as a symbol of our commitment in reducing risks caused by natural hazards. The plan will provide the groundwork and act as an outline in implementing hazard mitigation policies and programs. The goals, objectives, and recommendations will serve as a guide when seeking resources to fund hazard mitigation activities.

Planning is focused on preparation in the event that a major disaster should occur. At the core of this function is the Local Emergency Operations Plan (see appendix C). We are required by law to prepare a LEOP every four years. Our current plan was approved by the Georgia Emergency Management Agency October 25, 2004. The LEOP outlines the responsibility for each Emergency Support Function. For example, Law Enforcement is listed under the Greene County Sheriff as the Primary owner. Greensboro and Union Point Police each have Support responsibility. All of the Emergency Support Functions are listed in the LEOP along with the Primary and Support responsibility. The plan lists all of the agencies that may be called on during an emergency. Each agency is responsible to develop the detailed Standard Operating Procedures necessary for their organization.

Mitigation, as it pertains to this plan, is defined as that which can be done to lessen the risk of loss during a disaster. For example, a strict building code and enforcement program can eliminate or minimize damage from severe weather. Not allowing building in flood plains is another major mitigation plan. In the following Chapter we identify several mitigation programs that can be addressed in the future by grants or direct funding. When disasters occur, this is the function that is immediately activated to save lives and minimize damage to property. We conduct exercises throughout the year where we simulate various kinds of disasters and measure our response for timeliness and correct decision-making. We learn a lot with each exercise. Our intent is to constantly learn and improve our performance. We also conduct training with our first responders in a classroom environment. Areas of focus include Hazardous Material Awareness, Rescue Specialist, Vehicle Extrication, etc.

It has been demonstrated before that hazard mitigation is effective in reducing loss of life and property damage caused by natural disasters. It is the desire of Greene County and the cities of Greensboro, Siloam, Union Point, White Plains, and Woodville to take action before a disaster occurs. By identifying vulnerable areas we can implement measures to reduce their exposure and risk. Through the development of a long term plan we hope to obtain community and business support, identifies financial resources, and implements a pro-active way of thinking.

The Hazard Mitigation Planning Committee was formed to provide support during the preparation of the plan. Two meetings were held during the planning process with the complete committees. The first was a ‘kick –off’ meeting that took place August 24, 2004 (See Appendix E).The subcommittee descriptions were outlined at that time and included in Appendix E. Both the minutes and the subcommittee information are in Appendix E. Subsequent meetings took place on Sept 15, 2004, September 23, 2004, October 20, 2004, November 17, 2004, February 22,2005, March 22, 2005, March 29, 2005 and two public input meetings were held on 9-22-2004 and 3-28-2005(See Appendix E). These meetings helped to form the basis of the data used in this plan. The draft resolution chapter 1 section VII, will be adopted by the Greene County Board of Commissioners once this plan is approved by FEMA and a note from GEMA sent to Greene County affirming approval. At such time an additional meeting will be held to allow for additional public review prior to adoption of the plan at the Board of Commissioners meeting. The purpose of this last meeting will be to make the public aware of the document but no changes will be done once FEMA has approved the plan.

## **II-PLANNING METHODOLOGY & PARTICIPANTS**

Information in the Greene County Pre-Disaster Mitigation Plan includes research from the following sources: Greene County Hazard Mitigation Plan, Greene County Emergency Operations Plan, Greene County Comprehensive Plan, National Climatic Data Center, National Weather Service, Georgia Tornado Database, UGA Co-op Extension Service, USDA-Natural Resources Conservation Services, Greene County Records and Archives, Greene County Citizen, Atlanta Journal Constitution, and personal interviews.

The Hazard Mitigation Planning Committee met every 4 to 6 weeks. The committee, which was made up of representatives from neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties, was responsible for developing the mission statement, identifying critical facilities, and developing the goals, objectives, and recommendations. See Appendix E for meeting agendas, minutes, and sign-in sheets. The group did not break into subcommittees. All research, planning, and work sessions were a collaborative effort. Each meeting was conducted with all members participating as a whole.

Representatives from each jurisdiction were included in this process to ensure maximum participation and consideration.

The Hazard Mitigation Planning Committee was formed to provide support during the preparation of the plan. The committee included the following representatives:

- Northeast Georgia Regional Development Center (NEGRDC)
- The City of Greensboro
- The City of Siloam
- The City of Union Point
- The City of White Plains

- The City of Woodville
- Greene County, 911 Communication Director
- Greene County, Building and Zoning
- Greene County, County Manager
- Greene County, DFACS
- Greene County, EMA Director
- Greene County, Fire Department
- Greene County, Health Department
- Greene County, Projects Officer
- Greene County, Rescue Chief

### **III-PLAN ORGANIZATION**

The Greene County Hazard Mitigation Plan is designed to be a guide in preparing and planning for the effects of natural hazards. The plan includes a Hazard, Risk and Vulnerability Assessment, a section on hazards that typically occur within the county, and a section that details goals, objectives, and recommendations for each hazard. To conclude, a section details the plan implementation and maintenance process.

The plan describes hazards that have the highest probability of occurring. These were determined based upon historical data, vulnerability, potential loss, and frequency. For each hazard, the plan identifies mitigation actions for the county as well as vulnerable areas. Potential funding sources are identified for each mitigation action. Mitigation actions were developed as a result of research and input from the Greene County Hazard Mitigation Planning Committee, government agencies, area specialists, and citizens.

### **IV-HAZARD, RISK & VULNERABILITY (HRV) SUMMARY GOALS**

A Hazard, Risk, and Vulnerability Assessment (HRV) were completed by the Greene County Hazard Mitigation Planning Committee and resides in Appendix D of this document. By researching historical records and conducting personal interviews, we were able to identify specific hazards and locations in our county affected. With this information it was possible to identify vulnerable areas and populations and analyze the risk to life and property in these areas. The following steps were executed to complete the HRV assessment:

***Profiling Hazard Events:*** After identifying the hazards that affect Greene County we analyzed the effects and characteristics to determine areas and populations that are vulnerable to each hazard. Detailed information of each hazard is provided in Chapter 2.

***Hazard Identification:*** Newspapers, historical records and existing plans were researched to identify various hazards and the probability of them occurring within

Greene County and its jurisdictions. The Planning Committee identified seven hazards that typically affect Greene County and its municipalities. A comprehensive hazard history can be noted in *Appendix D*.

***Critical facilities:*** Critical facilities are essential to the health and welfare of the whole population. They provide valuable and necessary services that are needed to sustain and stabilize a community. The interruption of these services would upset the quality of life of a community. These facilities are especially important following a disaster. Greene County critical facilities have been identified and mapped, as illustrated in Chapters 2 and 3 and Appendix A and D.

***Estimating Losses:*** This step answers the question: *How will the community's assets be affected by a hazard?* To the best of our ability we have listed the estimated damage to be expected from a hazard.

***Vulnerability Assessment:*** This step evaluates which populations and facilities are most vulnerable to hazards. The critical facility inventory found in Appendix A Accompanies each identified hazard and provides the process for completing this step of the HRV assessment.

The Greene County Hazard Mitigation Planning Committee sought to develop goals that would protect life and property before, during, and after a disaster. Each goal lists the responsible organization or agency, as well as the coordinating organization or agency. The primary organization is responsible for initiating the action process. The coordinating organization is an agency that has the ability and resources to locate and secure funding and/or supervise the implementation of the project. Each goal includes an estimated timeline for completing the project and an approximate cost of project implementation when possible. Funding sources for these projects are noted and may include grants, general funds or human resources.

The Greene County Hazard Mitigation Plan includes mitigation actions for each hazard affecting our county and cities. The goals include public awareness programs set to inform the public of their roles in emergencies as well as action steps we as a county can take to better protect the citizens. Goals were developed and prioritized based on the county needs. The plan also includes the needs and concerns of the municipalities.

## **V-MULTI-JURISDICTIONAL CONSIDERATIONS**

The municipalities of Greensboro, Siloam, Union Point, White Plains, and Woodville were actively involved in the planning process. By including representatives from each municipality we were able to ensure a countywide pre-mitigation plan. The governing bodies for Greensboro, Siloam, Union Point, White Plains, and Woodville will be responsible for formally adopting the Greene County Hazard Mitigation Plan and including it with the counties comprehensive plan.

## **VI-PLAN ADOPTION AND MAINTENANCE**

The Greene County Board of Commissioners will adopt the plan after it is approved by GEMA and FEMA representatives, the municipalities will be responsible for formally adopting the Greene County Pre-Disaster Mitigation Plan upon the formal approval from FEMA as well. A letter from GEMA will alert the county and municipalities as to the status of this plan. The Plan will be reviewed annually by the EMA director and changes made as appropriate. Greene County is fortunate that Byron Lombard, the EMA Director is also the County Manager. His interest in emergency management services provides an advantage for Greene County. The entire plan will be redone in five years per requirements from FEMA and GEMA.

This is a working, living document that requires revisiting and updating to stay on top of critical facility changes such as additions and/or deletions. Also it requires the contact information and processes that will change over time. But, more importantly, any additional equipment that the counties or municipalities receive that could be of use to the community will be included in the annual updates to this plan.

## **VII. COPY of LOCAL RESOLUTION for PLAN ADOPTION**

A Resolution of the Greene County Board of Commissioners  
Pursuant to the Disaster Mitigation Act of 2000  
Authorizing Adoption of the  
Greene County Pre-Disaster Hazard Mitigation Plan

**WHEREAS**, Greene County is required to complete a Pre-Disaster Mitigation Plan by the Disaster Mitigation Act of 2000; and

**WHEREAS**, under the provisions of the Disaster Mitigation Act of 2000, local Governments that complete Pre-Disaster Mitigation Plans will remain eligible for Federal Mitigation funding; and

**WHEREAS**, Greene County has completed a Pre-disaster Hazard Mitigation Plan that fulfills Federal requirements of the Disaster Mitigation Act of 2000 and has been approved by FEMA.

**NOW THEREFORE, LET IT BE RESOLVED THAT THE GREENE COUNTY COMMISSION FORMALLY ADOPTS THIS PRE-DISASTER HAZARD MITIGATION PLAN AND INTENDS TO INCLUDE IT WITH ALL COMPREHENSIVE PLAN DOCUMENTATION.**

**RESOLVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2007**

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Attest: Byron Lombard, County Manager and EMA Director

### VIII. Past and Current Mitigation Projects in Greene County

The following table illustrates funded and desired projects countywide using mitigation funds.

1) Acquire and install additional tornado warning sirens to provide countywide coverage. 20 sites	Approximately \$15,000 per siren.	2007-2012	Greene County EMA	GEMA Hazard Mitigation Grant Program (HMGP)
2) Construct culverts under identified roadways to reduce the damages resulting from flooding.	Approximately \$120,000 per culvert.	2007-2012	EMA; County; Greene	FEMA Flood Mitigation Grant Program
3) Hazmat Response trailer and hazmat supplies	\$50,000	2008	EMA; Greene County	GEMA/FEMA
4) Petition FEMA for approval of flood hazard boundary map.	No Cost	2008	County; Greene	Local
5) Adopt the FEMA approved flood hazard boundary map as part of the county Future Land Use map illustrating areas unsuitable for development.	Staff time	Ongoing	EMA; American Red Cross	Local
6) Assess emergency shelter's ability to meet the demands of the population and the shelter's locations in relation to vulnerable populations.	\$15,000	Ongoing as dictated by conditions	Extension Service; County; Greene;	Local; Department of Community Affairs (DCA); Environmental Protection Division (EPD)

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Prioritized Action Item	Estimated Cost	Projected Timeline	Responsible Party	Sources of Funds
7) Hazmat Gas Detectors for four fire departments along Rail line	\$40,000	2008	EMA; Greene County Fire;	Local; GEMA FEMA
8) Hazmat Gas Suites (20) for four fire departments along rail line	\$50,000	2008	EMA; County Fire Department; Greene Fire Department; GA Forestry Commission	Local; GEMA/FEMA
9) Continue to participate in cross-training exercises among fire departments.	Unknown	Ongoing	EMA; County; Greene;	Local; GEMA HMGP; DCA
10) Assess the vulnerability of the population and utilize local information and census data to identify vulnerable populations.	Unknown	Ongoing	EMA; County; Greene;	Local; GEMA HMGP; DCA
11) Assess the vulnerability of key critical facilities to lightning strikes and develop a lightning rod replacement and installation priority program.	Unknown, dependent on replacement needs.	2007-2012	EMA; County; Greene;	Local; GEMA HMGP

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Prioritized Action Item	Estimated Cost	Projected Timeline	Responsible Party	Sources of Funds
12) Explore opportunities for co-operative inter-jurisdictional training exercises to increase regional education levels regarding hazardous material spills.	Unknown	Ongoing	EMA	Local; GEMA HMGP
13) Utilize tornado warning sirens to inform the public of hazardous material events.	EMA Budget	2010	EMA	Local
14) Assess the vulnerabilities of private wells to hazardous material spills within proximity to transportation corridors.	Unknown	Ongoing	EMA; County Health Department	Local; EPD
15) Assess the vulnerability of manufactured homes countywide addressing the number of homes placed on permanent foundations.	Staff time	2006	County; Greene;	Local
16) Inventory power generators for critical facilities and assess their adequacy to perform during hazard events and develop a replacement priority plan.	Unknown, dependent on replacement needs.	Ongoing	EMA; County; Greene;	Local; GEMA HMGP

The sources of funding identified for these projects include: Hazard Mitigation Grant funds, local funds, and other grant sources.



## IX COMMUNITY DATA HISTORY AND CENSUS INFORMATION



### Greene County and City Demographics

As of the census of 2000, there were 14,406 people, 5,477 households, and 4,042 families residing in the county. The population density was 14/km<sup>2</sup> (37/mi<sup>2</sup>). There were 6,653 housing units at an average density of 7/km<sup>2</sup> (17/mi<sup>2</sup>). The racial makeup of the county was 52.95% White, 44.45% Black or African American, 0.25% Native American, 0.25% Asian, 0.06% Pacific Islander, 1.49% from other races, and 0.56% from two or more races. 2.92% of the population was Hispanic or Latino of any race.

There were 5,477 households out of which 29.20% had children under the age of 18 living with them, 51.00% were married couples living together, 18.30% had a female householder with no husband present, and 26.20% were non-families. 23.00% of all households were made up of individuals and 10.10% had someone living alone who was 65 years of age or older. The average household size was 2.59 and the average family size was 3.02.

In the county the population was spread out with 25.10% under the age of 18, 8.70% from 18 to 24, 24.30% from 25 to 44, 27.50% from 45 to 64, and 14.40% who were 65 years of age or older. The median age was 39 years. For every 100 females there were 91.90 males. For every 100 females age 18 and over, there were 88.50 males.

The median income for a household in the county was \$33,479, and the median income for a family was \$39,794. Males had a median income of \$31,295 versus \$20,232 for females. The per capita income for the county was \$23,389. About

16.00% of families and 22.30% of the population were below the poverty line, including 33.80% of those under age 18 and 20.20% of those age 65 or over.

### Greensboro, Georgia

As of the census of 2000, there were 3,238 people, 1,184 households, and 806 families residing in the city. The population density was 214.8/km<sup>2</sup> (556.5/mi<sup>2</sup>). There were 1,264 housing units at an average density of 83.9/km<sup>2</sup> (217.2/mi<sup>2</sup>). The racial makeup of the city was 33.45% White, 62.01% African American, 0.40% Native American, 0.31% Asian, 0.28% Pacific Islander, 2.66% from other races, and 0.90% from two or more races. Hispanic or Latino of any race were 5.34% of the population.

There were 1,184 households out of which 35.5% had children under the age of 18 living with them, 33.3% were married couples living together, 29.2% had a female householder with no husband present, and 31.9% were non-families. 28.5% of all households were made up of individuals and 13.5% had someone living alone who was 65 years of age or older. The average household size was 2.65 and the average family size was 3.22.

In the city the population was spread out with 29.3% under the age of 18, 11.2% from 18 to 24, 26.4% from 25 to 44, 18.7% from 45 to 64, and 14.4% who were 65 years of age or older. The median age was 32 years. For every 100 females there were 83.9 males. For every 100 females age 18 and over, there were 78.5 males.

The median income for a household in the city was \$24,250, and the median income for a family was \$27,049. Males had a median income of \$22,788 versus \$15,720 for females. The per capita income for the city was \$14,494. About 26.4% of families and 31.2% of the population were below the poverty line, including 46.2% of those under age 18 and 23.2% of those age 65 or over.

### Siloam, Georgia

Originally named Smyrna, the town was settled in the early part of the 19th century. Home of Nathaniel Greene Academy, Siloam also has several sites listed on the National Register of Historic Places and has been proposed as a National Historic District. Siloam has five churches - two Baptist, two Methodist, and a Presbyterian. As of the census of 2000, there were 331 people, 121 households, and 78 families residing in the town. The population density was 103.9/km<sup>2</sup> (269.8/mi<sup>2</sup>). There were 144 housing units at an average density of 45.2/km<sup>2</sup> (117.4/mi<sup>2</sup>). The racial makeup of the town was 25.38% White, 73.11% African American, 0.60% Asian, 0.91% from other races. Hispanic or Latino of any race were 2.42% of the population.

There were 121 households out of which 25.6% had children under the age of 18 living with them, 28.1% were married couples living together, 29.8% had a female

householder with no husband present, and 35.5% were non-families. 28.9% of all households were made up of individuals and 17.4% had someone living alone who was 65 years of age or older. The average household size was 2.74 and the average family size was 3.38.

In the town the population was spread out with 27.2% under the age of 18, 11.2% from 18 to 24, 22.1% from 25 to 44, 23.6% from 45 to 64, and 16.0% who were 65 years of age or older. The median age was 38 years. For every 100 females there were 79.9 males. For every 100 females age 18 and over, there were 79.9 males.

The median income for a household in the town was \$23,125, and the median income for a family was \$24,792. Males had a median income of \$21,250 versus \$19,821 for females. The per capita income for the town was \$14,469. About 15.9% of families and 31.1% of the population were below the poverty line, including 42.4% of those under age 18 and 40.3% of those ages 65 or over.

### Union Point, Georgia

Developed from a railroad junction in 1834, Union Point is the home of Chipman Union Hosiery Mill. This historic mill complex of 20 buildings was built in the late 1800's, and continued to operate until November of 2001. Known for its fine Victorian residential and commercial structures, Union Point also features one of the state's oldest churches, Bethesda Baptist, organized in 1785. As of the census of 2000, there were 1,669 people, 651 households, and 421 families residing in the city. The population density was 312.8/km<sup>2</sup> (811.4/mi<sup>2</sup>). There were 744 housing units at an average density of 139.4/km<sup>2</sup> (361.7/mi<sup>2</sup>). The racial makeup of the city was 51.47% White, 46.38% African American, 0.66% Asian, 0.84% from other races, and 0.66% from two or more races. Hispanic or Latino of any race were 2.10% of the population.

There were 651 households out of which 32.4% had children under the age of 18 living with them, 35.3% were married couples living together, 24.0% had a female householder with no husband present, and 35.3% were non-families. 31.6% of all households were made up of individuals and 13.5% had someone living alone who was 65 years of age or older. The average household size was 2.46 and the average family size was 3.08.

In the city the population was spread out with 26.7% under the age of 18, 9.7% from 18 to 24, 24.9% from 25 to 44, 21.7% from 45 to 64, and 17.0% who were 65 years of age or older. The median age was 37 years. For every 100 females there were 85.4 males. For every 100 females age 18 and over, there were 77.2 males.

The median income for a household in the city was \$26,384, and the median income for a family was \$32,284. Males had a median income of \$26,484 versus \$20,071 for females. The per capita income for the city was \$14,715. About 14.0% of families and 18.2% of the population were below the poverty line, including 27.1% of those under age 18 and 13.7% of those ages 65 or over.

## White Plains, Georgia

Named for its grayish-white sandy soil, White Plains has several late 1800's Gothic Revival structures and is the home of Holcomb's Barbecue. As of the census of 2000, there were 283 people, 108 households, and 72 families residing in the city. The population density was 23.8/km<sup>2</sup> (61.5/mi<sup>2</sup>). There were 126 housing units at an average density of 10.6/km<sup>2</sup> (27.4/mi<sup>2</sup>). The racial makeup of the city was 55.83% White and 44.17% African American. Hispanic or Latino of any race were 3.18% of the population.

There were 108 households out of which 32.4% had children under the age of 18 living with them, 41.7% were married couples living together, 23.1% had a female householder with no husband present, and 33.3% were non-families. 26.9% of all households were made up of individuals and 13.9% had someone living alone who was 65 years of age or older. The average household size was 2.62 and the average family size was 3.28.

In the city the population was spread out with 25.8% under the age of 18, 9.9% from 18 to 24, 31.1% from 25 to 44, 21.9% from 45 to 64, and 11.3% who were 65 years of age or older. The median age was 35 years. For every 100 females there were 87.4 males. For every 100 females age 18 and over, there were 85.8 males.

The median income for a household in the city was \$33,906, and the median income for a family was \$36,136. Males had a median income of \$22,143 versus \$15,781 for females. The per capita income for the city was \$12,328. About 16.3% of families and 24.6% of the population were below the poverty line, including 36.6% of those under the age of eighteen and 20.9% of those sixty five or over.

## Woodville, Georgia

This village located five miles north of Union Point is said to have been given its name because trains were loaded with wood here in the early 1800's. This community features several sites, including the old schoolhouse and city hall, which are listed on the National Register of Historic Places. As of the census of 2000, there were 400 people, 136 households, and 99 families residing in the city. The population density was 31.4/km<sup>2</sup> (81.3/mi<sup>2</sup>). There were 147 housing units at an average density of 11.5/km<sup>2</sup> (29.9/mi<sup>2</sup>). The racial makeup of the city was 29.50% White, 69.50% African American, 0.75% Native American and 0.25% Asian. Hispanic or Latino of any race were 1.50% of the population.

There were 136 households out of which 29.4% had children under the age of 18 living with them, 41.9% were married couples living together, 26.5% had a female householder with no husband present, and 27.2% were non-families. 22.8% of all households were made up of individuals and 11.8% had someone living alone who

was 65 years of age or older. The average household size was 2.94 and the average family size was 3.43.

In the city the population was spread out with 30.3% under the age of 18, 7.8% from 18 to 24, 23.8% from 25 to 44, 27.0% from 45 to 64, and 11.3% who were 65 years of age or older. The median age was 36 years. For every 100 females there were 86.9 males. For every 100 females age 18 and over, there were 88.5 males.

The median income for a household in the city was \$31,667, and the median income for a family was \$34,219. Males had a median income of \$25,568 versus \$22,500 for females. The per capita income for the city was \$14,550. About 19.4% of families and 28.1% of the population were below the poverty line, including 40.6% of those under age 18 and 9.3% of those ages 65 or over.

**Largest Employers:**

Reynolds Plantation = 760  
Ritz Carlton Lodge = 502  
County Board of Education = 360  
County Board of Commissioners = 155

**Housing** = 7,630 houses (1,358 mobile homes) with 2.59 persons per household, 23.6% are in rental housing, paying a median rate of \$386.00 per month.

Median household value \$87,100, with new median construction above \$150,000 per unit.

**Per Capita income in 2006 = \$25,585, and per household income \$33,517**

**Labor Force** in 2006 = 6,500 Service = 31.8%  
Manufacturing = 10.2%  
Accommodation & Food = 13.8%  
Construction = 15.1%  
Agriculture = 5.1% and 19.3% on government payroll.  
69% of the Labor Force live and work in Greene County, 31% commute into the county to work.

**Unemployment rate:**

2000 = 5.9%  
2001 = 8.9%  
2002 = 12.4%  
2003 = 7.3%  
2004 = 6.0%  
2005 = 7.0%  
2006 = 6.2%

**Education:** The Greene County School System, K-12 has an enrolment of 2,300, with Elementary schools on Union Point and Greensboro. The Middle School and High School is located in Greensboro. The class of 05/06 graduated 74, with an average SAT of 836. School system average is 13 students per teacher and approximately \$9,500 is spent on each student each year.

There is one private school, K-12, located in Siloam, named Nathaniel Greene Academy with enrollment of 250 students.

Athens Technical College has a satellite campus in Greensboro, offering GED, College credit, technical and customized programs for all ages.

**Taxes:** The County's ad valorem tax digest has grown from 241.84 million dollars in 2000 to 567.48 million dollars in 2006.

The mill rate has dropped from the 1994 rate at 21.65 mills to 13.54 mills in 2006 in the unincorporated area.

The city of Greensboro levy's 5.63 mills and Union Point 9.4 mills.

The county adds 3 cents to the state's 4 cents in sales tax.

The effective rate ( tax/\$1,000) in the county is \$5.42 The County and the cities of Greensboro and Union Point provide ad valorem tax concessions for certain types of inventory common to manufacturing and warehousing operations ( Freeport).

### **Greene County has a total of 9 Volunteer Fire Departments.**



- Station 1 - Greensboro

Chief: Fred Cook

Fred has 26 persons in his department. Greensboro has one Engine, one Ladder Truck, one Rescue/Pumper, and one Tanker (3400 Gal.). Greensboro has an ISO rating of 6. More than 60% of the dwellings in Greensboro are served by fire hydrants. The Greensboro Rescue team and equipment are certified by GEMA.

- Station 2 - Union Point

Chief: Randy Herrington

Randy has 22 Persons in his department. Union Point has three Pumpers, two tankers (one is a Bucket Truck), one Rescue/ Service Truck, and one Chief's Truck. Approximately 60% of the dwellings in the UPFD District are served by fire hydrants. Union Point has an ISO rating of 4. There are only two other volunteer fire departments with better ISO ratings in the state. This results in significant cost reduction for fire insurance for home owners. Union Point Rescue team and equipment have been certified by GEMA.

- Station 3 - Siloam

?? is Chief of the Siloam Fire and Rescue Department. ----- has 16 persons in his/her department. Siloam has 2 Engines, 2 Tankers (1000), and a Rescue/Service Truck. Siloam has a GEMA certified Rescue Team. The ISO rating for Siloam is 7. Most of Siloam's territory is not covered by fire hydrants.

- Station 4 - Woodville

Chief: Tommy Wilson

Tommy has 12 persons in his organization. Woodville just received a new tanker this year. They now have two Engines and one Tanker. They also have a quick response truck with a 400 gal. tank. Woodville has an ISO rating of 6.

- Station 5 - Greshamville

Chief: Ronnie Ogletree

Ronnie has 19 persons in his department. Greshamville has two Engines, one Fire Knocker, and two Pumper-Tankers bought in 2002.

- Station 6 - White Plains

Chief: David Price

David has 16 Persons in his department. White Plains has two Engines, one Rescue/Pumper, and one Tanker. White Plains Fire Department has an ISO rating of 6. Although White Plains is not currently certified by GEMA for rescue, they have the equipment and training to perform a rescue function

- Station 7 - Liberty

Chief: Jerry Schnaedelbach

Jerry has 15 persons in his fire department. They have 1 Engine (New 2004) and 2 Pumper Tankers (1650 gal. ea.). One Source Pump mounted on a one ton Pick-up. Liberty has an ISO rating of 6. Liberty has no hydrants.

- Station 8 - Walker Church

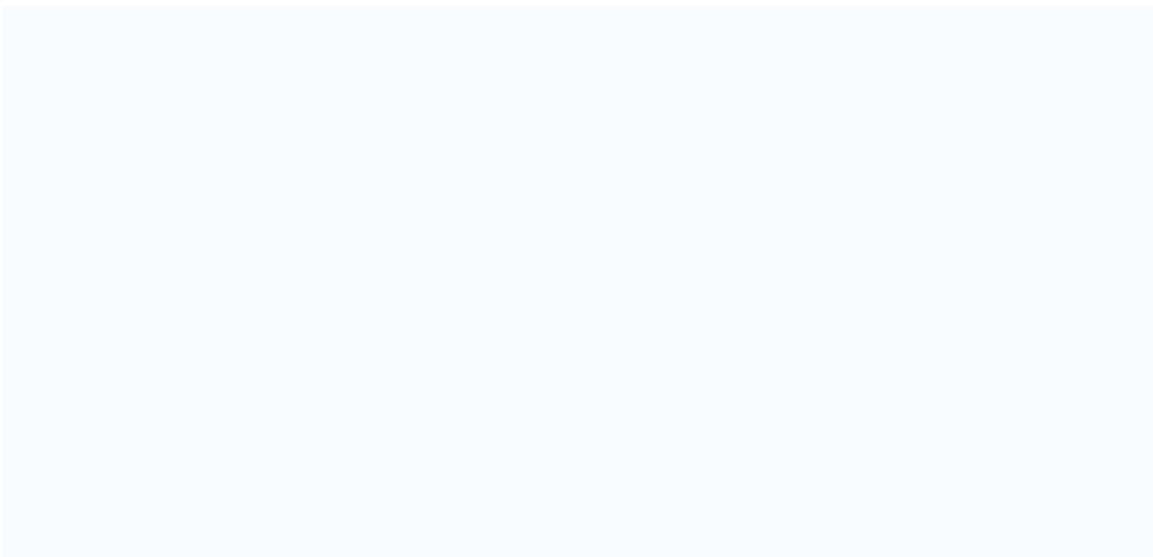
Chief: Byron Lombard

Byron has 23 persons in his organization. About 50% of the dwellings in this territory are covered by hydrants. Walker Church FD has one Engine and two Pumper-Tankers altogether capable of bringing about 4000 gal to a fire. This Fire Department also has a fire boat capable of delivering 2800 gpm. Many of the homes in this fire district are on the water. Our ability to approach from both land and water gives us maximum flexibility to fight fires. Walker Church FD also has a first responder van and ---- persons trained as First Responders. The ISO rating for this fire department is 6.

- Station 9 - Old Salem :
  - Reynolds
  - Carey Station

Chief: Debbie Spann

Debbie has 24 persons in her Department. Debbie has a GEMA recognized Rescue Team and a Dive Team. Old Salem has two locations, one is located in Reynolds and the other is on Carey Station Rd. Old Salem has a breathing air compressor and cascade system at this location. Her Fire Boat is located near the 44 bridge crossing of Lake Oconee . Old Salem has 2 Engines, 2 Tankers (2000 gal. ea.), 1 Rescue Service Truck, 2 Pumper-Tankers (1650gal. ea.), one Source Pumper, and a chief's truck. They also have a fire boat capable of delivering 2800 GPM. Many of the homes in the OSFD District are on the water. Old Salem has an ISO rating of 6.



## CHAPTER 2-HAZARD, RISK, AND VULNERABILITY (HRV) ASSESSMENT

The Greene County Hazard Mitigation Planning Committee first identified all hazards that had the potential to affect Greene County. After researching historical records and conducting personal interviews the list was narrowed to the specific hazards that are prone to impact Greene County. The planning committee determined that five natural hazards are most likely to affect Greene County. It should be noted that the entire county is at risk to be affected by tornados, thunderstorms/lightning, winter storms and droughts. Flooding is a hazard that affects isolated areas in the county. Detailed information regarding all five hazards is listed.

### SECTION I-THUNDERSTORM WINDS/LIGHTNING DAMAGE/HAIL



**A. Hazard Identification**—A thunderstorm is a form of severe weather characterized by the presence of lightning and thunder and normally short in duration. Because thunderstorms are small and short lived they are difficult to forecast precisely. Georgia is visited by one or more thunderstorms on the average from 50 to 80 days per year. The National Weather Service defines a severe thunderstorm as one that produces winds greater than 57 miles per hour and/or hail  $\frac{3}{4}$  inches or greater in diameter. These parameters are considered to be capable of damage. This hazard represents the biggest threat to Greene County residents.

By definition, all thunderstorms have lightning and are potential killers. Lightning occurs when the difference between the positive and negative charges the electrical potential becomes great enough to overcome the resistance of the insulating air and to force a conductive path for current to flow. Lightning strikes proceed from cloud to cloud, cloud to ground, or where high structures are involved, from ground to cloud.

Hail is also associated with thunderstorms, and increases the threat associated with thunderstorms. FEMA estimates that the U.S. annually suffers about one billion dollars in crop damage from hail. This is roughly equivalent to 1% of the world's estimated yearly crops. The potential economic impacts of crop damage resulting from hail can be significant. Damages to vehicles, structures, etc. are also sometimes attributed to hail, and can be costly. Hail develops when the rising air currents within a storm carry water droplets to

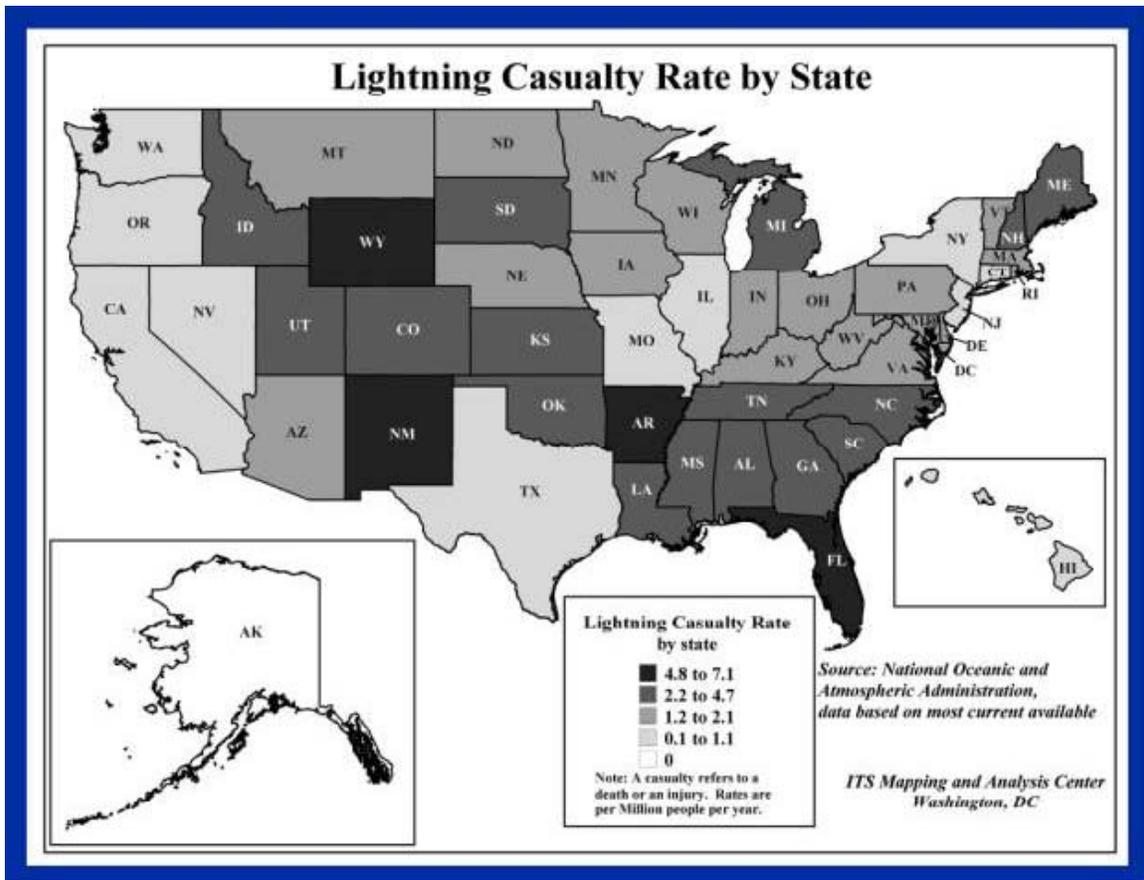
such a height that freezing occurs. These strong rising air currents are referred to as updrafts. As the updrafts continue carrying moisture upward where it freezes, the ice particles become larger and heavier. They eventually become too heavy to be supported by the updraft and begin to fall. These falling hailstones can reach speeds estimated to be faster than 100 mph before impacting with the ground, a person or animal, vehicle, structure, or whatever surface it plummets from. Hail estimated to be dime sized has been reported to have caused dents in to tops of vehicles, damage to structure roofs, break windows, and cause severe injury. The dangers of hail are then not limited to size, but to the velocity with which it falls.

Hailstones are not uniformly round in shape. Reports indicate that they can vary from a rounded shape to a conical shape, and some have even been noted to be angular. This presents a very real risk of injury or death to people and animals exposed to the elements during a hail event. Though fatalities resulting from hail are not commonly reported in the U.S., the risk of severe injury is very real.

Lightning is another hazard typically associated with severe thunderstorms. The National Weather Service reports that all thunderstorms can produce lightning. According to NOAA, the electrical charges causing lightning to occur originate high in the cumulonimbus clouds where low temperatures create an environment of snow crystals and ice pellets. The rising and falling motions created by the storm within the clouds cause frequent collisions between these particles causing the snow crystals to become positively charged and ice pellets to become negatively charged. Upward motion within the storm carries the positively charged snow crystals upward while the heavier pellets fall to middle and lower portions of the storm. Increasing differences in charged layers of the storm result in cloud-to-cloud lightning. The negative charge in the lower portion of the storm results in positive charges on the ground building beneath the cloud. These positive charges created at ground level follow the storm as it travels much like a shadow. As the storm travels and the differences in the charges of the ground and the cloud increase, so does the likelihood of cloud to ground lightning. This occurs when a negatively charged channel of air that forms near the base of the cloud surges downward toward the upward reaching positive charge of buildings, trees, etc. Once this connection is complete, a visible surge of electrical current moves from the ground to the cloud as what we call lightning.

Lightning is reported by the NWS to kill ninety-three people per year in the United States, and injure hundreds of others. Lightning is known to seek out the path of least resistance, which is typically tall or metal objects, according to FEMA. A “tall object” could be a building, a home, a tree, or a person standing in an open area. Lightning is capable of, and has been known to strike just about any object in its path. The most dangerous and intense lightning has been associated with severe thunderstorms during the summer months, when outdoor activities are at their peak. Unfortunately, this may lend to the number of injuries and deaths associated with lightning strikes.

Naturally, the deadly electrical charge carried by lightning is the primary hazard to people and animals exposed to the elements during a storm event. However, it is important to remember that lightning strikes may ignite fires and cause damage to structures and property.



The above 2005 issued map, available through FEMA, depicts the lightning casualty rate in the United States. It indicates that the state of Georgia reports an average of 2.2 to 4.7 casualties as a result of lightning per year.

Data from the National Climatic Data Center, found in *Appendix A*, was reviewed in researching thunderstorm winds and lightning damage.

**B. Hazard Profile**—Greene County and its municipalities are all at risk for thunderstorm winds, hail and lightning damage. Thunderstorm winds and

**C. lightning damage** has caused the most damage in Greene County. During the Hurricanes of 2004, high winds knocked down trees and power lines throughout the county. Buildings and communication towers were damaged as a result of the winds. On numerous occasions the county experienced high winds and lightning damage that left citizens without power and with minor to severe damage. Incidents with significant damage are recorded with monetary losses due to damage reported.

Though thunderstorms occur frequently, only a few events are in historic records (in the last 50 years) due to inadequate record keeping. This data indicates there is a 1.14% chance of a thunderstorm occurring in any given year and a .50% historic frequency for hailstones. See the Hazard Frequency Table in *Appendix D*.

**D. Assets Exposed to Hazard**—All of Greene County is at risk for Thunderstorm winds, hail and lightning damage. Therefore, it can be assumed that all structures within Greene County could be damaged by thunderstorm winds and lightning damage. A list of critical facilities can be found with the identified hazard in *Appendix A*.

**E. Estimate of Potential Losses**—Thunderstorm winds, hail and lightning damage can cause a wide range of damage. There are no critical facilities in high hazards area. See *Appendix A* for a full inventory of critical facilities in low hazard areas.

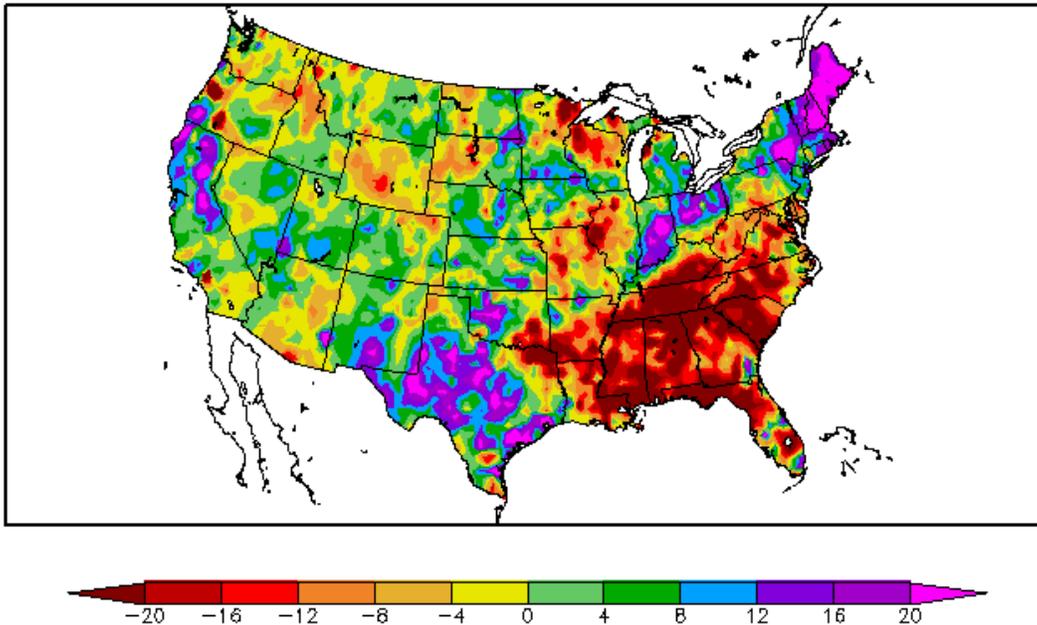
**F. Land Use and Development Trends**—Greene County has no land use or development trends related to thunderstorm winds and lightning damage at this time.

**G. Multi-jurisdictional Concerns**—All of Greene County and its municipalities can be affected by thunderstorm winds and lightning damage. Thus, all of Greene County, and its municipalities should be considered for any mitigation actions.

**H. Hazard Summary**—Thunderstorm winds, hail and lightning damage is the greatest threat to Greene County. Thunderstorm winds and lightning damage has caused the most damage in the past and is the most frequently occurring hazard in the county. Specific mitigation actions are listed in *Chapter 4, Section I*.

## SECTION II-DROUGHT AND WILDFIRE

Departure from Normal Precipitation (in)  
10/4/2004 – 10/3/2007



Generated 10/4/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

**A. Hazard Identification**—The Greene County Hazard Mitigation Planning Committee reviewed data from the National Climatic Data Center, USDA-Soil Conservation, and Georgia Forestry concerning droughts. Drought is a prolonged period of moisture deficiency. Sustained droughts can cause economic stress on a community and/or State. Drought not only affects crops, livestock, and water quality; it also increases the risk of wildfire. A wildfire can be described as an open fire which spreads unconstrained through the environment. Drought conditions make the natural fuels of the earth more fire-prone. Because of this, it is the decision of the Greene County Hazard Mitigation Planning Committee to address drought and wildfire together. Both drought and wildfire will be considered when developing mitigation goals and actions.

**B. Hazard Profile**—Greene County last experienced drought in 2007 along with the entire state of Georgia. Agriculture suffered the greatest with a loss as yet undetermined. The lack of rain has caused a major impact to Greene County

and its municipalities. Fortunately, there were no significant wildfires related to the drought as of yet. See the Hazard Frequency table in *Appendix D*

- C. Assets Exposed to Hazard**—since drought does not pose a danger to facilities it is noted that there are no assets exposed to this hazard. Wildfires caused by drought do expose structures to danger. Shelters that lie within the wildfire hazard area are detailed and mapped as illustrated in *Appendix A*.
- D. Estimate of Potential Losses**—though all of Greene County is at risk to experience drought, damage to critical facilities is not expected. Due to the variance in duration and intensity, it is not possible to place a dollar amount on crops and livestock affected.
- E. Land Use and Development Trends**—Greene County currently has no land use or development trends related to drought or wildfire.
- F. Multi-jurisdictional Concerns**—All municipalities in Greene County are at risk for drought and drought-related wildfires. However, there is a significant difference in these areas. When developing mitigation actions, special considerations should be addressed for the cities that exist near forests.
- G. Hazard Summary**—Drought and wildfires are a major concern for much of Greene County due to the dependence on agriculture for livelihood. It is hard to put a dollar figure on the potential affects of a drought due to the variations of each case. However, the Greene County Hazard Mitigation planning committee realizes that a sustained drought not only increases the likelihood of wildfires, but it also could have a major affect on the economic status of Greene County. With this in mind, goals have been set to address these concerns and can be found in *Chapter 4, Section II*.

## SECTION III-WINTER STORM

**A. Hazard Identification**—Severe winter storms bring the threat of freezing rain and ice storms. Freezing rain is rain occurring when the surface temperatures are below freezing (32 degrees Fahrenheit, 0 degrees Celsius). The moisture falls in liquid form, but freezes upon impact, resulting in a coating of ice glaze on exposed objects. This occurrence is commonly called an “ice storm” when a substantial glaze layer accumulates. Northeast Georgia and Greene County are more susceptible to winter storms than the southern part of the state but still not as susceptible as northern states. Equipment to deal with frozen roads for this hazard is not justified making a relatively ‘small’ storm a transportation nightmare.

A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and transmission lines. Sidewalks, streets, and highways become extremely hazardous to pedestrians and motorists. Over 85 percent of ice storm deaths are traffic related. Destructiveness of ice storms in the southern states is increased because buildings are not designed with severe winter conditions in mind. In addition, severe crop losses have occurred from time to time from unanticipated deep freezing temperatures and ice.

Data was researched from the EMA, Fire Department, National Climate Data Center, Weather Gov, and local papers regarding winter storms.

**B. Hazard Profile**—All of Greene County is at risk from the effects of winter storms. There are only two reports of winter storms having significant impacts on Greene County. Statistically, Greene County can expect a winter storm every twenty five years, with a .16% chance of a winter storm occurring in any given year. See *Appendix A* for the Hazard Frequency Table. The effects can be critical due to the power outages caused from ice and trees on power lines. In January of 2005, ice and freezing rain caused power outages throughout the county leaving 70% of the county’s population without power at one time. In March of 1993, three and one half inches of snow fell leaving thousands of citizens without power. Numerous structures and hundreds of trees were damaged as a result of the winter weather. The potential damage from winter storms is critical.

**C. Assets Exposed to Hazard**—Being that all of Greene County is at risk from the effects of winter storms, all critical facilities, personal and public property have the potential to be affected by winter storms.

**D. Estimate of Potential Losses**—All of Greene County is at risk from the effects of winter storms, so it can be assumed that all structures could experience damage and loss. For mitigation suggestions see chapter 4 section III and *Appendix A* for details on potential losses on the critical inventory list.

- E. Land Use and Development Trends**—there are no specific land use or development trends in relation to winter storms at this time.
- F. Multi-jurisdictional Concerns**—All of Greene County and its municipalities are at risk for winter storms. There is no significant difference between the jurisdictions. A countywide approach should be taken when developing mitigation goals and actions.
- G. Hazard Summary**—though Greene County has not experienced many incidents of severe winter storms, the potential effects can be extremely dangerous. Lack of experience in dealing with winter weather and lack of equipment poses another concern. The Greene County Hazard Mitigation Planning Committee recognizes these risks and has developed specific mitigation actions which can be found in *Chapter 4, Section III*.

## SECTION IV-FLOODING



- A. Hazard Identification**— A flood is a natural event for rivers and streams that occurs when water from snowmelt, rainfall, or storm surge accumulates and overflows onto the banks and adjacent floodplains. Rainfall intensity and duration can determine the severity of floods. A large amount of rainfall over a short time span can result in flash flood conditions. A small amount of rain can also result in floods in locations where the soil is saturated from a previous wet period. Data the National Climatic Data Center regarding floods was reviewed by the Hazard Mitigation Planning Committee and can be found in *Appendix A*.
- B. Hazard Profile**— The most recent significant flood event was in July 1997. A violent thunderstorm brought much rain to the county. There was significant damage to roads and roadbeds throughout the county. Approximately \$200,000 in damage was incurred from this flood event.

There is a .08% historic frequency chance for this hazard to occur in any given year. In October 1989, the county experienced flooding due to heavy rains. In one day 7.65 inches of rain fell. The soil absorbed moisture until it could hold no more. Approximately 25 bridges and drainage pipes on county roads overflowed causing pavement to ripple. There are 4 instances of flooding occurring but from discussions this is a low number to residents and points to an inaccuracy in the historical data.

Other less significant events have occurred throughout the years. Minor flooding was reported during the Hurricanes of 2004. Several roads in the county pose a continuous problem that will need attention in the near future.

Though there are only four flooding events in historic record, flooding has the potential to cause great damage to the community. Statistically, Greene

County can expect flooding to occur every twelve and one half years. This equates to an 8% chance of flooding occurring in any given year. See *Appendix A* for the Hazard Frequency Table

- C. Assets Exposed to Hazard**—All areas within the 100 year floodplain have the potential for flooding. A floodplain map can be found in *Appendix A*.
- D. Estimate of Potential Losses**—As stated in Chapter 4, Section IV, Greene County has implemented mitigation techniques. The guidelines for floodplain development are included in the comprehensive plans. There are no critical facilities within the floodplain.
- E. Land Use and Development Trends**— Greene County, the City of Greensboro, and the outlying areas of Greene County all participate in the National Flood Insurance Program (NFIP). The City of Greensboro (NFIP# 130220) has adopted a Resolution of Intent and Flood Damage Prevention Ordinance. Greene County (NFIP # 13133)and outlying municipalities (NFIP # 130573) will enact and maintain adequate land use and control measures consistent with the criteria of the NFIP regulations for areas having flood, or flood-related erosion hazards. The County and its municipalities also have flood damage prevention ordinances in place. A Flood Area Permit is required prior to the commencement of any development within flood hazard areas. Specific standards regarding manufactured or mobile homes have also been implemented. Manufactured homes must be elevated and anchored to resist flotation, collapse, and lateral movement.
- F. Multi-jurisdictional Concerns**—All jurisdictions within Greene County can potentially be affected by flooding but some areas are well beyond the flood plain. Maps of the individual cities in Greene County and Greene County itself are included for review in Appendix A. They represent the GEMA ITOS mapping system and the GIS maps from the Northeast Georgia Regional Development Center in Athens. When developing goals attention needs to be made to these areas and actions should be prioritized accordingly. Greene County, the City of Greensboro, and the various municipalities of Greene County all participated in the NFIP.
- G. Hazard Summary**—Flooding potential is low to moderate in Greene County. There are areas within the floodplain that have reason for concern. The Greene County Hazard Mitigation Planning Committee recognized the flood prone areas and have identified specific mitigation actions to be considered in the future. See *Chapter 4, Section IV* for specific goals.



## SECTION V-TORNADOS



- A. Hazard Identification**—The Greene County Hazard Mitigation Planning Committee reviewed data from the EMA, Fire Department, National Climate Data Center, National Weather Service, and Tornado Project Online in researching tornados. A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of 1 mile wide and 50 miles long. Tornado season runs from March through August; however, tornados can strike any time of the year if essential conditions are present. There are 2 recorded instances of tornadoes hitting Greene County or one every 25 years.
- B. Hazard Profile**—Since tornados are so unpredictable all of Greene County and its municipalities are at risk. Greene County has experienced two tornadoes in the past 50 years. See *Appendix A* for tornado data in the Hazard Frequency Table.
- C. Assets Exposed to Hazard**—Being that tornados are so unpredictable, it can be assumed that all structures within Greene County could be damaged by a tornado.
- D. Estimate of Potential Losses**—Due to the unpredictability of tornados and the variance in categories, it is difficult to estimate potential loss. It can be determined that all structures within Greene County can be affected. See *Appendix A* for details on potential losses from the Critical Inventory list.

- E. Land Use and Development Trends**—Greene County is located in Wind Zone III, which is associated with 200 mph wind speeds. In this region structures must be able to withstand winds up to 80 mph. No other land use or development trends are in place at this time in relation to tornados. All construction must adhere to the International Building Code (2000 edition) and Southern Building Codes.
- F. Multi-jurisdictional concerns**—All of Greene County and its municipalities can potentially be affected by a tornado. Therefore, a countywide approach should be taken when developing mitigation steps and actions.
- G. Hazard Summary**—Greene County does have the potential to experience damage from tornados. Due to the unpredictable nature of tornados and the variance in strength and duration, significant damage could occur as a result of a tornado event. Specific mitigation actions are identified in *Chapter 4, Section V*.

## SECTION VI-EARTHQUAKE



- A. Hazard Identification**—Earthquake's are one of nature's most damaging hazards. An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth's tectonic plates. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure.
- B. Hazard Profile**—On April 29, 2003 a moderate earthquake, rated 4.9 on the Richter Scale, shook most of the northwest corner of Georgia, south to Atlanta. The epicenter was located in Menlo, Georgia. In Greene County, slight trembles were felt and rumbles heard. There are no incidents reported in any damage history. [These accounts come from personal testimonies from citizens. Historic data records indicate that Greene County can expect an earthquake to affect their county every fifty years with a 2% chance of an earthquake occurring in any given year. See the Hazard Frequency Table in Appendix A.](#)
- C. Assets Exposed to Hazard**—All critical facilities, personal, and public property in Greene County are susceptible to damage caused by an earthquake.
- D. Estimate of Potential Losses**—There are no damage records available in relation to Earthquakes. Loss would be determined based on intensity and magnitude and would vary in each case.
- E. Land Use and Development Trends**—There are no specific land use and development trends in relation to earthquakes at this time.
- F. Multi-jurisdictional Concerns**—All of Greene County can potentially be affected by Earthquakes. When developing mitigation goals, the cities of Greene County should be taken into consideration.

**G. Hazard Summary**—Overall, Greene County has the potential, though moderate, to experience damage in relation to earthquakes. Because of this, specific mitigation goals have been developed and should receive adequate consideration. They can be found in *Chapter 4, Section 6*.

### CHAPTER 3 LOCAL TECHNOLOGICAL HAZARD, RISK AND VULNERABILITY (HRV) SUMMARY



It is the decision of the Greene County Hazard Mitigation Planning Committee to include technological or “human-caused” hazards in the mitigation plan. “Technological hazard” refers to incidents resulting from human activities such as the manufacture, transportation, storage, and use of hazardous materials. In this plan it is assumed that technological emergencies are accidental and that their consequences are unintended. Research indicates that only one technological hazard (hazardous material spills) is a direct threat to Greene County.

#### SECTION 1—HAZARDOUS MATERIAL SPILLS

- A. Hazard Identification**—The Greene County Hazard Mitigation Planning Committee reviewed data from the Environmental Protection Division of the Georgia Department of Natural Resources in researching hazardous material spills in Greene County. A major source of hazardous material accidents are spills along roadways, railways, and pipelines. Hazardous materials are substances that are harmful to the health and safety of people and property. Jurisdictions with facilities that produce, process, or store hazardous materials are at risk, as are facilities that treat, store, or dispose of hazardous wastes.
- B. Hazard Profile**—Hazardous material spills occur occasionally in Greene County. Research from the Environmental Protection Division indicates that only 31 incidents since 1991 have been reported to the Emergency Response Team (ERT). It can be assumed that more incidents have occurred but data was not reported and recorded. This concern is addressed in *Chapter 5, Section 1*. Most of the reported incidents were transportation related spills. This is credited to the presence of the highways and a major railway. Some of the reported incidents were fixed location spills. In the past 16 years since the ERT reports have started, the county averages two transportation related spills a year and one fixed location spill a year. Statistically, Greene County has a 150% chance of a fixed location spill occurring in any given year. They have a 183.33% chance of a transportation related spill occurring in any given year. A list of past incidents on the ERT report can be found in *Appendix A*.

- C. Assets Exposed to Hazard**—In identifying which assets are exposed to hazardous materials, we evaluated all facilities that house hazardous materials. A one mile radius buffer was figured for each facility. All critical facilities that lie within these buffers have the potential to be affected. A map of all facilities that house hazardous materials, as well as a list of critical facilities exposed to hazardous materials can be found in *Appendix A*. Also in *Appendix A* is a map that illustrates the areas that could potentially receive damage in relation to facilities that house hazardous materials.
- D. Estimate of Potential Losses**—Greene County has no recorded instances of critical facilities or property being damaged as a result of hazardous material spills. Due to this lack of data and the variance of each situation, it is difficult to estimate the potential losses that could occur. This plan also does not take into account purposeful actions by individuals to cause hazardous spills and no data exists on this topic.
- E. Land Use and Development Trends**—Greene County has no land use and development trends related to hazardous material spills at this time.
- F. Multi-Jurisdictional Concerns**—All of Greene County is at risk for the potential of hazardous material spills due to the presence of an interstate, major highways, and a railway. However, some are have a higher risk than others. A high percentage of the facilities that house hazardous materials are within the City of Greensboro. Special attention should be made to the City of Greensboro when addressing hazard mitigation actions.
- G. Hazard Summary**—Though Hazardous Material spills are not a frequent occurrence, the potential that they may occur and past experiences justifies the consideration of mitigation measures. Knowing that hazardous materials are transported through the county on a daily basis, the Greene County Hazard Mitigation Planning Committee developed specific mitigation actions in *Chapter 5, Section I*.

# Chapter Four

## Local Natural Hazard Mitigation Goals and Objectives

### Overall Community Mitigation Goals, Policies, and Values

This Chapter outlines Greene County's goals and objectives associated with individual natural hazards. It also includes specific actions that, if undertaken, will help reduce future potential losses resulting from each respective hazard. The PDM Planning Committee believes these measures will help better prepare the county from any future natural disasters.

This PDM, and its various subcommittees that helped to put it together, were tasked with profiling the hazards which are most likely to threaten lives, property, and the environment of Greene County and the municipalities therein. By referring to Chapter 2 and 3 of this plan you can get a full approach to the natural and technological hazards that this plan has focused on and attempts to mitigate. After the identification of those hazards, the natural evolution of the study was to estimate, based on historic events, the types of damages these identified hazards may cause in this community. The next task was to develop recommendations specific to those hazards in effort to lessen the potential negative impacts of those hazards on the people and property of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville. Each hazard identified as a probable threat was addressed individually for this step of the process, and, where applicable, an attempt to develop mitigation measures to address specific areas where the hazard is considered more likely to affect specific, rather than general areas of Greene County. Also considered were measures, which could reasonably be applied in all areas of the county and to all hazards.

### I. Severe Thunderstorm, Hail, Lightning and Wind

#### A. Community Mitigation Goals

Thunderstorm winds may not sound like an especially threatening hazard to the average citizen, but they have resulted in significant numbers of personal injuries and facilities in the past. The actual number of events is similarly high at 66 over 54 years; representing the highest hazard frequency (refer to Chapter 2 for additional information). The mitigation goals, objectives, and actions for thunderstorm/wind are closely related to tornados.

As described in Chapter 2 thunderstorms, lightning, hail and wind are the most common occurrences during severe thunderstorms. With this in mind the Greene County Hazard Mitigation Committee has determined that mitigation goals will be the same for severe thunderstorms, hail lightning and wind.

## **B. Identification and Analysis of Range of Mitigation Options**

### **1. Structural and Non-Structural Mitigation**

To expand the public's awareness of the hazards associated with severe thunderstorms.

To provide the public with information regarding preventative and protective measures that the individual can take to mitigate the effects of severe thunderstorms.

**2. Existing Policies, Regulations, Ordinances, and Land Use** There are currently no known codes or ordinances in place in Greene County to address the hazard of severe thunderstorms outside of the International Building Codes (2000 Edition) and the uniform Building Codes adopted by Greene County.

### **3. Community Values, Historic, and Special Considerations**

Special Consideration should be given to vulnerable populations such as the elderly and the sick as well as to the facilities that house vulnerable populations in planning and considering mitigation options in regards to thunderstorms, as these populations in particular may be at higher risk during a power failure, etc.

### **4. New Buildings and Infrastructure**

Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County, which address new buildings and infrastructure pertinent to severe thunderstorms.

### **5. Existing Buildings and Infrastructure**

Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County which address existing buildings and infrastructure pertinent to severe thunderstorms.

## **C. Severe Thunderstorms- Mitigation Strategy and Recommendation**

The Hazard Mitigation Committee has recommended the following:

**1. Mitigation Goal #1:** Mitigate the hazards to life and property in Greene County associated with severe thunderstorms.

**i. Objective:** Reduce the risks to life and property in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville through pre-planning activities and preventative measures.

1. **Task A:** Develop in cooperation with public safety and public service agencies and organizations and the local media a public awareness campaign to educate the public about the hazards of severe thunderstorms.

a. **Action Step:** Develop partnerships between local response agencies and organizations, public service agencies and organizations, and the local media whereby PSA's and pertinent information regarding the hazards associated with severe thunderstorms may be aired to the public as well as information about preventative and protective measures that the individual can take.

**Responsible Organization:** EMA, local media, public safety and public service organizations with the support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville

**Coordinating Organization:** EMA, local media, with the support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville

b. **Action Step:** Utilize the public safety campaign referred to in action step above to offer the public, private sector, and commercial businesses assistance in developing safety plans specific to their homes or businesses for all hazards, including severe thunderstorms.

**Responsible Organization:** EMA, local media, public safety and public service organizations, with the support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville

**Coordinating Organization:** EMA, local media, with support of commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

2. **Task B:** Make an effort to prevent further damage to Greene County Critical Facilities during power outages caused by Thunderstorms.

a. **Action Step** look into purchasing mobile three phase generators to supply power during power outages. The EMA Director and County Managers office will work to put an RFP out and check the costs for this action step before proceeding.

#### **D. Special Multi-Jurisdictional Strategy and Considerations**

There is no area of Greene County that could be considered to be immune to the hazard of severe thunderstorm. Any measure considered for

implementation for the purpose of mitigating the effects of severe thunderstorm should then be considered for implementation on a countywide basis.

### **E. Local Public Information and Awareness Strategy**

Participants of this PDM recommend utilizing the local media and emergency response agencies in a coordinated effort to provide Public Service Announcements, make available persons to publicly address the hazards associated with severe thunderstorms and applicable preventative measures, and provide contact information to facilitate more communication with the public.

## **II. Drought/Wildfire**

### **A. Community Mitigation Goals Narrative**

Drought conditions affect Greene County and could pose a significant threat in conjunction with wildfire events. Crops can be devastated by either a drought or wildfire causing a far reaching economic impact that could be felt for years. Additionally, the immediate loss to property and structures would negatively affect the county as well. More detailed information on droughts and wildfires is presented in Chapter 2. In general, drought conditions and wildfires would affect individual property owners, particularly during the summer months. While historically, wildfire damage reported in Greene County has largely been limited to loss of timber and other similar damages, the potential destruction associated with wildfire cannot be ignored. Wildfires are highly unpredictable in nature, and able to expand to devastating proportions in a relatively short period of time, wildfires pose a very real threat to lives and property including governmental, industrial, and private sector properties, as well as the environment.

### **B. Identification and Analysis of Range of Mitigation Options**

#### **1. Structural and Non-Structural Mitigation**

To expand the public's awareness of the hazards associated with severe drought and wildfire.

To provide the public with information regarding preventative and protective measures that the individual can take to mitigate the effects of drought and wildfire.

#### **2. Existing Policies, Regulations, Ordinances, and Land Use** There are currently no known codes or ordinances in place in Greene County to address the hazard of severe droughts or wildfire outside of the International Building Codes (2000 Edition) and the uniform Building Codes adopted by Greene County.

#### **3. Community Values, Historic, and Special Considerations**

Special Consideration should be given to vulnerable populations such as the elderly and the sick as well as to the facilities that house vulnerable populations in planning and considering mitigation options in regards to wildfires, as these populations in particular may be at higher risk during a fire, etc.

#### **4. New Buildings and Infrastructure**

Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County, which address new buildings and infrastructure pertinent to drought or wildfires.

#### **5. Existing Buildings and Infrastructure**

Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County which address existing buildings and infrastructure pertinent to drought or wildfires.

### **C. Mitigation Strategies and Recommendations for Drought and Wildfire**

Mitigation Strategies and Recommendations for drought and wildfire

#### **1. Mitigation Goal #1:**

Reduce loss of life and property damage resulting from a drought and or wildfire. Expand the public awareness of the dangers of wildfire to preserve lives and property and recommend adoption of the Fire wise Communities Program in Greene County and its municipalities.

**i. Objective #1:** Provide guidance and direction to the public before or during a drought event and during the peak times for water conservation measures. Reduce the potential impacts of wildfire on Greene County through pre-planning activities and permit enforcement.

**1. Task A:** Provide educational information about drought and wildfires. Reduce the potential impacts of wildfire on Greene County, by providing for local fire service responders wildfire specific training and appropriate equipment to quickly and effectively respond to wildfire events.

**a. Action Step:** Continue to post information and conduct educational program about water conservation.

**b. Action Step:** Research and consider additional methods and programs to conserve water consumption during drought.

**c. Action Step:** To increase the level of public awareness of the risk factors and

affects of a wildfire in Greene County.

**d. Action Step:** Identify and educate the public about possible wildfire prevention measures.

**Responsible party:** The above action steps, itemized by letters a through d, will be under the direction of the County Manager who will also approve any budgeted funding for the above activities. The personnel that will be utilized for items a, b, c, and d above, will mostly come from the extensive volunteer fire departments and EMS personnel throughout the county.

#### **D. Multi-Jurisdictional Strategy**

Drought and wildfire can affect all of Greene County. There exist no differences in the strategies intended to mitigate drought or wildfire between the governmental jurisdictions.

#### **E. Public Information and Awareness Strategy**

Greene County currently provides ample public information regarding droughts and wildfire through its public utilities department. These efforts are expected to continue and possibly increase as conditions require. Continual updates on drought conditions are posted throughout the summer.

### **III. Winter Storm**

#### **A. Community Mitigation Goals Narrative**

Winter storms occasionally affect Greene County but not frequently. Similar to thunderstorm winds, however, they result in significant damage to property. As the surfaces of roadways and bridges freeze, the potential for traffic accidents greatly increases. Related property damage also occurs as a result of falling limbs and power lines. Chapter 2 provides greater detail on this hazard. The PDM Committee believes that reduction of property loss and disruption of services could be minimized by undertaking several mitigation projects detailed below.

#### **B. Identification and Analysis of Range of Mitigation Options**

##### **1. Structural and Non-Structural Mitigation**

Structural mitigation actions are needed to reduce the county's vulnerability to Winter Storm. To expand the public's awareness of the hazards associated with winter storms.

To provide the public with information regarding preventative and protective measures that the individual can take to mitigate the effects of winter storms.

##### **2. Existing Policies, Regulations, Ordinances, and Land Use**

Existing policies, regulations, and ordinances are adequate in serving the county's needs. No changes were identified by the PDM Planning Committee to reduce the effects of a Winter Storm. New construction within the county conforms to existing building codes and no special codes relative to winter storm currently exist.

### **3. Community Values, Historic, and Special Considerations**

There are also no special historic or special considerations that pertain to winter storms. Special Consideration should be given to vulnerable populations such as the elderly and the sick as well as to the facilities that house vulnerable populations in planning and considering mitigation options in regards to winter storms, as these populations in particular may be at higher risk during power outages associated with winter storms, etc.

### **4. New Buildings and Infrastructure**

Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County, which address new buildings and infrastructure pertinent to winter storms.

### **5. Existing Buildings and Infrastructure**

There are no plans to adopt codes that require retrofitting existing buildings and infrastructures for protection against winter storm as these events do not typically result in significant accumulations of snow. Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County which address existing buildings and infrastructure pertinent to winter storms.

## **C. Mitigation Strategies and Recommendations for Drought and Wildfire**

### **1. Mitigation Goal #1:**

Winter Storms are the most predictable of disasters and weather patterns tend to allow for community alerts beforehand. These alerts will reduce loss of life and property damage resulting from winter storms. Expand the public awareness of the dangers of winter storms to preserve lives and property.

**i. Objective #1:** Provide guidance and direction to the public before or during a winter storm event. Reduce the potential impacts of winter storms on Greene County through pre-planning activities and permit enforcement.

**1. Task A:** Provide educational information about winter storms. Reduce the potential impacts of winter storms on Greene County, by providing specific training and appropriate equipment to quickly and effectively respond to winter storm events.

**a. Action Step:** Continue to post information through media outlets and conduct educational programs about winter storms.

**Responsible agency:** the EMA Director will handle the postings required

**b. Action Step:** To increase the level of public awareness of the risk factors and affects of winter storms.

**Responsible agency:** and EMS and volunteer fire personnel can assist with public awareness as directed.

**c. Action Step:** Install Generators at key facilities.

**Responsible agency:** The research for this will be through the City Manager's office and the RFP will include installation costings.

**d. Action Step:** Develop partnerships between local and state response agencies and organizations, public service agencies and organizations, and the local media whereby PSA's and pertinent information regarding the hazards associated with winter storms may be aired to the public as well as information about preventative and protective measures that the individual can take.

**Responsible Organization:** EMA, local media, public safety and public service organizations with the support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville

**Coordinating Organization:** EMA, local media, with the support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville

#### **D. Multi-Jurisdictional Strategy**

Winter Storms can affect all of Greene County. There exist no differences in the strategies intended to mitigate winter storms between the governmental jurisdictions. Any measure considered for implementation to mitigate winter storms should be considered for countywide implementation.

#### **E. Public Information and Awareness Strategy**

Greene County currently provides ample public information regarding winter storms through its public utilities department. These efforts are expected to continue and possibly increase as conditions require. Continual updates on winter storm conditions are posted throughout the winter. The recommendation is to utilize the local media and emergency response agencies in a coordinated effort to provide Public Service Announcements, make available persons to publicly address the hazards associated with winter storms and applicable preventative measures, and provide contact information to facilitate more communication with the public



## **IV. Flooding**

### **A. Community Mitigation Goals**

In Chapter 2, information is provided about floods in Greene County. While some flooding has occurred in the county, the resulting damage is not excessive. There are a few critical facilities that exist in the flood plain, but these are not considered vulnerable to potential flood damage. If they were damaged by a flood, it would not cause large-scale disruption of services.

Research of historic accounts of flooding revealed that most flooding incidents in Greene County are directly related to heavy rainfall. Hazards resulting from this flooding typically include compromised or impassable roads and/or bridges, and thus, the interruption of delivery of some services or access to care in some cases, crop damages, property damages, and erosion issues. Should the transportation flow within Greene County be compromised or interrupted, lives and property could be likewise jeopardized.

Greene County (#13133) and the Cities of Greensboro (#130220) and Greene County outlying areas(#130573) are members of the National Flood Insurance Program (NFIP), which serves to provide information and guidance on flood protection and, where possible, flood insurance to homeowners. While other communities are not members, they are aware and covered by the county's compliance with NFIP standards as addressed under the Greene County Comprehensive Plan (appendix B), which is supported by all municipalities within the county. Greene County is home to several creeks, lakes, and rivers, which become vulnerable during periods of heavy rainfall.

With the previous factors in mind, Greene County has made recommendations to address the hazard of flooding. The ultimate goal of these recommendations is to protect lives and property in Greene County from the dangers of flooding.

## B. Identification and Analysis of Range of Mitigation Options

### 1. Structural and Non-Structural Mitigation

Structural mitigation actions are needed to reduce the county's vulnerability to flooding and to expand the public's awareness of the hazards associated with floods.

To provide the public with information regarding preventative and protective measures that the individual can take to mitigate the effects of floods, such as avoiding low water crossings.

### 2. Existing Policies, Regulations, Ordinances, and Land Use

Greene County and the City of Greensboro are currently members of the NFIP. NFIP provides a certain amount of guidance in flood damage prevention, and makes available flood insurance to the homeowner. Greene County has adopted the Uniform Codes Act and the International Building Codes (2000 Edition).

### 3. Community Values, Historic, and Special Considerations

The geographic areas in which historic sites are located should be evaluated prior to designating mitigation measures specific to those locations. Locations known to contain vulnerable populations such as nursing homes, hospitals, etc. should be evaluated for vulnerability to this hazard, and mitigation options considered as appropriate.

### 4. New Buildings and Infrastructure

Aside from the guidance and requirements of the NFIP, of which Greene County and the City of Greensboro are members, and the regulations outlined by the Uniform Codes Act and International Building Codes (2000 Edition), which have been adopted by Greene County, there are no other known measures in place as pertaining to new buildings and infrastructure.

### 5. Existing Buildings and Infrastructure

Aside from the guidance and requirements of the NFIP, of which Greene County and the City of Greensboro are members, and the regulations outlined by the Uniform Codes Act and the International Building Codes (2000 Edition), which have been adopted by Greene County, there are no other known measures in place as pertaining to existing structures and infrastructure..

## C. Flooding – Mitigation Strategy and Recommendation

The Hazard Mitigation Committee has recommended the following:

**1. Mitigation Goal #1:** Mitigate the impacts associated with flooding in Greene County..

**i. Objective:** To reduce the level of vulnerability to loss of life and property in Greene County through pre-planning efforts and preventative measures.

**1. Task A:** Obtain current mapping from NFIP for Greene County and all municipalities therein to assist in ready identification of designated flood zones for planning purposes.

**a. Action Step:** assemble the most up to date maps on flooding through the county.

**Responsible agency:** The EMA Director will work to secure these maps from the NFIP.

**1. Goal:** To mitigate the damages associated with flooding in Greene County.

**i. Objective:** To preserve the integrity and delivery of critical services to the public, and protect the environment from contaminants typically associated with the hazard of flooding in Greene County through pre-planning activities and protective measures.

**2. Task A:** Find adequate funding to ensure protection

**a. Action Step:** Explore grant-funding availability to help obtain back up generators sufficient to operate water-pumping stations in the event that flooding is accompanied by power outages.

**Responsible Organization:** representatives from all the municipalities and Greene County Commissioners.

**Funding Source:** Grant availabilities will be researched in efforts to obtain funding to address this need. Other possible funding sources may include SPLOST funding, or governmental administrative support.

#### **D. Special Multi-Jurisdictional Strategy and Considerations**

Though some specific areas may be marginally less vulnerable to this hazard than others, no area of Greene County is immune to the hazard of flooding. It is the recommendation that any measure deemed appropriate and feasible for implementation be considered for implementation on a countywide basis.

The Municipalities and county will continue to prevent new construction in flood plain areas.

#### E. Local Public Information and Awareness Strategy

Awareness is key, therefore the plan recommends utilizing the local media and emergency response agencies in a coordinated effort to provide Public Service Announcements, make available persons to publicly address the hazards associated with flooding and applicable preventative measures, and provide contact information to facilitate more communication with the public.

### V. Tornado

#### A. Community Mitigation Goals

Tornadoes can cause loss of life and devastating damages in a very short period of time. There have been two tornadoes over the last 50 years around Greene County one in 1965 and the other in 1992. Tornadoes don't show up in Greene County often but when they do they are devastating. The tornado in 1965 was an f-2 and the one in 1992 was an f4 that did 2.5 million dollars of damage. A tornado can jeopardize lives, property, infrastructure, livestock, crops, and historic sites. Though tornadoes can now be "tracked" and predicted to strike in a general area, it is not possible to predetermine the exact location that a tornado will strike or the magnitude of that tornado at the time it strikes a particular area. Therefore, advance warning to the people of Greene County is an essential part of emergency preparedness planning. In planning for tornadoes, there are two areas of focus, and thus, two goals for mitigation. The primary focus is to reduce the impacts of tornadoes on lives and property in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville. The second is the preservation of services to the public services from the impacts of tornadoes in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

#### B. Identification and Analysis of Range of Mitigation Options

##### 1. Structural and Non-structural Mitigation

Expand the public awareness of the dangers associated with the hazard of tornadoes and provide the public with adequate and effecting information regarding safety and prevention of damages associated with tornadoes.

## **2. Existing Policies, Regulations, Ordinances, and Land Use**

Aside from the Uniform Codes Act and the Universal Building Codes (2000 Edition), which have been adopted by Greene County, there are no other known policies, ordinances, or regulations currently in place to address the hazard of tornadoes in Greene County.

## **3. Community Values, Historic, and Special Considerations**

It is the recommendation of this plan that any measures considered for possible implementation to mitigate the hazard of tornado where it concerns historic sites be considered for implementation county-wide.

It is further recommended that planners consider mitigation options taking into account the existence of certain vulnerable populations within Greene County, such as nursing homes and personal care facilities, hospitals, day cares, etc.

## **4. New Buildings and Infrastructure**

The Uniform Codes Act and the Universal Building Codes (2000 Edition), which have been adopted by Greene County, are the only regulations currently in place to address new buildings and infrastructure pertinent to the hazard of tornadoes in Greene County.

## **5. Existing Buildings and Infrastructure**

Aside from the Uniform Codes Act and the Universal Building Codes (2000 Edition), which have been adopted by Greene County, there are no other regulations currently in place to address existing buildings and infrastructure pertinent to the hazard of tornadoes in Greene County.

### **C. Tornadoes- Mitigation Strategy and Recommendation**

The Hazard Mitigation Committee has recommended the following:

- 1. Goal:** Mitigate the impacts of tornadoes on lives and property in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville
  - i. Objective:** To reduce the level of vulnerability to loss of life and property in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville through pre-planning activities and preventative measures.

2. **Task A:** In cooperation with local emergency response personnel, local media, and public and private sector sources, develop a public awareness campaign to educate the public in the dangers associated with and protective measures that the individual may take against tornadoes.

a. **Action Step:** Develop partnerships between local responders, public safety personnel, communications, and the local media to allow for the airing of PSA's and pertinent warning information regarding hazards associated with tornadoes.

**Responsible Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

b. **Action Step:** Utilize the public awareness campaign from above to make available to the public information and speakers for groups to address the hazards of tornadoes and preventative and protective measures individuals may take.

**Responsible Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

c. **Action Step:** Make available to the public through use of the public awareness campaign, information and assistance with developing family emergency plans and company emergency plans for local businesses.

**Responsible Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the

commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** EMA, public safety and public service agencies and organizations, local media, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**ii. Objective:** To protect life and property and preserve services in Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville from the potential impacts of tornadoes through pre-planning activities and preventative measures.

**1. Task A:** Expand warning and communications capabilities to warn citizens of impending dangers.

**a. Action Step:** Explore funding options to obtain more NOAA Weather radios to place in locations where there are generally larger concentrations of people, and radios have not already been placed. If funding is available, obtain the radios and distribute throughout the county.

**Responsible Organization:** EMA, public safety personnel, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** EMA, public safety personnel, with support of commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville. The possibility of available grant funding will be researched to address this issue. Other possible sources include private or corporate sponsorship, governmental funding, or donations.

**b. Action Step:** Include in communications planning an interface procedure whereby local media and public safety and public service personnel can be alerted. Upon notification they can then air that alert of impending tornado or other danger, information on areas too damaged to be safely traveled to allow for service delivery, failure or interruption of utilities service, and other key information.

**Responsible Organization:** EMA, local public safety agencies, local media, with support of commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville  
**Coordinating Organization:** EMA, local media, with support of commissions of Greene County, Greensboro,

Siloam, Union Point, White Plains and Woodville

**c. Action Step:** Facilitate storm spotter training for public safety personnel and the public in cooperation with the National Weather Service to assist in transferring pertinent warning information to appropriate channels quickly.

**Responsible Organization:** National Weather Service, EMA, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** National Weather Service, EMA, with support of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville National Weather Service currently offers the training free of cost.

**d. Action Step:** Research possible partnerships and options to create a system of pre-emergency sheltering to be utilized during times when severe weather may be imminent. This may be accomplished through partnerships with local churches or civic organizations.

**Responsible Organization:** EMA, Commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Coordinating Organization:** EMA, commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville.

**Funding Source:** Possible funding sources for this project would include donations, possible grant fund availability, and governmental administrative support

#### D. Special Multi-Jurisdictional Strategy and Considerations

All areas of Greene County are vulnerable to the impacts of tornadoes. It is thus the recommendation that any measure or action considered for implementation to mitigate the effects of tornadoes in Greene County or the municipalities therein be considered for county-wide implementation.

## E. Local Public Information and Awareness Strategy

The Greene County PDM plan recommends utilizing the local media and emergency response agencies in a coordinated effort to provide Public Service Announcements, make available persons to publicly address the hazards associated with tornadoes and applicable preventative measures, and provide contact information to facilitate more communication with the public.

## VI Earthquake

**A. Mitigation Goals**—Greene County has experienced the effects of an earthquake on one occasion. As discussed in *Chapter 2, Section VI*, the effects were mild and no damage was reported. However, due to the county's relation to the fault line, the Greene County Hazard Mitigation Planning Committee felt it necessary to address the hazard.

**B. Range of Mitigation Goals**-- The Greene County Hazard Mitigation Planning Committee has identified structural, non-structural, and public awareness goals in relation to earthquakes. The goals are set to help protect the lives and property of citizens in the best possible way, as well as inform the public of their roles in emergency preparedness.

### 1. Structural and Non-Structural Mitigation

- a. To expand the public's awareness of the hazards associated with earthquakes.
- b. To provide the public with information regarding protective measures that the individual can take to mitigate the effects of earthquakes

### 2. Existing Policies, Regulations, Ordinances, and Land Use

- a. There are currently no known codes or ordinances in place in Greene County to address the hazard of earthquakes outside of the International Building Codes (2000 Edition) and the uniform

Building Codes adopted by Greene County.

### 3. Community Values, Historic, and Special Considerations

a. Special Consideration should be given to vulnerable populations such as the elderly and the sick as well as to the facilities that house vulnerable populations in planning and considering mitigation options in regards to earthquakes, as these populations in particular may be at higher risk during power outages, etc.

### 4. New Buildings and Infrastructure

a. Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County, which address new buildings and infrastructure pertinent to earthquakes.

### 5. Existing Buildings and Infrastructure

a. Other than the International Building Codes (2000 Edition) and the Uniform Building Codes, there are no known codes currently in place in Greene County which address existing buildings and infrastructure pertinent to earthquakes.

## C. Mitigation Strategy for Earthquakes—

### Mitigation Goal # 1:

“To minimize loss of life and property damage in the event of an earthquake.”

### Objective # 1:

“ To educate the public on their role in emergency preparedness.”

### **ACTION STEPS:**

*a. Distribute flyers and pamphlets to citizens on earthquake preparedness.*

Responsible Org	Greene County and its municipalities
Coordinating Org	EMA Department
Timeline	2005 and ongoing
Approximate Cost	\$250
Funding Source	County funds/Grants

### Objective # 2:

“ Protect critical facilities from the effects of earthquakes.”

**ACTION STEPS:**

a. *Map all critical facilities in the hazard area and monitor earthquake data.*

Responsible Org	Greene County EMA Department
Coordinating Org	Greene County GIS Department
Timeline	2005 and ongoing
Approximate Cost	\$100
Funding Source	County funds/Grants

**D. Multi-jurisdictional Considerations**—All of Greene County can potentially be affected by winter storms. All mitigation actions should be taken on a countywide basis.

**E. Education and Awareness**—The Greene County Hazard Mitigation Planning Committee has developed several goals and recommendations that incorporate public awareness and involvement. It is the desire of the planning committee to develop actions that help protect the lives and property of the citizens of Greene County.

**CHAPTER 5- TECHNOLOGICAL HAZARD MITIGATION GOALS AND OBJECTIVES**

**SECTION I. HAZARDOUS MATERIAL SPILLS**

**A. Community Mitigation Goal**—The Greene County Hazard Mitigation Planning Committee has identified hazardous material spills as the only technological hazard that is potentially damaging to the county. As discussed in *Chapter 3, Section 1*, the threat to Greene County is minimal but concern is noted due to the transportation of hazardous materials throughout the county. The various volunteer fire departments would play a significant role in the mitigation actions below. Detailed information about the volunteer fire departments of Greene County, their staff levels, and their current equipment and capabilities is included in Chapter 1, section IX of this document. It is the desire of the citizens and county government to have staff contingent for any emergency. High on that list is the proper training and equipment for Hazardous Material Spills.

**B. Identification and Analysis of Range of Mitigation Options**—The Greene County Hazard Mitigation Planning Committees identified non-structural mitigation measures related to hazardous material spills. These mitigation actions address public awareness, training, equipment, and policies. Hazardous Material Spill mitigation actions are as follows:

**1. Structural and Non-structural Mitigation**

- a. To expand the public's awareness of the potential of hazardous materials release in Greene County.
- b. To facilitate through pre-planning activities efficient, effective communications and warning regarding hazardous materials and the dangers associated with a focus toward efficient, effective, and practical response to incidents occurring within Greene County.
- c. To facilitate through training and preparation the protection of lives, property, and the environment of Greene County.

## **2. Existing Policies, Regulations, Ordinances, and Land use**

- a. Regulatory agencies such as the Environmental Protection Agency, Department of Transportation, and the Occupational Safety and Health Administration provide some protection under specific laws and regulations mandated at the federal level to address the proper handling, transportation, storage, use of, and reporting regarding hazardous materials. Greene County and the municipalities therein reasonably assume that those transporting storing and utilizing recognized hazardous materials are compliant with those regulations and laws as set forth by the federal government.

## **3. Community Values, Historic, and Special Consideration**

- a. The existence of industrial parks or industrial sectors is significant to planners in Greene County, as hazardous materials stored and utilized on site may potentially impact a concentrated population of individuals employed within the industrial sectors. These locations should be assessed for vulnerability prior to designation of mitigation measure specific to these areas. Additionally, the committee recommends that assessment of these areas for vulnerability take into account the population and environment of the area surrounding the site(s) assessed to address issues such as creeks and streams that could potentially be impacted.
- b. Populations in Greene County identified as vulnerable, such as nursing homes, hospitals, schools, or daycares should be evaluated for vulnerability to this hazard, and mitigation options considered as appropriate.

## **4. New Buildings and Infrastructure**

- a. There are currently no known local ordinances or codes addressing new construction and infrastructure specifically pertinent to the threat of

hazardous materials in effect in Greene County. Current reporting requirements mandated by the federal levels of government are recognized by the county and all municipalities therein. A copy of the Emergency Response Team (ERT) report is included in Appendix A. It outlines the 31 reported spills in Greene County since 1991.

**5. Existing Buildings and Infrastructure**

- a. There are currently no known local ordinances or codes addressing existing buildings and infrastructure specifically pertaining to the threat of hazardous materials in effect in Greene County. The current reporting requirements mandated by the federal levels of government are recognized by the county and the municipalities.

**C. Mitigation Strategy for Hazardous Material Spills—**

**Mitigation Goal # 1:**

“To minimize loss of life and property damage due to hazardous material spills in Greene County.”

**Objective # 1:**

“To educate the public on their role in emergency preparedness.”

**ACTION STEPS:**

- a. *Develop and implement a public awareness program to inform the public on reporting incidents and necessary information to 911 Communications.*

Responsible Org	Greene County EMA Department
Coordinating Org	Greene County 911 Communications
Timeline	2005 and ongoing
Approximate Cost	\$250
Funding Source	County funds/Grants

**Objective #2:**

“Provide adequate training and education to emergency personnel.”

**ACTION STEPS:**

- a. *Offer hazardous material operations and technician training to emergency personnel.*

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	GEMA
Timeline	2005 and ongoing
Approximate Cost	\$2000
Funding Source	County funds/Grants

b. Do annual tabletop exercise involving all responding organizations on hazardous material spills.

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2005 and ongoing
Approximate Cost	\$200
Funding Source	County funds/Grants

**Objective #3:**

“Provide adequate equipment to emergency personnel responding to hazardous material spills.”

**ACTION STEPS:**

a. Purchase two extra-large Hazwik Chemical Spill Truck Kits to store on the Special Ops Trailer.

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2006-2007
Approximate Cost	\$3554
Funding Source	County funds/Grants

b. Purchase a fully equipped hazardous materials response truck.

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	Greene County
Timeline	2014
Approximate Cost	\$400,000
Funding Source	Grants

**Objective #4:**

“Develop policies and procedures to address hazmat response and responsibilities.”

**ACTION STEPS:**

a. Develop a specific plan for hazardous material spill response.

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2006-2007
Approximate Cost	\$250
Funding Source	County funds/Grants

*b. Define in a written plan responsible parties for clean-up of hazardous material spills.*

Responsible Org	Greene County Volunteer Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2006
Approximate Cost	\$100
Funding Source	County Staff Time/funds

**City of Greensboro Mitigation Strategy for Hazardous Material Spills—**

**Mitigation Goal # 1:**

“To minimize loss of life and property damage due to hazardous material spills in the City of Greensboro”

**Objective # 1:**

“To educate the public on their role in emergency preparedness.”

**ACTION STEPS:**

*a. Develop and implement a public awareness program to inform the public on reporting incidents and necessary information to 911 Communications.*

Responsible Org	City of Greensboro Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2005 and ongoing
Approximate Cost	\$250
Funding Source	City funds/Grants

**Objective # 2:**

“To protect critical facilities and facilities that house hazardous materials.”

**ACTION STEPS:**

*a. Continue to develop pre-plans for every site that either houses hazardous materials or is considered a critical facility.*

Responsible Org	City of Greensboro Fire Department
Coordinating Org	Greene County EMA Department
Timeline	2005 and ongoing
Approximate Cost	\$500
Funding Source	City funds/Grants

**D. Multi-jurisdictional Considerations**—All of Greene County has the potential to be affected by hazardous material spills because of the interstate, railway, and major highways that pass through the county. The city of Greensboro does, however, have a greater risk than other municipalities. Because of this risk, mitigation goals specific to the city were developed. All of the county should be considered when developing and implementing mitigation actions.

**E. Education and Awareness**—The Greene County Hazard Mitigation Planning Committee has developed several goals and recommendations that incorporate public awareness and involvement. It is the desire of the planning committee to develop actions that help protect the lives and property of the citizens of Greene County

## **Chapter Six**

### **Executing the Plan**

The Greene County Hazard Mitigation Plan has been authorized by the Greene County Commissioners and the Plan has been adopted by resolution. The plan was available for public comment before the Greene County Commissioners voted on it (See Appendix E).

#### **I. Implementing the Plan**

##### ***A. Administrative Actions***

The Greene County Commissioners authorized the Greene County Emergency Management Agency, in conjunction with the Northeast Georgia Regional Development Center, to be lead agency for the development of the plan and updates.

The Greene County Hazard Mitigation Plan was drafted by the Northeast Georgia Regional Development Center with data provided from the Greene County PDM planning committee. A final draft of the Plan was forwarded to Georgia Emergency Management Agency and Federal Emergency Management Agency for review. Prior to submitting to GEMA, Greene County Commissioners adopted the Plan in draft form (See Chapter 1 Section VII) as an official document. After approval of the Plan by GEMA and FEMA officials, the plan will be adopted by the Cities of Greensboro, Siloam, Union Point, White Plains and Woodville.

Greene County and the Cities of Greensboro, Siloam, Union Point, White Plains and Woodville have adopted a Comprehensive Plan. The Greene County Hazard Mitigation Plan will be incorporated into the Comprehensive Plan as an amendment. Greene County and all cities within will use this as a planning document and blueprint for reducing potential hazards as local elected officials and departments deem necessary.

##### **B. Authority and Responsibility**

The Greene County Commissioners will have the final responsibility for the Plan. The Greene County Emergency Management Agency, under the authority of the Greene County Board of Commissioners, will assume the responsibility for the maintenance and updates of the Greene County Hazard Mitigation Plan. Greene County will additionally develop steps in the plan maintenance process to ensure public participation throughout.

The Greene County EMA will insure that the Greene County Hazard Mitigation Plan is distributed to the Greene County Board of Commissioners and to each municipality. The local governments will then see that each department receives a copy of the Plan for use as deemed appropriate in future planning documents (Comprehensive Plan, Planning and Zoning, LEOP) to these departments:

The Georgia Office of Homeland Security/Georgia Emergency Management Agency

### *C. Prioritization*

#### **1. Methodology for Prioritization**

The Greene County PDM plan committees were tasked with profiling the hazards, which are most likely to threaten lives, property, and the environment of Greene County and the municipalities therein. After the hazards were identified, the natural evolution of the study was to estimate, based on historic events, the types of damages these identified hazards may cause in this community. The next task was to develop recommendations specific to those hazards in effort to lessen the potential negative impacts of those hazards on the people and property of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville. Each hazard identified as a probable threat was addressed individually for this step of the process, and, where applicable, the PDM committee attempted to develop mitigation measures to address specific areas where the hazard is considered more likely to affect specific, rather than general areas of Greene County. Also considered were measures, which could reasonably be applied in all areas of the county and to all hazards. Notation is made within this section of area specific concerns, recommendations for all hazard type measures will be addressed after the individual natural hazards are addressed within this chapter.

#### **2. Use of Cost Benefit**

The Greene County PDM planning Committee considered several issues in assessing recommendations for mitigation measures for possible implementation. All mitigation goals were prioritized on a cost to benefit review. Those issues include anticipated costs of implementation and maintenance, potential funding sources available, whether the recommendation's effectiveness is measurable and practical, whether the proposed recommendation could possibly serve multiple beneficial purposes, and level of anticipated public and political support for the measure suggested.

**3. Use of Other Calculations**

Suggestions for how a proposed measure could be implemented are included within the recommendations. These recommendations were also based on a cost to benefit review. Also included is information regarding the persons or entities that would have responsibility in the implementation and administration of the suggested measures, an estimated time frame in which the suggested measure may be implemented, and estimations of costs associated.

It is important to note that these goals, objectives, and actions are strictly recommendations and are not intended to limit or discount measures, which may otherwise be considered or interpreted to be more than recommendations. These recommendations were developed by the members of the Greene County PDM Committee for the consideration of the governing bodies of Greene County, the Cities of Greensboro, Siloam, Union Point, White Plains and Woodville, who possess the authority to render decision on implementation of any mitigation measure, be it developed for this plan or alternative source.

**Copies of the approved plan will be provided to applicable departments responsible for the documents identified in fulfilling the “Documentation of the Planning Process “requirement**

*All County and Municipal Governments to include:*

- Greene County
- City of Greensboro
- City of Siloam
- City of Union Point
- City of White Plains
- City of Woodville

**Service Departments and agencies to include:**

All

**Emergency Service Departments and agencies to include:**

- Greene County EMA
- Greene County Sheriff’s Department
- Greene County EMS
- Greene County Volunteer Fire Services
- Greene County Hospital
- City of Greensboro Police Department
- City of Greensboro Fire Department
- City of Union Point Police Department
- City of Union Point Fire Department

All Public County Road Department

Greene County Public Health Department  
Greene County DFACS  
City of Greensboro Public Works Departments (includes water, gas, streets)

**Planning and Development Authorities to include:**

Greensboro and Greene County Development Authorities

**Public Information Outlets:**

**Greensboro -Greene County Public libraries.**

Copies of the plan will be made available upon request to other persons or entities desiring a copy.

**D. Incorporation of Local PDM Plan into other plans/planning measures**

All portions of this plan may be incorporated into the Comprehensive Plans or other plans of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville in the future. Municipalities within Greene County will also explore the possibilities of incorporating the plan into local planning documents. These additions to the planning documents will be done at the discretion of elected officials in the county and individual municipalities.

**II. Evaluation and Monitoring, Updating**

The Greene County Management Agency has the responsibility to monitor, maintain and update the Greene County Hazard Mitigation Plan. This will be accomplished by maintaining the Greene County Mitigation Committee. This committee will be composed of representatives from agencies of the county, municipalities within the county and private citizens.

The Greene County Emergency Management Agency will also review the Plan on an annual basis to make any changes deemed necessary.

**C. Timeframes**

The Greene County Hazard Mitigation Committee will be charged to meet on a bi-yearly basis and called meetings may occur to address any problems deemed necessary by the county and to update critical facilities list if necessary. All meetings will be posted in an obvious place within the Greene County Courthouse for public notification and input. Copies of any changes made to this plan will be forwarded to Greene County

Board of Commissioners, all municipalities, and all members of the committee and recipient departments of the plan. The Greene County Hazard Mitigation Plan will be completely updated every five years.

#### **D. Reporting**

The Greene County EMA will insure that all changes will be reported and forwarded to the Georgia Emergency Management Authority for review and/or approval.

### **III. Multi-Jurisdictional Strategy and Consideration**

The Greene County EMA will guarantee that the Greene County Hazard Mitigation Committee is composed of representatives from agencies of Greene County, all municipalities within the county, state agencies and private citizens to ensure a Multi-Jurisdictional strategy.

### **IV. Plan Update and Maintenance**

#### **A. Public Involvement**

The Greene County Hazard Mitigation Committee will be charged to meet on a bi-yearly basis and called meetings may occur to address any problems deemed necessary by the county. All meetings will be posted in an obvious place within the Greene County Courthouse for public notification and input. Copies of any changes made to this plan will be forwarded to Greene County Board of Commissioners, all municipalities, and all members of the committee and recipient departments of the plan. The Greene County Hazard Mitigation Plan will be completely updated every five years by the Northeast Georgia Regional Development Center.

#### **A. Timeframe**

The Greene County Hazard Mitigation Committee will be charged to meet on a bi-yearly basis and called meetings may occur to address any problems deemed necessary by the county. All meetings will be posted in an obvious place within the Greene County Courthouse for public notification and input. Copies of any changes made to this plan will be forwarded to Greene County Board of Commissioners, all municipalities, and all members of the committee and recipient departments of

the plan. The Greene County Hazard Mitigation Plan will be completely updated every five years by the Northeast Georgia Regional Development Center.

### **B. Reporting**

The Greene County EMA will insure that the Greene County Hazard Mitigation Plan is distributed to the Greene County Board of Commissioners and to each municipality. The local governments will then see that each department receives a copy of the Plan for use as deemed appropriate in future planning documents (Comprehensive Plan, Planning and Zoning, LEOP) to these departments:

The Georgia Office of Homeland Security/Georgia Emergency Management Agency

## Chapter Seven

### Conclusion

#### I. Conclusion Summary

The members of Greene Counties PDM planning committee came together in October of 2004 to begin the process of developing a comprehensive, Multi-Jurisdictional plan to mitigate the hazards facing Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville. The process involved researching the types of hazards historically impacting Greene County and the municipalities therein, the types and extent of damages known to have been caused by those hazards, and developing estimations regarding future potential disasters based on that historic information. Representatives of all facets of governmental and emergency service, public service, local business, and private sector were encouraged to participate in this planning process, as each has a very valuable contribution to make in community planning. Those representatives unable to attend regular meetings were routinely updated by the staff of the Greene County Emergency Management Agency, and were able to contribute through those updates.

Technical support and other resources were provided throughout the planning process through the Georgia Office of Homeland Security – GEMA Hazard Mitigations Planning Division. Greene County contracted for assistance in development of this plan with the Northeast Georgia Regional Development Center in Athens, Georgia, who provided Project Manager, Ron Roberts.

The Greene County PDM planning committees made recommendations for the consideration of the commissions of Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville, who have the power to accept, reject, or modify these recommendations, as they deem appropriate to serve the needs of the people. Though it would not be reasonable to expect that any plan could thoroughly mitigate the effects of every natural disaster that threatens Greene County, Greensboro, Siloam, Union Point, White Plains and Woodville, efforts have been made to make recommendations that are reasonable, practical, and can be applied in multiple situations. These recommendations are not intended to limit or discount in any way any other possible mitigation measures which may be offered by alternative sources. It is the intent of the Greene County PDM planning committees that these recommendations contained within this planning document serve as a basis for continued consideration and research in the interests of increased protection for the people of Greene County and decreased vulnerability to the hazards identified herein.

## *II. References*

The information gathered for this planning effort came from numerous sources. Committee members, EMA staff, NEGRDC staff, and personnel from various agencies and organizations participated in this research, collecting data from local news publications, newspaper archives, the internet, various local records, statistics available through state and federal resources, and some information was provided by individuals who related experiences through memory. Data was also gathered from the following sources:

### *A. Publications:*

FEMA State and Local Mitigation Planning how-to guide  
GEMA Supplemental guides to State and Local Mitigation Planning how-to guide  
Greene County Local Emergency Operations Plan  
Greene County Comprehensive Plan  
The Code of Greene County, Georgia

### *B. Web Sites:*

*FEMA* ([www.fema.gov](http://www.fema.gov))

*GEMA* ([www.gema.state.Georgias](http://www.gema.state.Georgias))

*Greene County Comprehensive Plan (see also appendix B)* ([www.negrdc.org](http://www.negrdc.org))

Greene County Chamber of Commerce (<http://www.greeneccoc.org/>)  
Greene County (<http://www.greenecountyga.gov/>)  
National Climatic Data Center ([www.ncdc.noaa.gov](http://www.ncdc.noaa.gov))

*NOAA* ([www.noaa.gov](http://www.noaa.gov))

Northeast Georgia Regional Development Center (<http://www.negrdc.org/>)  
Georgia Department of Community Affairs (<http://www.dca.state.ga.us/>)

### *C. Other Resource:*

#### **Georgia Department of Natural Resources**

Environmental Protection Division  
Georgia Safe Dams Program  
American Society of Civil Engineers (ASCE)  
National Weather Service  
US Army Corps of Engineers  
US Geological Survey

Georgia Forestry Commission  
Greene County Historical Society  
Greene County Chamber of Commerce  
Greene County Tax Assessor's Office and Staff  
Northeast Georgia Regional Development Center (Athens, Georgia)  
Greene County

**Additional Sources of Information:**

All listed above