Hazard Mitigation Plan
Community of Wilson County, Tennessee

Adoption Date: February 25, 2008

The Point of Contact for information regarding this plan is:

Director

Wilson County Emergency Management Agency
110 Oak Street
Lebanon, TN 37087
615-444-8799 (Office)
(615) 443-4621 (Fax)
director@wilsonema.com

Prepared with:

VisualRisk
MITIGATIONPLAN.COM

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Section 5 Mitigation Strategy

Section 6 Plan Maintenance

Amendments to the Wilson County Hazard Mitigation Plan
As of February 18, 2009

Amendment #	Date	Original Location	Revised Location	Change
1	1/5/2009	Cover page.	Same	Added “Adoption Date”
2	1/5/2009	Cover page.	Same.	Revised contact information from individual’s name to “Director.”
3	1/5/2009	Section 1.1 Page 1-6	Same	Step Nine – Entered the adoption date of February 25, 2008
4	1/5/2009	Section 1.1 Page 1-6	Same	Step Ten – Amended to reflect the WEMA Director will coordinate revisions to the plan rather than “Being the sole individual … .”
5	1/5/2009	Section 1.2 Page 1-7	Pages 1.7 and 1.8	Amended to add titles and telephone numbers which were previously missing.
6	1/5/2009	Section 1.4 Page 1-15	Section 1.4 Page 16	Amended to correct names and jurisdictions listed as “Interested Parties.”
7	1/5/2009	Section 2.1 Page 2-1	Same	Amended Primary and Secondary Points of Contact to reflect titles and jurisdictions rather than names of individuals.
8	1/5/2009	Section 2.1 Page 2-1	Same	Added Points of Contact for the cities of Lebanon, Mt. Juliet, and Watertown.

Amendment #	Date	Original Location	Revised Location	Change
9	1/5/2009	Section 2.1.2 Page 2-2	Same	Added dates of approval by the various government bodies.
10	1/5/2009	Section 3 Page 3-1	Same	Added “FIPS Code” number and latitude and longitude.
11	1/5/2009	Section 3 Page 3-1	Same	Under “Topography” added information on credentials of A. H. Buchanan
12	1/5/2009	Section 3.2 Page 3-2	Same	Corrected “Demographics” to reflect a 2.6% increase in population rather than a 10.23% increase.
13	1/5/2009	Section 4.2 – D Page 4-7	Same	Corrected location of Wolf Creek Dam from Russell, Kentucky to Russell County, Kentucky.
14	1/5/2009	Section 4.2 – 5 – K Page 4-34	Same Page 33-34	Corrected list of roads eliminating those roads not in the immediate Watertown area.
15	2/18/2009	Section 2.1.2 Page 2-2	Same	Added date of approval by the Lebanon City Council

In addition to the above amendments changes were made to the original Hazard Mitigation Plan to correct typographical errors and minor formatting changes made to improve readability.

Wilson County Hazard Mitigation Planning
Addendum to Plan Section 5.3, Mitigation Actions/Projects
January 5, 2009

Wilson County Project: Goal 2-B

Name: Project AA1 Protection of Vulnerable Populations from Wind/Tornadoes/ Thunderstorms

Description: Reduce danger to populations in schools, nursing homes and other public gathering places and/or residences by construction of shelter areas within the buildings which will be less susceptible to wind or tornado damage and provide a haven during these events or during the watch and warning phases of these events. This will include both new construction of safe rooms or sites and the renovation and/or remodeling of existing walls, floors, ceilings, etc. to improve their wind resistance and reduce the chance for damage and injury due to wind and wind blown debris.

Local Priority: High

Funding Description: Matching or full grant depending on the grant source

Hazards Mitigated: Windstorm, tornado

Hazard Mitigation Plan
Community of Wilson County, Tennessee

Section 1 Public Planning Process

1.1 Narrative Description

Emergencies or disasters may cause death; leave people injured or displaced; cause significant damage to our communities, businesses, public infrastructure and our environment; and cost tremendous amounts in terms of response and recovery dollars and economic loss. Hazard mitigation reduces or eliminates losses of life and property. After disasters, repairs and reconstruction are often completed in such a way as to simply restore areas to pre-disaster conditions. Such efforts expedite a return to normalcy; however, the replication of pre-disaster conditions results in a cycle of damage, reconstruction, and repeated damage. Hazard mitigation helps to ensure that such cycles are broken and that post-disaster repairs and reconstruction result in a reduction in hazard vulnerability.

While we cannot prevent disasters from happening, their effects can be reduced or eliminated through well-organized public education and awareness efforts, preparedness and mitigation. For those hazards which cannot be fully mitigated, the community must be prepared to provide efficient and effective response and recovery support.

Wilson County created a team of community leaders to assess the hazard mitigation progress. The resulting plan, along with the entire planning process, is a living document that will continue to place mitigation as a priority in Wilson County. Cities and towns within Wilson County who participated in this multi-jurisdictional planning process include:

1. City of Lebanon
2. City of Mt. Juliet
3. Watertown

A. Purpose

The purpose of the Hazard Mitigation Plan (HMP) developed by Wilson County is to assess the significant natural and manmade hazards that may affect the county and its inhabitants, evaluate and incorporate ongoing mitigation activities and related programs in the community, determine additional mitigation measures that should be undertaken, and to outline a strategy for implementation of mitigation projects. In addition, this plan has been developed to identify community policies, actions, and tools for implementation over the long term resulting in reduction of future losses community-wide. The established mitigation projects provided were identified and reviewed by members of the planning committee. Wilson County has established an effective, inclusive, comprehensive, and long-term plan against natural and manmade hazards.

Web-based technology has been used to allow for real-time updating of the plan as disasters strike in the future, as well as to add data pertaining to other types of hazards within Wilson County as they are identified.

This plan fulfills the requirements of the following programs:

1. Pre-Disaster Mitigation (PDM)
2. National Flood Insurance Program's (NFIP) Community Rating System (CRS)
3. Hazard Mitigation Grant Program (HMGP).

B. Authority

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5165, enacted under section 104 of the Disaster Mitigation Act of 2000, P.L. 106-390, provides new and revitalized approaches to mitigation planning. Section 322, in concert with other sections of the Act, provides a significant opportunity to reduce the Nation's disaster losses through mitigation planning, and emphasizing the need for State, local and tribal entities to closely coordinate mitigation planning and implementation efforts.

A major requirement of the law is the development of local hazard mitigation plans. These plans must be developed and approved by the Federal Emergency Management Agency (FEMA) before November 1, 2004, in order for the local jurisdictions to be eligible for Hazard Mitigation Grant Program (HMGP) project funding from a Presidentially-declared disaster that occurs after this date. Local mitigation plans must be reviewed, updated and re-approved by FEMA every five years to remain eligible. This Mitigation Plan has been prepared to meet the requirements of the Act and the regulations established by FEMA. The FEMA regulations were published in the Federal Register on February 6, 2002, as an interim final rule at 44 CFR Parts 201 and 206. FEMA may revise the Interim Final Rule and publish a Final Rule; however, until such time, the Interim Final Rule will serve as the rule for mitigation planning implementation.

C. Funding

Funding for the Wilson County Hazard Mitigation Plan was provided by a 75 percent HMGP grant from FEMA, through the Tennessee Emergency Management Agency (TEMA). The local share, 25 percent, was provided by Wilson County. In addition, counties that have up-to-date mitigation plans increase their ability to identify and articulate their needs to state and federal officials when funding becomes available, particularly following a disaster. This plan, once approved, will make Wilson County eligible to receive HMGP funds for mitigation projects.

D. Goals

National Mitigation Strategies and Goals

FEMA has developed ten fundamental principles for the Nation's mitigation strategy and goals:

1. Risk reduction measures must ensure long-term economic success for the community as a whole, rather than short-term benefits for special interests.
2. Risk reduction hazards for one natural hazard must be compatible with risk reduction measures for other natural hazards.
3. Risk reduction measures must be evaluated to achieve the best mix for a given location.
4. Risk reduction measures for natural hazards must be compatible with risk reduction measures for technological (man-made) hazards and vice versa.
5. All mitigation is local.
6. Emphasizing proactive mitigation before emergency response can reduce disaster costs and the impacts of natural hazards. Both pre-disaster (preventative) and post-disaster (corrective) mitigation is needed.
7. Hazard identification and risk assessment are the cornerstones of mitigation.
8. Building new federal-state-local partnerships and public-private partnerships is the most effective means of implementing measures to reduce the impact of natural hazards.
9. Those who knowingly choose to assume greater risk must accept responsibility for that choice.
10. Risk reduction measures for natural hazards must be compatible with the protection of natural and cultural resources.

FEMA's goals are to:

Substantially increase public awareness of natural hazard risks so that the public demands safer communities in which to live and work;

Significantly reduce the risk of loss of life, injuries, economic costs, and destruction of natural and cultural resources that result from natural hazards.

Hazard mitigation planning is a collaborative process whereby hazards affecting the community are identified, vulnerability to the hazard is assessed, and consensus reached on alternative mitigation measures that will best eliminate or reduce the effects of these hazards on the community.

The planning for Wilson County, described below, followed a ten-step process and was based on guidance from and the requirements of FEMA. The committee and minutes of the public meetings are included under the Public Process section of the mitigation plan.

Wilson County has also included web-based technology to allow for future updates of their mitigation plan through Visual Risk Technologies MitigationPlan.com website. MitigationPlan.com will allow Wilson County and its respective county and city organizations listed on the planning team to create a living mitigation plan that can be updated at anytime as new ideas or disasters occur and new mitigation projects are followed to completion.

Step One - Organize and Prepare the Plan (February 2006).

Citizens and professionals active in disaster planning, response and mitigation provided important input in the development of the plan and recommended goals and objectives, mitigation measures and priorities for actions.

Step Two - Public Involvement.

The Wilson County Hazard Mitigation Planning Committee (HMPC) undertook a number of initiatives to inform other jurisdictions and the public of this effort to solicit their input. The public was invited to certain specified meetings. However, a few meetings consisted only of the Planning Committee, Visual Risk Technologies consultant (Nic Stone), the EMA Department Director, and the Hazard Mitigation Project Director. The Planning Committee consensually decided that the Directors of each department could provide all pertinent data on the discussed items. In addition, these meetings were held to expedite the collection of required data on Mitigation Projects and Community Information. The meetings that were held publicly and provided a publication notice are stated in the meeting minutes. There is a list of attendees for each meeting. Please reference section 3 for additional information on the public meetings.

Step Three - Coordinate with Other Agencies and Organizations.

There are many public agencies, private organizations and businesses that contend with natural hazards. Planning team members and contractor Visual Risk Technologies, Inc. contacted them to collect information on the hazards, and determine how their programs could best support the county's mitigation program. These contacts included schools, industries and private businesses. The agencies and private organizations were asked to contribute information on the past and potential hazard threats and to comment on their planning and content.

Step Four - Assess the Hazards

The Wilson County HMPC began identifying the natural hazards that affect Wilson County in February, 2006. The committee, comprised of community leaders and disaster professionals from the cities and county

identified those hazards to which citiy and county residents would be most vulnerable. The HMPC included an individual from each area who acted as the liason for the county plan and the public. There was a liason from each community, including Lebanon, Mt. Juliet, Watertown and the unincorporated areas of the county. In addition, the planning team reviewed several newspapers, internet websites and historical records relating to Wilson County. A comprehensive list of natural hazards was considered, discussed, and profiled.

Since the primary objective of the FEMA goals is to mitigate natural hazards, the Wilson County HMPC determined that natural hazards would be the focus at this time, in order to become eligible for mitigation funds following any future declared disaster after November 1, 2004. It was decided that man-made and technological hazards would also be included; however, the current emphasis would be on natural hazards with an expansion to man-made and technological hazards in the near future. MitigationPlan.com will allow these hazards to be ranked separately, or along with natural hazards at a later date.

The natural hazards that are addressed in this plan are:

Dam Failure
Drought
Earthquake
Extreme Heat
Flooding
Hail
High Winds
Lightning
Severe Thunderstorms
Tornados
Wildfires
Winter Storms

Step Five - Assess the Problem(s)

The hazard data was analyzed in view of how it impacts public safety, health, buildings, transportation, infrastructure, critical facilities and the economy. Geographic Information System (GIS) analyses were accomplished and are depicted in the plan. Visual Risk Technologies used GIS modeling and historical data to estimate potential losses from the various hazards. In addition, the GIS planner for Wilson County was invaluable in working to perform GIS mapping of various hazards including dam failure flood forecasts, earthquake and tornado historical data. The discussion of the problem and vulnerability assessment for each hazard is presented in the sections for each hazard.

Step Six - Set Goals

Project and community hazard mitigation goals and objectives for Wilson County were set by the planning team to guide the development of the Plan. The goals in the National and State context are discussed in the Hazards Mitigation plan.

Step Seven - Review Possible Mitigation Strategies

A wide variety of mitigation strategies that can affect hazards or the severity of damage from hazards were examined. These mitigation activities are organized under the following six categories:

1. Public Information and Education- Outreach projects and technical assistance.
2. Preventive Activities- Zoning, building codes, storm water ordinances
3. Structural Projects- Boat docks, reservoirs, road improvements, safe rooms
4. Property Protection- Acquisition, retrofitting, tie-downs, insurance
5. Emergency Services- Warning, sandbagging, road signs/closures, evacuation
6. Natural Resource Protection: Wetlands, protection, best management practices

Step Eight: Draft an Action Plan

The results of the mitigation activities review are summarized in the Action Plan. The Action Plan specifies the actions that will take place and by which department it will be done. The draft Action Plan was circulated for comment and review.

Step Nine: Adopt the Plan

After the public review, and submission of the draft to the State of Tennessee for review, the Wilson County Hazards Mitigation Planning Team settled on the final plan and submitted it to the County Commissioners for adoption action. The plan was adopted by Wilson County on February 25, 2008 by resolution of the County Commission.

Step Ten - Implement, Evaluate and Revise

Wilson County's adoption of the All Hazards Mitigation Plan is only the beginning of this effort. City offices, other agencies, and private partners will implement the Plan's activities. The All Hazards Mitigation Planning Team will monitor implementation progress, evaluate the effectiveness of the actions, and periodically recommend action items. The Chairperson, the Wilson County Emergency Management Agency Director, will coordinate any revisions or changes to the plan. Progress of the implementation of the Plan and the recommended action/mitigation strategies will be assessed annually. The Plan will be submitted and updated to TEMA and FEMA every five years, which is required by FEMA in order to remain eligible for post-disaster mitigation funding.

1.2 Planning Team Information

This HMP was compiled and authored by representatives from all communities within Wilson County. The Planning Team members and their respective city governments are detailed in the section below. As each plan in the county and local jurisdiction is updated, the specific items affecting each plan will be updated.

The planning team members provided guidance during the preparation of this plan. This committee was comprised of private citizens and others from various local organizations, as well as representatives from local governments, businesses, and emergency response personnel. Representation was solicited upon recommendations from the Mayor of Wilson County and the Director of Wilson County Emergency Management Agency; however, no one wishing to participate was excluded from doing so. Contacted persons were encouraged to bring interested citizens. The committee meetings were open to the public.

The Wilson County Hazard Mitigation Plan was developed by a team consisting of:

Name	Title	Organization	Phone
Steve Armistead	Superintendent	Wilson County Road Department	615-444-9022
Terry Ashe	Sheriff	Wilson County Sheriff Office	615-444-1412
Jeff Baines	Commissioner	Lebanon Public Works Department	615-443-2824
Tom Brasher	County Planner	Wilson County Planning Department	615-449-2836
David Burton	Safety Director	Wilson County Schools	615-453-3420
Kathy Dedman	Building Inspector	Wilson County Government	615-444-3025
Harvill Eaton	President	Cumberland University	615-547-1233
Roger Farley	Safety Director	Toshiba America	615-449-2360
Winston Ted Floyd	Interim Chief	Mt. Juliet Police Department	615-773-6211
Robert (Bobby) Franklin	City Planner	Mt. Juliet	615-773-6204
James Hambrick	Lieutenant	Mt. Juliet Police Department	615-754-2550
Kenneth House	Engineer	Lebanon	615-444-9022
Randall Hutto	Assistant Superintendent of Schools	Lebanon Special School District	615-405-1611
John Jewell	Chief	Watertown VFD	615-202-6651
Lynn Jordan	GIS Manager	Wilson County Planning Office	615-449-2836
James Lawson	Manager	Lebanon Municipal Airport	615-444-0031
Christy Luna	Agent	USDA Natural Resources Conservation Service	931-808-2370
H.B. McDonald	911 Director	Emergency Communication District	615-449-7155
Jeff Page		West Wilson Utility District	615-758-5682
Hal Parrott	Agent	Farm Bureau Insurance	615-444-0614

Name	Title	Organization	Phone
Don Scott	Owner	Don Scott Insurance	
James Spears	Manager	Lebanon Wire Products	615-743-2908
Steve Spencer	Director of Transportation	Wilson County Schools	615-443-2622
Nelson Steed	Owner	Steed Brothers Contractors	615-444-2246
Ken Throneberry	District Manager	Middle TN Electric Membership Corporation	615-444-1323
Sue Vanatta	President and CEO	Lebanon/Wilson County Chamber of Commerce	615-444-5503
Larry Vannozzi	Chief Meteorolgist	National Weather Service	615-754-8500
Fred Weston	Manager	West Wilson Utility District	615-758-5682
Hatton Wright	Director	Mt. Juliet Public Works	615-754-2554

1.3 Public Involvement in Planning Process

Citizens within Wilson County were encouraged to attend the planning meetings. Meeting notices were posted based on Wilson County's and FEMA's public meeting policies. The HMPC was told about the meetings and asked to encourage all persons within their place of business or living community to attend. Additionally, notice was given in local newspapers, radio announcements, and on the Chamber of Commerce web site.

Three public planning meetings were held in the three communities of Wilson County including Lebanon, Mt. Juliet and Watertown. These meeting were held on February 28, 2006 (Watertown), March 7, 2006 (Mt. Juliet) and March 14, 2006 (Lebanon), respectively.

The items below describe how the public was involved during the drafting stage and prior to the plan approval. Public Involvement consisted of the following items:

Item	Date	Location
Public Meeting 3	**3/14/2006**	Wilson County Courthouse Lebanon, TN 37087
7:00pm Introduction by Dr. Melissa Riley and Jerry McFarland -Introduced Visual Risk Technologies, Inc. (Nic Stone and Trevor Corneal) and Lynne Jordan GIS Mapping for Wilson County. Dr. Riley first discussed mitigation planning in general and the work that WEMA is currently doing. Dr. Riley then gave a PowerPoint presentation outlining the current situation regarding the threat of flooding in the event the Wolf Creek Dam is breached. In attendance were several residents of Lebanon, TN who specifically asked questions about evacuation procedures and food and water supplies if such a disaster does occur in Wilson County. Other points discussed were -command centers and emergency stations for disaster relief -curfews being imposed if flooding occurs -GIS mapping and its ability to assist in mitigation planning - WEMA is working with other outside agencies to provide assistance in the event of a natural disaster. - opened the floor to questions from the public. Adjourned at 8:00pm		
Public Meeting 2	**3/7/2006**	City Hall/Police Station 2425 North Mt. Juliet Road Mt. Juliet, TN 37122

7:00pm
Introduction by Dr. Melissa Riley
-Introduced Visual Risk Technologies, Inc. (Nic Stone and Trevor Corneal)
Discussed conditions of Wolf Creek Dam and the threat of flooding in Mt. Juliet if dam is breached. In attendance were the head of campus security at Cumberland University and other residents of Mt. Juliet, TN. The representative of Cumberland University informed Dr. Riley and the group that the university does not have a tornado shelter or any type of back up generator system in the case of electrical outage at the present time. Dr. Riley took note and asked this representative to complete a detailed letter and submit it to her office by the end of business March 9, 2006 of the current situation at Cumberland University. Dr. Riley also
-discussed how to mitigate threats in Mt. Juliet
-discussed road conditions for Interstate 40 as well as Highway 109 and Highway 231 in the event of flooding. WEMA is presently researching the likelihood of these roadways being submerged if the Wolf Creek Dam is breached.
-discussed potential mitigation projects for both flooding and roadways
Open forum to public discussion
- Dr. Riley answered questions from the public regarding severity and urgency of Wolf Creek Dam situation and public roadway in case of evacuation.
Announcement of next public meeting
-7pm 3-14-06 Lebanon Courthouse
Adjourned at 8:00pm

Public Meeting 1	**2/28/2006**	Watertown Community Center Watertown, TN 37184

7:00pm
Introduction by Dr. Melissa Riley
-Introduced Visual Risk Technologies, Inc.(Nic Stone and Trevor Corneal)
Discussed conditions of Wolf Creek Dam and the threat of flooding if dam is breached.
-discussed how to mitigate threats
-discussed road conditions and guard rails on county roadways.
-discussed potential mitigation projects for both flooding and roadways
Open forum to public discussion
- Dr. Riley and Jerry McFarland answered questions from the public regarding severity and urgency of Wolf Creek Dam situation and public roadway in case of evacuation.
Announcement of next public meetings
-7pm 3-7-06 Mt. Juliet City Hall
-7pm 3-14-06 Lebanon Courthouse
Adjourned at 8:00pm

Kick Off Planning Meeting	**2/7/2006**	Teacher Training Center Lebanon, TN

7:00am
Introduction by Jerry McFarland
-Introduced Dr. Melissa Riley and Visual Risk Technologies, Inc. (Nic Stone and Heather Ryan)
Discussed Workbook
-discuss hazards
-go over what a mitigation project is
-discuss potential mitigation projects
Introduce and explain MitigationPlan.com
Review/ Question and Answer Time
Announcement of Public Meetings
-7pm 2-28-06 Watertown Community Center
-7pm 3-7-06 Mt. Juliet City Hall
-7pm 3-14-06 Lebanon Courthouse
Adjourn

Attendance:
Terry Ashe
Jeff Baines
David Burton
Harvill Eaton
Winston Floyd
Robert Franklin
James Hambrick
Kenneth House
Lynne Jordan
James Lawson
Christy Luna
Jeff Page
Hal Parrott
James Spears
Stephen Spencer
Larry Vannozzi
Nic Stone
Heather Ryan

Melissa Riley Jerry McFarland		
Public Meetings Schedule	**1/30/2006**	
The three public meetings for Hazard Mitigation have been scheduled. They are as follows: 1) Watertown in the Community Center on February 28, 2006. 2) Mt. Juliet in the City Hall building on March 7, 2006. 3) Lebanon in the Wilson County Courthouse on March 14, 2006. WEMA Public Information Officer Adrian McNabb will be doing a press release regarding the dates to local media sources.		

WILSON COUNTY HAZ
MITIGATION COMMIT
will have its final public m
ing to determine areas
Wilson County nee
improvements because of
ural hazards such as s
prone to flooding, sinkh
and bridges and culverts
small for proper water fl
Tornado planning and ot
natural disaster responses
be discussion topics. The fi
meeting will be 7 p.m. Tuesd
March 14, at Mt. Juliet
Hall. For more informati
contact Dr. Melissa Riley
444-8799 ext. 123. (9)

CALENDAR NOTES

Wilson County Hazard Mitigation Committee is holding public meetings to determine areas of Wilson County that are in need of improvements due to natural hazards. These include flood prone areas, bridges and culverts that are possibly too small for water flow, sinkholes, tornado planning, and other natural disasters. There is TEMA & FEMA money available to fix identified hazards. The public is encouraged to attend. Meetings: Watertown Community Center, Feb. 28; Mt. Juliet City Hall, March 7; Wilson County Courthouse, March 14. All meetings at 7 p.m. The public is highly encouraged to attend and comment. Questions: contact Dr. Melissa Riley, PhD, Wilson County Emergency Management Agency, 100 Oak St., Lebanon, TN 37087. (615) 444-8799 ext. 123.

Tennessee State Checkers Tournament will be held in Lebanon at the Executive Inn March 3-5. All level of player invited to attend. Entry fees range from $20-25. Info: daytime 237-9754 or evenings 444-1797.

Commerce Cumberland Presbyterian Church 1st annual 30-hour famine March 3, beginning at 6 p.m. thru March 5. Youth go on a 30-hour fast in which they can only drink fluids in order to grow closer to God, each other, and become aware of what hungry children face everyday. All teens 7th grade and up are invited. Info/directions: Rebecca Williams (615) 289-5514 or (615) 587-3407. Parents, please provide written permission for your child to watch "The Passion of the Christ" movie.

See page 25 for additional calendar items

Hazards

continued from page 1

any deficiencies," he added, noting flooding is typically the biggest concern in Wilson County.

Hazard mitigation refers to any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazardous conditions, according to a brochure on the project.

Once the Hazard Mitigation Plan is completed, the county can apply for federal funds to alleviate identified hazards.

Melissa Riley, PhD, of WEMA, is developing the plan. She is asking citizens to let her know of problems they are aware of, such as water covering area roads or bridges during heavy rains. Riley can be reached at 444-8799 ext. 123, or send comments in writing to her attention at WEMA, 100 Oak St., Lebanon, TN 37087 or emailing her at rileym@wilsonema.com

The brochure lists other hazards as civil disturbance, dam failure, drought, earthquake, hail, extreme temperature, ice storm, landslide, natural gas pipelines, etc.

"The people who live here know the area much more than we do," Riley said.

Riley's goal is to complete and submit the Wilson County Hazard Mitigation Plan to the federal government by April 1.

McFarland also said WEMA is developing a confidential database of individuals who could become trapped in their homes by flooding who would need to be checked on in such an event - particularly those who are elderly or have medical issues.

Also discussed at the meeting were concerns over Wolf Creek Dam, which holds in Cumberland Lake in Jamestown, Ky. The dam has structural issues which could lead to a breach that would flood all the way to Lebanon.

"It has 15 times the water volume of Old Hickory Lake, and the dam is leaking," Riley said.

The dam is nearly a mile long, including about 500 feet of earth and fill that was built over cave-riddled land.

The Corps of Engineers classifies the seriousness of the problem is "not eminent but serious" with a 15 percent probability of the dam failing - according to McFarland that is the worst probability they use.

WILSON EMERGENCY MANAGEMENT AGENCY

FAX: 615-443-4621

Oak Street ◆ Box 703
Lebanon, Tennessee 37088-0703

PHONE: 615-444-8777
615-449-0256

Dear Elected Official,

The Wilson County Hazard Mitigation Committee would like to invite you the Hazard Mitigation Community meeting in your area. The meetings are open to the public and everyone is encouraged to attend. The emphasis in the meetings will be to identify areas in Wilson County that are susceptible to natural hazards such as flooding, restricted flows under bridges and thru culverts, sinkholes, tornado preparedness, and other unidentified hazards. There will be FEMA and TEMA monies made available to fix the problem areas, such as raising road beds that flood regularly.

The meetings will be held at 7pm at the following locations:

Watertown- February 28th
Watertown Community center

Mt Juliet- March 7th
Mt Juliet City Hall

Lebanon- March 14th
Wilson County Courthouse

Once again the Hazard Mitigation Committee would like to extend a special invitation to you to attend and encourage your constituents to attend and comment.

Thank you and we hope to see you there,

The Wilson County Hazard Mitigation Committee

The Wilson County Hazard Mitigation Committee is holding public meetings to determine areas of Wilson County that are in need of improvements due to natural hazards. These include areas prone to flooding, bridges and culverts that are possibly too small for the water flow, sinkholes, tornado planning, and other natural disasters. There is TEMA and FEMA money available to fix identified hazards.

These meetings are open to the public. The public is highly encouraged to attend and comment on areas that they are familiar with.

The meetings will be at the following locations:

Watertown- Watertown Community Center, February 28th, 2006

Mt Juliet- Mt Juliet City Hall, March 7th, 2006

Lebanon- Wilson County Court House, March 14th, 2006

All the meetings are at 7pm

Once again the public is highly encouraged to attend and comment. For questions contact Dr. Melissa Riley PhD, Wilson County Emergency Management Agency, 110 Oak St., Lebanon, TN 37087. (615) 444-8799 ext 123

1.4 Other Interested Party Involvement

This section describes the Involvement of other interested parties in Plan development.

There are many public agencies, private organizations and businesses that contend with natural hazards. Planning team members and contractor Visual Risk Technologies, Inc. contacted them to collect information on the hazards, and determine how their programs could best support the county's mitigation program. These agencies include schools, industries and private businesses. The agencies and private organizations were asked to contribute information on the past and potential hazard threats and comment on their planning and content.

Among the agencies and organizations contacted were the following:

Federal:

Federal Emergency Management Agency (FEMA)
National Weather Service (NWS)
USDA Natural Resource Conservation Service
US Army Corps of Engineers

State:

Tennessee Emergency Management Agency (TEMA)

Wilson County –

Wilson County Health Department
Wilson County Emergency Management Agency (WEMA)
Wilson County Public Works Department
Wilson County Engineering Department
Wilson County GIS Department
Wilson County Chamber of Commerce
Wilson County Emergency Management Agency
City of Lebanon Mayors Office
County Mayors Office
City of Mt. Juliet Mayors Office
Director of Safety, Wilson County Schools
Director of Transportation, Wilson County Schools
Farm Bureau Insurance
West Wilson County Utility District
USDA Natural Resource Conservation Service
Lebanon Municipal Airport

Other Interested Party Involvement
This section describes the Involvement of other interested parties in Plan development.

Communities:

City of Lebanon
City of Mt. Juliet
Watertown

1.5 Review of Technical and Fiscal Resources

This section describes the review of technical and fiscal resources:

Wilson County has the capability of using its own resources to alleviate emergency events that occur within its jurisdiction. There are districts which have heavy equipment used in road and bridge construction. The county has property assessors, clerical personnel, law enforcement personnel, utility personnel, GIS specialists, floodplain development specialists, and other support personnel to aid in emergencies. Wilson County has mutual aid agreements with communities within the county, as well as surrounding counties, to assist Wilson County during any emergencies. This includes providing manpower, equipment and materials.

Wilson County has its own fiscal, purchasing, and bookkeeping departments. The county has been active in pursuing grants and financial incentive programs for both the county and citizens. There are several programs available where the county receives and administers funds to qualifying applicants.

Lebanon

Lebanon has an established yearly budget as well as additional resources independent from the county. A few of the most important resources include the police and fire departments, and the city government. City staff positions and departments include all aspects of finance, planning, human resources, technology, inspection, engineering, etc.

Mt. Juliet

Mt. Juliet has extensive public safety and public works resources and capabilities. City staff positions and departments include all aspects of finance, planning, human resources, technology, inspection, engineering, police dept., city government, etc.

Watertown

Watertown has established a police department and volunteer fire department. The county provides additional support for fire protection.

1.6 Review of Existing Plans

This section describes the review and incorporation if appropriate, of existing plans, policies, and ordinances:

Wilson County has an Emergency Operations Plan (EOP), which is followed during emergencies. The planning committee referenced the EOP when establishing the mitigation goals, objectives, and projects. Additional planning mechanisms include the National Flood Insurance Program (NFIP). The planning committee conducted a final review of all of the listed plans before consensually agreeing on the mitigation items (goals and projects).

Once the plan is approved, the Wilson County Emergency Management Director will conduct meetings with local officials and implement the HMP with the existing plans stated previously. The plans noted above will require a review of the Hazard Mitigation Projects and goals when updated. This will allow county officials and the planning committee to fully acknowledge completion of projects and address new projects in the future. The associated jurisdictions of Lebanon, Mt. Juliet and Watertown will all be encompassed in this plan. In addition, the County provides the oversight for all existing emergency plans.

Lebanon

Lebanon currently maintains an Economic Development Plan, Traffic & Safety Plan, Master Plan, Planning Commission, Civil Service Commission, Beautification Committee, Economic Development Plan, Municipal Service Authority, and Housing Authority. It is, additionally, a participant in the Wilson County Emergency Operation Plan, as needed, and works very closely with the county in a variety of planning and response activities.

Mt. Juliet

Mt. Juliet participates in coordinated Floodplain Management Additional planning and involvement includes Development Permitting, Neighborhood Initiatives, Capital Improvement Programming, Citizen's Advisory Committee, Economic Development Commission, multiple Boards & Commissions, and a City Master Plan.

Watertown

Watertown is included in the Wilson County Emergency Operation Plan as well as public safety-related programs and planning through the County. Watertown additionally participates in the Floodplain Insurance Program.

Hazard Mitigation Plan
Community of Wilson County, TN

Section 2 Jurisdiction Participation Information

Jurisdictions in Wilson County
City of Lebanon
City of Mt. Juliet
Watertown

2.1 Adoption by Local Governing Body

2.1.1 Primary Point of Contact/Chairperson

The Point of Contact listed below is the Chairperson and Director of the Planning Committee:

Director
Wilson County Emergency Management
110 Oak Street
Lebanon, TN 37087
615-444-8799 (Office)
615-443-4621 (Fax)

Secondary Point of Contact
Planning Officer
Wilson County Emergency Management
615-444-8799

Lebanon: Point of Contact for information:

Public Works Commissioner

Mt. Juliet: Point of Contact for information:

City Planner

Watertown: Point of Contact for information:

Chief of the Watertown Volunteer Fire Department

2.1.2 Promulgation Authority Information

This Hazard Mitigation Plan was reviewed and approved by the following Promulgation Authorities:

Wilson County Commission on February 25, 2008

City of Mt. Juliet on February 26, 2008

Watertown on February 26, 2008

City of Lebanon on February 17, 2009

Hazard Mitigation Plan
Community of Wilson County, Tennessee

Section 3 Jurisdiction Information

This Section provides a broad perspective, brief history, and describes the make up and development of the community.

Federal Information Processing Standards: 47189

Latitude: 36.19 North

Longitude: 86.28 West

Population: 95,000

Topography:

Topography and Streams

The surface of the county in the main is rolling, modified by numerous valleys, where it is sometimes level, but mostly undulating; and by a number of ridges, hills and knobs, in the central, eastern and south-eastern parts, where it is often abrupt and precipitous. Its average elevation above the level of the sea lies between five and six hundred feet.

Jennings Knob, which is situated six miles south-east from Lebanon, is the highest elevation in the county, being 1,221 feet above the level of the sea as measured by Professor A. H. Buchanan of Cumberland University in Lebanon, Tennessee.

Wilson County is supplied with an abundance of excellent, living water, chiefly blue limestone, though there is found here and there sulphur, chalybeate and other mineral waters. Besides springs and wells, which abound all over the county, and the Cumberland, which washes its northern border a distance in a direct line of about twenty-five miles, the county has the following important creeks: Cedar, Spring, Bartons, Spencers, and Cedar Lick, which, with their tributaries, lie wholly within its limits, and run in a north-westerly direction into the Cumberland; Stoners, Suggs, Hurricane and Fall Creeks, which have their sources and greater parts of their valleys in this county, and flowing in a westerly direction, ultimately discharge their waters into Stones river; Smiths Fork and Round Lick, with Spring and Fall Creeks, have their sources near each other in a group of hills, in the south-eastern division of the county, the former flowing in a northerly course to the Cumberland, and the latter in a north-easterly direction to the Caney Fork; Sinking Creek, the head springs of which flow from the

Pilot Knob and Lindsay Martin hill, both the property now of James H. Hancock, runs in a south-westerly and westerly direction to a sink, a little south of Gladeville, where it disappears--hence its name; and Pond Lick Creek, which begins at the Robin Shannon spring, now the property of Jesse L. Moore, runs in a south-westerly course into Sinking Creek, near the point of its subsidence. All these streams and their tributaries have desirable valleys, with greater or less bodies of rich and productive lands, furnishing a great number of beautiful farms, and some excellent sites for mills and other machinery propelled by water-power.

Climate:

Average Temperature:
Annual 58.9°
January 36.8°
July 79.1°

Annual Average Precipitation: 48.1"

Prevailing Winds: Southerly

Mean Length of Freeze-Free Period (days): 180-220

Demographics:

Wilson County is one of 95 counties in Tennessee.

Population (2000 Census)

Wilson County: 95,366
Lebanon: 21,406 +
Mt. Juliet: 12,000 +
Watertown: 1,354

In 2004 the population was estimated at 97,891, which was an increase of 2.6% from the 2000 census.

The county is in the Nashville-Davidson metropolitan area. It has 570.6 sq. miles in land area and a population density of 171.6 per square mile. In the last three decades of the 1900s, its population grew by 140.0%. On the 2000 census form, 91.6% of the population was reported as Caucasian, with 6.3% reported as African-American. The population of this county is reported as 1.3% Hispanic and .8% other.

Economy:

The average household size is 2.67 persons compared to an average family size of 3.03 persons. In 2002, the per capita personal income in Wilson County was $30,120. This was an increase of 19.5% from 1997. The 2002 figure was 97% of the national per capita income, which was $30,906.

Industry:

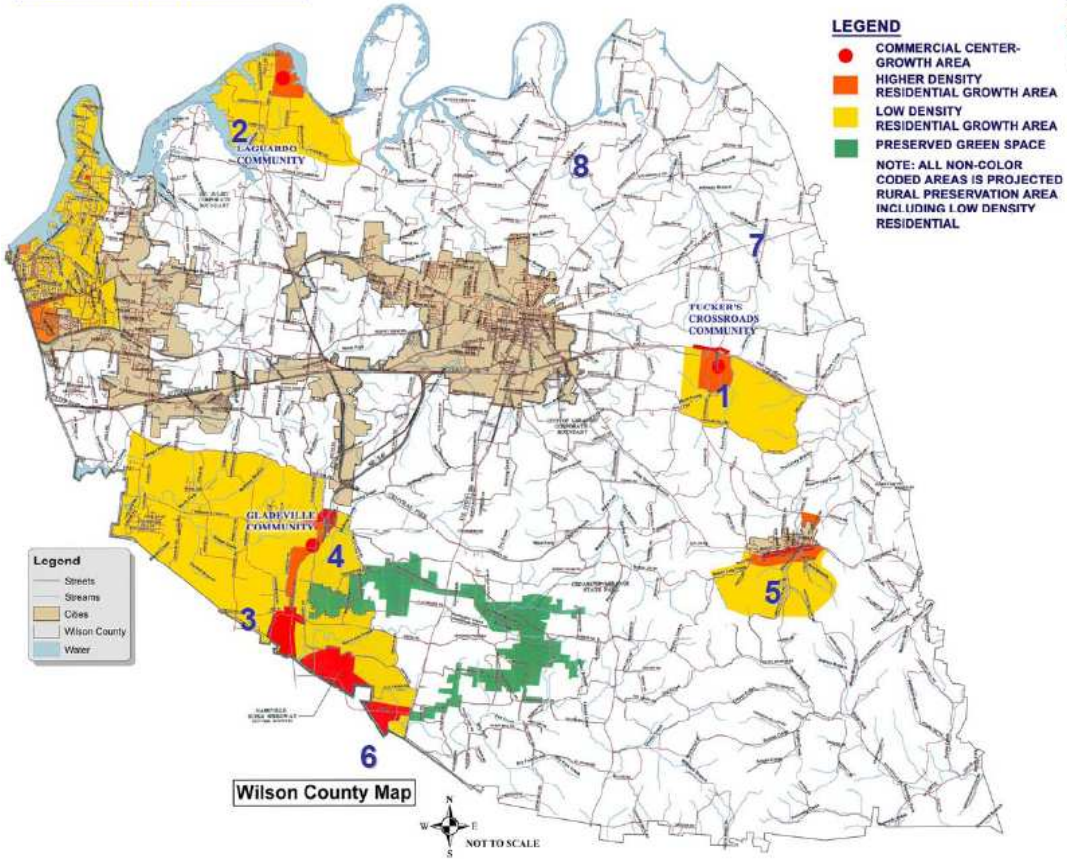
WILSON COUNTY MAJOR INDUSTRIES (300+ Employees)

- DELL, Inc. Computers
- Toshiba America Mfg. of Televisions
- Cracker Barrel Corporate Headquarters
- Performance Food Group Food Distribution
- TRW Automotive Commercial Steering Systems and Steering Gears
- Jones Bros. Inc. Industrial Construction
- Nashville Auto Auction Auto Auction Facility
- Lochinvar Water Heaters, Boilers & Pool heaters
- Lojac Inc. Highway & Airport Construction

Major Rivers and Watersheds:

Cumberland River

Amended Land Use Map per Recommendations



WILSON COUNTY GATEWAY LAND USE MASTER PLAN

LAND USE ANALYSIS, PUBLIC INPUT and RECOM-MENDATION

County Gateway Map

1. I-40/Linwood Road
2. Hwy. 109/Sumner County
3. SR 840/Couchville Pike
4. SR 840-Stewarts Ferry Pike
5. Hwy 70/Watertown Area
6. Hwy 231/Rutherford County
7. Hwy 70/Smith County
8. Hwy 231/Trousdale County

Existing County Land Use Map with Projected Land Use Update Areas

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Section 4 Risk Assessment

The goal of mitigation is to reduce the future impacts of a hazard, including property damage, disruption to local and regional economies, and the amount of public and private funds spent to assist with recovery; however, mitigation should be based on risk assessment.

A risk assessment is measuring the potential loss from a hazard event by assessing the vulnerability of buildings, infrastructure and people. It identifies the characteristics and potential consequences of hazards, how much of the community could be affected by a hazard, and the impact on community assets. A risk assessment consists of three components: hazard identification, vulnerability analysis and risk analysis. Technically, these are three different items, but the terms are sometimes used interchangeably.

4.1 Overall Hazard Ranking

Each hazard is assigned a likelihood rating based on the criteria and methods described below. This table gives the likelihood of event Probability "Rating" definitions. Based on history, using the definitions given, the likelihood of future events is "Quantified" which results in the classification within one of the four "Ranges" of likelihood.

Example: NWS-NCDS (National Weather Service - National Climatic Data Center) records show that 38 tornados were reported in Cleveland County between 01/01/1950 and 12/31/2003. 38 events divided by 54 years=0.70 (70%) which would make future occurrences "Highly Likely" to happen.

Probability	Characteristics
4 – Highly Likely	Event is probable within the calendar year. Event has up to 1 in 1 year chance of occurring (1/1=100%) History of events is greater than 33% likely per year. Event is "Highly Likely" to occur
3 - Likely	Event is probable within the next three years. Event has up to 1 in 3 years chance of occurring (1/3=33%) History of events is greater than 20% but less than or equal to 33% likely per year. Event is "Likely" to occur
2 - Possible	Event is probable within the next five years. Event has up to 1 in 5 years chance of occurring (1/5=20%) History of events is greater than 10% but less than or equal to 20% likely per year Event could "Possibly" occur
1 - Unlikely	Event is possible within the next ten years Event has up to 1 in 10 years chance of occurring (1/10=10%) History of events is less than or equal to 10% likely per year Event is "Unlikely" but is possible of occurring

Next, the magnitude of the hazard's effect is considered according to the severity associated with past events of the hazard. This table gives four classifications of Magnitude / Severity.

Magnitude / Severity	Characteristics
4 - Catastrophic	Multiple deaths Complete shutdown of facilities for 30 or more days More than 50% of property is severely damaged
3 - Critical	Injuries and/or illnesses result in permanent disability Complete shutdown of critical facilities for at least 2 weeks More than 25% of property is severely damaged
2 - Limited	Injuries and/or illnesses do not result in permanent disability Complete shutdown of critical facilities for more than 1 week More than 10% of property is severely damaged
1 - Negligible	Injuries and/or illnesses are treatable with first aid Minor quality of life lost Shutdown of critical facilities and services for 24 hours or less Less than 10% of property is severely damaged

Warning Time and Duration are given four ranges each, as shown in the following table. Also indicated is the "Weighting" factor for each of the four parts of the Calculated Priority Risk Index. The Probability factor is "Weighted" at .45, Magnitude / Severity at .30, Warning Time at .15, and Duration at .10. These "Weights" of significance are used to assign relative imporance to each of these factors when combined to generate the Calculated Priority Risk Index value.

Calculated Priority Risk Index			
.45 Probability	**.30 Magnitude / Severity**	**.15 Warning Time**	**.10 Duration**
4 - Highly Likely	4 – Catastrophic	4 - Less Than 6 Hours	4 - More Than 1 Week
3 - Likely	3 - Critical	3 - 6-12 Hours	3 - Less Than 1 Week
2 - Possible	2 - Limited	2 - 12-24 Hours	2 - Less Than 1 Day
1 – Unlikely	1 - Negligible	1 - 24+ Hours	1 - Less Than 6 Hours

Following is a table representing the Calculated Priority Risk Index for each hazard facing the community (which includes Lebanon, Mt. Juliet, Watertown, and Wilson County (unincorporated):

Hazard	Probability	Magnitude /Severity	Warning Time	Duration	Priority Risk Index
Dam Failure	3 Likely	4 Catastrophic	2 12-24 Hours	4 > One Week	3.25
Drought	1 Unlikely	2 Limited	1 24+ Hours	4 > One Week	1.6
Earthquake	2 Possible	3 Critical	4 < 6 Hours	3 < One Week	2.7
Extreme Heat	3 Likely	3 Critical	1 24+ Hours	3 < One Week	2.7
Flooding	4 Highly Likely	2 Limited	4 < 6 Hours	4 > One Week	3.4
Hail	4 Highly Likely	2 Limited	4 < 6 Hours	1 < 6 Hours	3.1
Thunderstorms/Lightning/High Winds	4 Highly Likely	3 Critical	4 < 6 Hours	1 < 6 Hours	3.4
Tornado	3 Likely	4 Catastrophic	4 < 6 Hours	1 < 6 Hours	3.25
Wildfires	2 Possible	2 Limited	4 < 6 Hours	2 < One Day	2.3
Winter Storms	3 Likely	3 Critical	2 12-24 Hours	3 < One Week	2.85

Hazard Event	Estimated Total Loss	Average Cost Per Event	Likelihood Rating
Dam Failure	$600,000,000	$300,000,000	Likely
Drought	$0	$0	Unlikely
Earthquake	$0	$0	Possible
Extreme Heat	$0	$0	Likely
Flooding	$0	$0	Highly Likely
Hail	$0	$0	Highly Likely
Thunderstorms/Lightning/High Winds	$10,000	$10,000	Highly Likely
Tornado	$0	$0	Likely
Wildfires	$0	$0	Possible
Winter Storms	$0	$0	Likely

4.2 Hazard Profile

1. Dam Failure

A. Hazard Definition for Dam Failure

A dam is defined as a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water. Dams typically are constructed of earth, rock, concrete, or mine tailings. A dam failure is the collapse, breach, or other failure resulting in downstream flooding.

A dam impounds water in the upstream area, referred to as the reservoir. The amount of water impounded is measured in acre-feet. An acre-foot is the volume of water that covers an acre of land to a depth of one foot. As a function of upstream topography, even a very small dam may impound or detain many acre-feet of water. Two factors influence the potential severity of a full or partial dam failure: the amount of water impounded; and the density, type, and value of development and infrastructure located downstream.

Of the approximately 80,000 dams identified in the National Inventory of Dams, the majority are privately owned. Federal agencies own 2,131; States own 3,627; local agencies own 12,078; public utilities own 1,626; and private entities or individuals own 43,656. The ownership of over 15,000 dams is undetermined. The Inventory categorizes the dams according to one of the following primary functions:

- Recreation (31.3 percent)
- Fire and farm ponds (17.0 percent)
- Flood control (14.6 percent)

- Irrigation (13.7 percent)
- Water supply (9.8 percent)
- Tailings and other (8.1 percent)
- Hydroelectric (2.9 percent)
- Undetermined (2.3 percent)
- Navigation (0.3 percent)

Each dam in the Inventory is assigned a downstream hazard classification based on the potential loss of life and damage to property should the dam fail. The three classifications are high, significant and low. With changing demographics and land development in downstream areas, hazard classifications are updated continually.

The hazard classification is not an indicator of the adequacy of a dam or its physical integrity. Dam failures typically occur when spillway capacity is inadequate and excess flow overtops the dam, or when internal erosion of piping through the dam or of the foundation occurs.

Dam failures can result from any one or a combination of the following causes:

- Prolonged periods of rainfall and flooding, which causes most failures.
- Inadequate spillway capacity, resulting in excess overtopping flows
- Internal erosion caused by embankment or foundation leakage or piping
- Improper maintenance, including failure to remove trees, repair internal seepage problems, replace lost material from the cross section of the dam and abutments
- Improper design, including the use of improper construction materials and construction practices
- Negligent operation, including failure to remove or open gates or valves during high flow periods
- Failure of upstream dams on the same waterway; landslides into reservoirs, which cause surges that result in overtopping
- High winds, which can cause significant wave action and result in substantial erosion
- Earthquakes, which typically cause longitudinal cracks at the tops of embankments that weaken entire structures

B. Previous Occurrences of Dam Failure

Lebanon: There are no previous occurrences of dam failure.

Mt. Juliet: There are no previous occurrences of dam failure.

Watertown: There are no previous occurrences of dam failure.

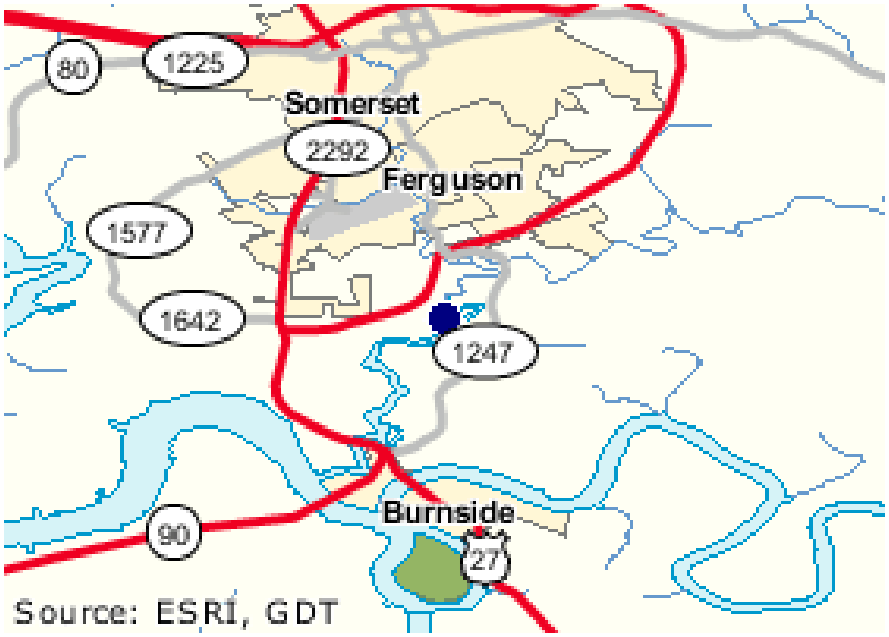
Wilson County (unincorporated): There are no previous occurrences of dam failure.

Although there are no previous occurrences within each jurisdiction, the Wolf Creek Dam in Kentucky is rated as a serious threat of failure and emergency operations plans have been drawn up for Wilson County, Tennessee. See below for further information regarding the potential likelihood of failure for Wolf Creek Dam.

C. Geographic Location for Dam Failure

The following information identifies the geographic area(s) affected by each specified hazard.

Wolf Creek Dam sits at 460.9 miles above the confluence of the Cumberland and Ohio Rivers. Construction of this dam began in 1941 and was completed in 1950. Wolf Creek Dam, near Jamestown, Kentucky impounds Lake Cumberland, which is the largest reservoir east of the Mississippi River and ninth largest in the US. At over a mile long, the 5,736 feet dam provides a total flood storage capacity of 6,089,000 acre-feet. (See Section K)



D. Hazard Extent for Dam Failure

The following information describes the magnitude and severity of each specified hazard.

Wolf Creek Dam is located in Russell County, Kentucky and controls the flow of Lake Cumberland, the second largest lake in the Cumberland River system. Analysis by the Corps of Engineers reports that erosion has begun underneath the Wolf Creek Dam. The dam has been assigned a 15% chance of failure. It is currently ranked as the most dangerous dam in the United States and funding has been approved at the federal level for repairs. However, repairs will take over two years from this date, February 8, 2006, to complete and the Corps of Engineers reports that the lake will be returned to full pool this summer. If this dam fails, there will be a direct impact on Wilson County, Tennessee, as it borders the Cumberland River along the northern border.

E. Hazard Summary for Dam Failure

The following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Wolf Creek Dam was completed in 1950 and through 1995 the plant had produced nearly 40 billion kilowatt hours of electrical power valued at almost $197 million. Since completion, there have been no reports of dam breaches, but given the ranking of 15% chance of failure by the Corps of Engineers, the likelihood of a breach

should be viewed as a significantly high risk to the residents, agencies, and property of Wilson County.

F. Calculated Priority Risk Index for Dam Failure

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	3	Likely
Magnitude/Severity:	4	Catastrophic
Warning Time:	2	12-24 Hours
Duration:	4	> One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
3 x .45	+	**4** x .30	+	**2** x .15	+	**4** x .10	=	**3.25**

G. Vulnerability Analysis for Dam Failure

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **10.11** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **33** percent of the community's critical facilities are vulnerable.

(2) The specific critical facilities vulnerable are: power, sewer and water supplies; hospitals, factories and schools (some schools will be flooded); and Fire Station #6 in the county.

c. Non-Critical Facilities

(1) Approximately **0** percent of the community's non-critical facilities is vulnerable.
(2) The specific non-critical facilities vulnerable are:
The entire geographic area of Wilson County which includes housing units, commercial structures and public facilities, is at risk if there is a breach in the Wolf Creek Dam.

H. Hazard Economic Loss Estimation for Dam Failure

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss The economic loss resulting from this hazard is approximately **$6,000,000**.

b. Structure Loss
The loss from damage to structures from this hazard is approximately **$3,000,000**.

c. Following is the methodology for estimating losses
If the Wolf Creek Dam were to eventually breach, there would be an estimated loss of 2,600 residential homes with damages of $520 billion in Wilson County alone. There would also be an estimated $2 million in damages to commercial property. These estimates were derived by simulating the areas of potential impact with a GIS mapping program, and evaluating the affected population, residences and commercial properties. The resulting values are for estimation purposes only.

I. Hazard Human Loss Estimation for Dam Failure

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities
The estimated number of fatalities resulting from this hazard is approximately **10**.

b. Injuries
The estimated number of injuries resulting from this hazard is approximately **100**.

c. Displacees
The estimated number of displacees resulting from this hazard is approximately **10,000**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **5,110**.

J. Vulnerability to Future Assets/Infrastructure for Dam Failure

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Dam Failure

Lebanon: Likely possibility of power and water failure. Unlikely possibility of landscape affects throughout jurisdiction.

Mt. Juliet: Likely possibility of utilities failure and landscape affects; specifically west of Highway 109 and north of Highway 70.

Watertown: Likely possibility of power and water failure. Mild possibility of landscape affects throughout jurisdiction.

Wilson County (unincorporated): Likely possibility of landscape affects; specifically east of Highway 109, north of Highway 70, and northwest of State Highway 141. Excludes city limits of Lebanon.

2. Drought

A. Hazard Definition for Drought

A drought is a period of drier-than-normal conditions that results in water-related problems. Precipitation (rain or snow) falls in uneven patterns across the country. When no rain or only a small amount of rain falls, soils can dry out and plants can die. When rainfall is less than normal for several weeks, months, or years, the flow of streams and rivers declines, water levels in lakes and reservoirs fall, and the depth to water in wells decreases. If dry weather persists and water supply problems develop, the dry period can become a drought. The first evidence of drought usually is seen in records of rain fall. Within a short period of time, the amount of moisture in soils can begin to decrease. The effects of a drought on flow in streams and rivers or on water levels in lakes and reservoirs may not be noticed for several weeks or months. Water levels in wells may not reflect a shortage of rainfall for a year or more after the drought begins. A period of below-normal rainfall does not necessarily result in drought conditions. Some areas of the United States are more likely to have droughts than other areas. In humid, or wet, regions, a drought of a few weeks is quickly reflected in a decrease in soil moisture and in declining flow in streams. In arid, or dry, regions, people rely on ground water and water in reservoirs to supply their needs. They are protected from short-term droughts, but may have

severe problems during long dry periods because they may have no other water source if wells or reservoirs go dry.

B. Previous Occurrences for Drought

There have been no reports of drought in the last 50 years in Wilson County.

Lebanon: There have been no reports of drought in the last 50 years.

Mt. Juliet: There have been no reports of drought in the last 50 years.

Watertown: There have been no reports of drought in the last 50 years.

Wilson County (unincorporated): There have been no reports of drought in the last 50 years.

C. Geographic Location for Drought

Following information identifies the geographic area(s) affected by each specified hazard.

The entire county would be affected if a drought were to occur. The differential factor of the drought would be the severity of the affects to specific locations. (Please See Section K)

D. Hazard Extent for Drought

Following information describes the magnitude and severity of each specified hazard.

Drought impacts communities in a number of ways, including economic as well as environmental. Specific impacts can include:

- reduced crop, rangeland;
- increased livestock and wildlife mortality rates;
- reduced income for farmers and agribusiness;
- increased fire hazard;
- reduced water supplies for industrial, agricultural and power
- damage to fish and wildlife habitat;
- increased consumer prices for food;
- reduced tourism and recreational activities;
- unemployment;
- reduced tax revenues because of reduced expenditures;
- foreclosures on bank loans to farmers and businesses.

The economic impact of drought is more direct than potential loss of life or immediate destruction of property. While drought impacts are numerous and often dependent upon the timing and length of individual drought episodes, the greatest impacts of drought are usually experienced in the agricultural community. In addition to the obvious direct losses of both crop and livestock production due to a lack of surface and subsurface water, drought is frequently associated with increases in insect infestations, plant disease, and wind erosion.

Of course, one of the most significant potential impacts of drought relates to public water supply. In metropolitan areas there may be a need to stop washing cars, cease watering the grass and take other water conservation steps. In smaller communities, reduced flow in rivers and streams can have a significant effect on the water amount allowed for municipal use. Hot weather during the summer increases demand and subsequent use of supplies, as well as evaporation. In turn, increased water demand can stress many smaller and/or antiquated delivery and treatment facilities to the point of collapse. Prolonged drought has a much greater impact on rural communities, which usually rely on relatively small watersheds and are especially vulnerable during such periods.

Water shortages can also affect fire fighting capabilities in both urban and rural settings through reduced water flows and pressures. Most droughts dramatically increase the danger of fires on wild land. When wild lands are destroyed by fire, the resulting erosion can cause heavy silting of streams, rivers, and reservoirs. Serious damage to aquatic life, irrigation, and power production then occurs. Drought is often associated with extreme heat. Wildlife, pets, livestock, crops, and humans are vulnerable to the high heat that can accompany drought. When temperatures reach 90 degrees and above, people and animals are more likely to suffer sunstroke, heat cramps, and heat exhaustion.

Keetch - Byram Drought Index

The Keetch-Byram Drought Index (KBDI) is basically a mathematical system for relating current and recent weather conditions to potential or expected fire behavior. This system was originally developed for the southeastern United States and is based primarily on recent rainfall patterns.

The KBDI is the most widely used drought index system by fire managers in the south. It is also one of the only drought index systems specifically developed to equate the effects of drought with potential fire activities.

The result of this system is a drought index number ranging from 0-800 that accurately defines the amount of moisture that is missing. A rating of zero defines the point where there is no moisture deficiency and 800 is the maximum drought possible.

Listed below are expected fire conditions and suppression problems with varying KBDI levels:

0 - 200
Low Fire Danger. Soil and fuel moisture is high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.

200 - 400
Moderate Fire Danger. Fires more readily burn and will carry across an area with no "gaps." Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.

400 - 600
High Fire Danger. Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.

600 - 800
Extreme Fire Danger. Surface litter and most of organic layer is consumed. 1000 hour fuels contribute to intensity. Stumps will burn to the end of roots underground. Any dead snag will ignite. Spotting from snags is a major problem if close to line. Expect dead limbs on trees to ignite from sparks. Expect extreme intensity on all fires which makes control efforts difficult. With winds above 10 miles per hour, spotting is the rule. Expect increased need for resources for fire suppression. Direct initial attack is almost impossible. Only rapid response time to wildfire with complete mop-up and patrol will prevent a major fire situation from developing.

Palmer Drought Severity Index

Palmer Classifications (PDSI)	
+4.0 in. or more	Extremely wet
3.0 in to 3.99 in	Very wet
2.0 in to 2.99 in	Moderately wet
1.0 in to 1.99 in	Slightly wet
0.5 in to 0.99 in	Incipient wet spell
0.49 in to -0.49 in	Near normal
-0.5 in to -0.99 in	Incipient dry spell
-1.9 in to -1.99 in	Mild drought
-2.0 in to -2.99 in	Moderate drought
-3.0 in to -3.99 in	Severe drought
-4.0 in or less	Extreme drought

(Source: National Oceanic and Atmospheric Association)

E. Hazard Summary for Drought

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

It is difficult to predict drought probabilities for the near future because of the nature and complexity of the hazard. Drought evolves over time as certain conditions are met and are spread over a large geographical area. Drought severity depends on its duration, intensity, geographic extent, and the regional water supply demands made by human activities and vegetation. The impact of hazards such as Extreme Heat, Expansive Soils, and Wildfires can be intensified during times of drought. Otherwise, the most direct impact of drought is economic rather than loss of life or immediate destruction of property.

The impact of a drought in Wilson County is devastating to an agricultural community. Not only are crops potentially damaged and/or destroyed, but also lack of forage and water for livestock becomes a major problem. A drought within the county produces a negative impact to the economy and morale of the residents. Besides the obvious crop failure associated with a drought, an area might also experience a decrease in property value, increased unemployment, and water shortages for human consumption and industrial uses.

F. Calculated Priority Risk Index for Drought

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	1 Unlikely
Magnitude/Severity:	2 Limited
Warning Time:	1 24+ Hours
Duration:	4 > One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
1 x .45	+	**2** x .30	+	**1** x .15	+	**4** x .10	=	**1.6**

G. Vulnerability Analysis for Drought

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by a Drought.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.
(2) The specific non-critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by a Drought.

H. Hazard Economic Loss Estimation for Drought

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

Since there have been no reports of significant drought in the past 50 years, it is difficult to assess or estimate potential damages that might be incurred if Wilson County jurisdictions were to endure a drought in the near future without additional data.

I. Hazard Human Loss Estimation for Drought

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Drought

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Drought

Lebanon: The entire jurisdiction is affected by drought, although possibility unlikely.

Mt. Juliet: The entire jurisdiction is affected by drought, although possibility unlikely.

Watertown: The entire jurisdiction is affected by drought, although possibility unlikely.

Wilson County (unincorporated): The entire jurisdiction is affected by drought, although possibility unlikely.

3. Earthquake

A. Hazard Definition for Earthquake

An earthquake is a sudden, rapid shaking of the Earth caused by the breaking and shifting of rock beneath the Earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped the Earth as the huge plates that form the Earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free causing the ground to shake. Most earthquakes occur at the boundaries where the plates meet; however, some earthquakes occur in the middle of plates.

Ground shaking from earthquakes can collapse buildings and bridges; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge, destructive ocean waves (tsunamis). Buildings with foundations resting on unconsolidated landfill and other unstable soil, and trailers and homes not tied to their foundations are at risk because they can be shaken off their mountings

during an earthquake. When an earthquake occurs in a populated area, it may cause deaths and injuries and extensive property damage.

Earthquakes strike suddenly, without warning. Earthquakes can occur at any time of the year and at any time of the day or night. On a yearly basis, 70 to 75 damaging earthquakes occur throughout the world. Estimates of losses from a future earthquake in the United States approach $200 billion.

There are 45 states and territories in the United States at moderate to very high risk from earthquakes, and they are located in every region of the country. California experiences the most frequent damaging earthquakes; however, Alaska experiences the greatest number of large earthquakes--most located in uninhabited areas. The largest earthquakes felt in the United States were along the New Madrid Fault in Missouri, where a three-month long series of quakes from 1811 to 1812 included three quakes larger than a magnitude of 8 on the Richter Scale. These earthquakes were felt over the entire Eastern United States, with Missouri, Tennessee, Kentucky, Indiana, Illinois, Ohio, Alabama, Arkansas, and Mississippi experiencing the strongest ground shaking.

B. Previous Occurrences for Earthquake

Lebanon: Although Wilson County has experienced minor earthquakes over the past 50 years, the historical archives do not provide extensive data.

Mt. Juliet: Although Wilson County has experienced minor earthquakes over the past 50 years, the historical archives do not provide extensive data.

Watertown: Although Wilson County has experienced minor earthquakes over the past 50 years, the historical archives do not provide extensive data.

Wilson County (unincorporated): Although Wilson County has experienced minor earthquakes over the past 50 years, the historical archives do not provide extensive data.

C. Geographic Location for Earthquake

Following information identifies the geographic area(s) affected by each specified hazard.

The entire county would be affected during an earthquake. Historical data is not available to review and analyze which locations are more susceptible. (See Section K)

D. Hazard Extent for Earthquake

Following information describes the magnitude and severity of each specified hazard.

If an earthquake were to occur in Wilson County, it could impact countless pipelines, oil and gas producing wells, and buildings that are not constructed to earthquake codes. This creates the possibility of a major catastrophe in the event of a significant earthquake.

As the Earth's crust moves and bends, stresses are built up, sometimes for years, before suddenly breaking or slipping. This abrupt release of accumulated tension can be devastating to human communities. The destructiveness of an earthquake depends upon the magnitude of the tremor, direction of the fault, distance from the epicenter, regional geology, local soils, and the design characteristics of buildings and infrastructure. Earthquakes centered in Wilson County are rare and the few events that have occurred were largely unfelt.

The severity of an earthquake can be expressed in several ways. The *magnitude* of an earthquake, usually expressed by the *Richter Scale*, is a measure of the amplitude of the seismic waves. The Richter Scale, named after Dr. Charles F. Richter of the California Institute of Technology, is the best known scale for measuring the magnitude of earthquakes. The scale is logarithmic so that a recording of 7, for example, indicates a disturbance with ground motion 10 times as large as a recording of 6. A quake of magnitude 2 is the smallest quake normally felt by people. Earthquakes with a Richter value of 6 or more are commonly considered major; great earthquakes have magnitude of 8 or more on the Richter scale.

Magnitude Recorded	Description
M = 1 to 3	Recorded on local seismographs, but generally not felt.
M = 3 to 4	Often felt, with little to no damage reported.
M = 5	Felt widely, slight damage near epicenter.
M = 6	Damage to poorly constructed buildings and other structures within 10 kms.
M = 7	"Major" earthquake. Causes serious damage up to 100 km (recent Taiwan, Turkey, Kobe, Japan, Iran and California earthquakes).
M = 8	"Great" earthquake, great destruction, loss of life over several 100 km (1906 San Francisco, 1949 Queen Charlotte Islands).
M = 9	Rare great earthquake, major damage over a large region over 1000 km (Chile 1960, Alaska 1964, and west coast of British Columbia, Washington, Oregon, 1700)

E. Hazard Summary for Earthquake

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Based on the historical archives of Wilson County and the NCDC, it is possible for the county to experience an earthquake in the future. The data is very limited to provide a thorough report.

F. Calculated Priority Risk Index for Earthquake

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	2 Possible
Magnitude/Severity:	3 Critical
Warning Time:	4 < 6 Hours
Duration:	3 < One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
2 x .45	+	**3** x .30	+	**4** x .15	+	**3** x .10	=	**2.7**

G. Vulnerability Analysis for Earthquake

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
All critical facilities in Wilson County are vulnerable to earthquakes.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.

(2) The specific non-critical facilities vulnerable are:
All non-critical facilities in Wilson County are vulnerable to earthquakes.

H. Hazard Economic Loss Estimation for Earthquake

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

Since there have been no reports of an earthquake in the past 50 years, it is difficult to assess or estimate potential damages that might be incurred if Wilson County were to endure an earthquake in the near future without additional data.

I. Hazard Human Loss Estimation for Earthquake

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Earthquake

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Earthquake

Lebanon: Possible earthquakes due to the physical location of closest fault lines – 236 miles to New Madrid fault line.

Mt. Juliet: Possible earthquakes due to the physical location of closest fault lines – 236 miles to New Madrid fault line.

Watertown: Possible earthquakes due to the physical location of closest fault lines – 236 miles to New Madrid fault line.

Wilson County (unincorporated): Possible earthquakes due to the physical location of closest fault lines – 236 miles to New Madrid fault line.

4. Extreme Heat

A. Hazard Definition for Extreme Heat

Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

In a normal year, approximately 175 Americans die from extreme heat. Young children, elderly people, and those who are sick or overweight are more likely to become victims.

B. Previous Occurrences for Extreme Heat

There have been no reports of extreme heat in Wilson County within the last 50 years.

Lebanon: There have been no reports of extreme heat within the last 50 years.

Mt. Juliet: There have been no reports of extreme heat within the last 50 years.

Watertown: There have been no reports of extreme heat within the last 50 years.

Wilson County (unincorporated): There have been no reports of extreme heat within the last 50 years.

C. Geographic Location for Extreme Heat

Following information identifies the geographic area(s) affected by each specified hazard.

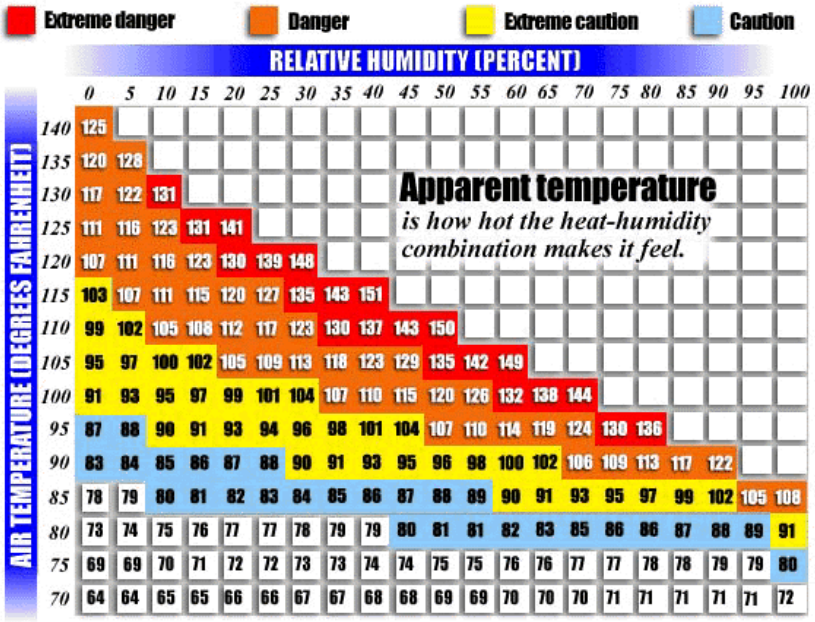
The entire county would be affected during an extreme heat incident. (See Section K)

D. Hazard Extent for Extreme Heat

Following information describes the magnitude and severity of each specified hazard.

The severity of the extreme heat is dependent on a combination of temperature and humidity. High temperatures, when combined with high humidity can put an area in the "Extreme Danger" category on the National Weather Service Heat Index scale. When extreme heat is combined with drought, excessively dry hot conditions that contribute to a high risk of life-threatening heat-related illnesses may result. This situation may also provoke dust storms causing low visibility.

County-specific data pertaining to dollar loss resulting from Extreme Heat was not found. Therefore, estimates for potential loss could not be derived. It is expected that dollar loss from extreme heat may include livestock and crop damage.



Heat and humidity can be deadly combination

Hot, humid weather is more uncomfortable than hot, dry weather because high humidity slows the evaporation of sweat. Evaporation is nature's way of cooling. Hot, humid weather is not only uncomfortable; it's dangerous to those exercising in it. The table here shows how to find the "apparent temperature," that is, how hot various temperature-humidity combinations feel. For example, if the temperature is 95 and the relative humidity is 50 percent, find 95 in the temperature column on the left side; follow that row to the right to the 50 percent humidity column. The apparent temperature is 107. This falls into the "danger" area where outdoor exercise isn't a wise idea. The colors on the chart show the level of danger of various combinations.

Apparent Temperature Heat Stress Index

Category	Apparent Temperature	Dangers
Extreme danger	Greater than 130	Heat stroke imminent
Danger	105 - 130	Heat exhaustion likely
Extreme caution	90 - 105	Heat cramps, exhaustion possible.
Caution	80 - 90	Exercise more fatiguing than usual.

Effects of heat illnesses:

Heat cramps: Exercising in hot weather can lead to muscle cramps, especially in the legs, because of brief imbalances in body salts. Cramps become less frequent as a person becomes used to the heat.

Heat syncope or fainting: Anyone not used to exercising in the heat can experience a quick drop in blood pressure that can lead to fainting. As with heat cramps, the cure is to take it easy.

Heat exhaustion: Losing fluid and salt through perspiration or replacing them in an imbalanced way can lead to dizziness and weakness. Body temperature might rise, but not above 102 degrees. In some cases victims, especially the elderly should be hospitalized. Heat exhaustion is more likely after a few days of a heat wave than when one is just beginning. The best defense is to take it easy and drink plenty of water. Don't take salt tablets without consulting a physician.

Heatstroke: In some cases extreme heat can upset the body's thermostat, causing body temperature to rise to 105 degrees or higher. Symptoms are lethargy, confusion and unconsciousness. Even a suspicion that someone might be suffering from heatstroke requires immediate medical aid. Heatstroke can kill.

E. Hazard Summary for Extreme Heat

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Young children, elderly people, and those who are sick or overweight are likely to become victims of extreme heat. Other conditions that can limit the ability to regulate temperature include fever, dehydration, heart disease, mental illness, poor circulation, sunburn, prescription drug use, and alcohol use. Another segment of the population at risk is those whose jobs include strenuous outside labor. Livestock and crops can also become stressed, decreasing in quality and in production, during times of extreme heat.

Wilson County can expect to experience extreme heat every summer, most likely during the months of July and August. The severity of the extreme heat is dependent on temperature and humidity. High temperatures and high humidity can result in dangerous conditions that expose people and animals to an increased risk of heat stroke and other heat related illnesses.

F. Calculated Priority Risk Index for Extreme Heat

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	3	Likely
Magnitude/Severity:	3	Critical
Warning Time:	1	24+ Hours
Duration:	3	< One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
3 x .45	+	**3** x .30	+	**1** x .15	+	**3** x .10	=	**2.7**

G. Vulnerability Analysis for Extreme Heat

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.

(2) The specific critical facilities vulnerable are:

This information is not available due to the lack of funding and time required for a full analysis.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.

(2) The specific non-critical facilities vulnerable are:

This information is not available due to the lack of funding and time required for a full analysis.

H. Hazard Economic Loss Estimation for Extreme Heat

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

Due to the fact that there have been no fatalities and no serious injuries, there is not a sufficent amount of data for calculating the potential losses.

I. Hazard Human Loss Estimation for Extreme Heat

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Extreme Heat

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Extreme Heat

Lebanon: The entire jurisdiction is affected by likely possibility of extreme heat.

Mt. Juliet: The entire jurisdiction is affected by likely possibility of extreme heat.

Watertown: The entire jurisdiction is affected by likely possibility of extreme heat.

Wilson County (unincorporated): The entire jurisdiction is affected by likely possibility of extreme heat.

5. Flooding

A. Hazard Definition for Flooding

Floods are the most common and widespread of all natural disasters--except fire. Most communities in the United States have experienced some kind of flooding after spring rains, heavy thunderstorms, or winter snow thaws.

A flood, as defined by the National Flood Insurance Program is: "A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is your property) from:

- Overflow of inland or tidal waters
- Unusual and rapid accumulation or runoff of surface waters from any source
- Mudflow
- The collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood”

Floods can be slow or fast rising, but generally develop over a period of days. Mitigation includes any activities that prevent an emergency, reduce the chance that an emergency will occur, or lessen the damaging effects of unavoidable emergencies. Investing in mitigation steps now, such as engaging in floodplain management activities, constructing barriers (such as levees) and purchasing flood insurance will help reduce the amount of structural damage to homes and financial loss from building and crop damage should a flood or flash flood occur.

Flooding tends to occur in the summer and early fall because of the monsoon and is typified by increased humidity and high summer temperatures. The standard for flooding is the so-called "100-year flood," a benchmark used by the Federal Emergency Management Agency to establish a standard of flood control in communities throughout the country. Thus, the 100-year flood is also referred to as the "regulatory" or "base" flood.

Actually, there is little difference between a 100-year flood and what is known as the 10-year flood. Both terms are really statements of probability that scientists and engineers use to describe how one flood compares to others that are likely to occur. In fact, the 500-year flood and the 10-year flood are only a foot apart on flood elevation-which means that the elevation of the 100-year flood falls somewhere in between. The term 100-year flood is often incorrectly used and can be misleading. It does not mean that only one flood of that size will occur every 100 years.

What it actually means is that there is a one percent chance of a flood of that intensity and elevation happening in any given year. In other words, it is the flood elevation that has a one percent chance of being equaled or exceeded each year. And it could occur more than once in a relatively short period of time. (By comparison, the 10-year flood means that there is a ten percent chance for a flood of its intensity and elevation to happen in any given year.) Rod Bolin, The Ponca City News, July 18, 2002.

B. Previous Occurrences for Flooding

The following information was gathered from the National Climatic Data Center.

Lebanon:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
02/23/1994	0030	Flash Flood	N/A	0	0	5K
03/09/1994	1600	Flash Flooding	N/A	0	0	5K
03/27/1994	0300	Flash Flooding	N/A	0	0	50K
04/10/1994	1330	Flash Flooding	N/A	0	0	5K
07/21/1996	10:15 PM	Flash Flood	N/A	0	0	0
12/16/1996	10:40 PM	Flash Flood	N/A	0	0	0
11/30/1997	04:25 PM	Flash Flood	N/A	0	0	0
06/28/1999	06:30 PM	Flash Flood	N/A	0	0	0
05/24/2000	11:30 PM	Flash Flood	N/A	0	0	0
06/26/2000	03:04 PM	Flash Flood	N/A	0	0	0
12/16/2000	02:40 PM	Flash Flood	N/A	0	0	0
02/16/2001	11:00 AM	Flood	N/A	0	0	0
05/05/2003	09:37 PM	Flash Flood	N/A	0	0	0
03/05/2004	06:15 PM	Flash Flood	N/A	0	0	0

06/02/2004	08:14 PM	Flash Flood	N/A	0	0	1K
08/14/2005	08:00 PM	Flash Flood	N/A	0	0	1K
08/10/2006	05:45 PM	Flash Flood	N/A	0	0	1K

Mt. Juliet:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
03/02/1997	01:30 AM	Flash Flood	N/A	0	0	0
03/02/1997	05:00 PM	Flood	N/A	0	0	0
03/05/1997	07:30 AM	Flash Flood	N/A	0	0	0
06/30/1997	04:30 PM	Flash Flood	N/A	0	0	0
04/16/1998	07:25 AM	Flash Flood	N/A	0	0	0
06/05/1998	01:53 AM	Flash Flood	N/A	0	0	0
06/28/1999	03:45 PM	Flash Flood	N/A	0	0	0
09/22/2003	07:00 AM	Flash Flood	N/A	0	0	0
09/22/2003	07:30 AM	Flash Flood	N/A	0	0	20K
09/22/2003	08:10 AM	Flash Flood	N/A	0	0	0
04/29/2005	11:05 PM	Flash Flood	N/A	0	0	1K

Watertown:

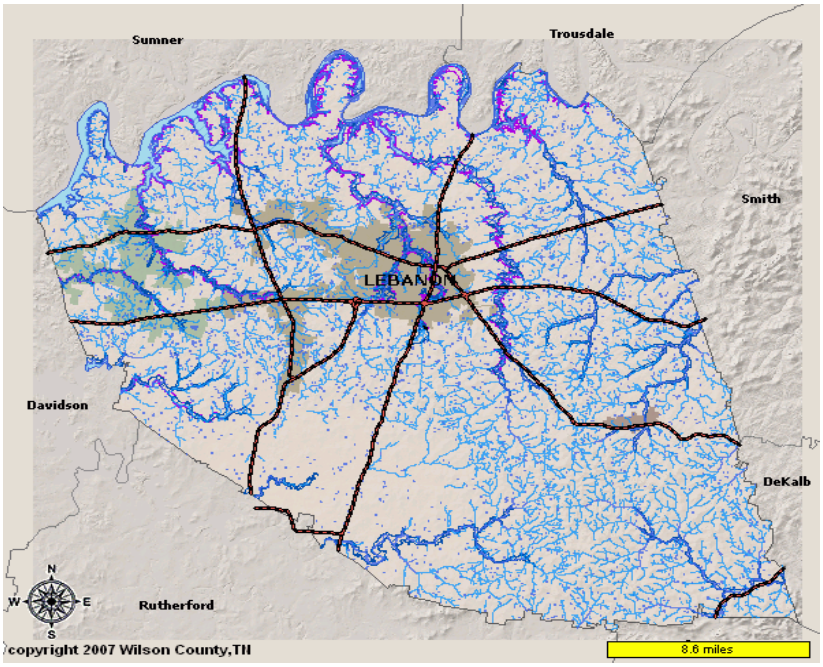
Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
04/07/2005	05:05 PM	Flash Flood	N/A	0	0	1K

Wilson County (unincorporated):

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
03/07/1995	2035	Flash Flooding	N/A	0	0	1K
05/14/1995	0300	Flash Flooding	N/A	0	0	0.0M
01/22/1999	10:28 PM	Flood	N/A	0	0	0
01/23/2002	11:30 AM	Flash Flood	N/A	0	0	0
01/24/2002	07:04 AM	Flash Flood	N/A	1	0	0
03/17/2002	07:00 PM	Flash Flood	N/A	0	0	0
02/15/2003	10:00 AM	Flood	N/A	2	0	0
02/05/2004	10:00 AM	Flood	N/A	0	0	88K
06/02/2004	08:30 PM	Flash Flood	N/A	0	0	1K
06/02/2004	08:35 PM	Flash Flood	N/A	0	0	1K
11/30/2004	02:20 PM	Flash Flood	N/A	0	0	5K

C. Geographic Location for Flooding

Following information identifies the geographic area(s) affected by each specified hazard.



There are several low-lying areas at risk in Wilson County and several creeks and lakes that have the potential to flood. The above map represents bodies of water (in light blue) and prior flood sites over the past 100 years (in dark blue) located in Wilson County.

D. Hazard Extent for Flooding

Following information describes the magnitude and severity of each specified hazard.

Although flooding is an identified hazard, the recorded effects have not been catastrophic.

E. Hazard Summary for Flooding

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Wilson County has been affected by flooding throughout the past 50 years. Based on the National Climatic Data Center and the county records, the county is highly likely to experience a flood in the following years.

F. Calculated Priority Risk Index for Flooding

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	4	Highly Likely
Magnitude/Severity:	2	Limited
Warning Time:	4	< 6 Hours
Duration:	4	> One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
4 x .45	+	**2** x .30	+	**4** x .15	+	**4** x .10	=	**3.4**

G. Vulnerability Analysis for Flooding

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **.003** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by Flooding.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.
(2) The specific non-critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by Flooding.

H. Hazard Economic Loss Estimation for Flooding

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **$195,000**.

c. Following is the methodology for estimating losses

It is difficult to estimate monetary losses if Wilson County were to experience a flood. The National Climatic Data Center provided a report showing a total of 195K in damages from 39 events. Based on these numbers there was an average of $5K per event. This value seems significantly low and may not be an appropriate figure when determining the estimated losses. At this time, there is not enough data to make an accurate estimation for the losses due to flooding.

I. Hazard Human Loss Estimation for Flooding

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **3**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **3**.

J. Vulnerability to Future Assets/Infrastructure for Flooding

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Flooding

Lebanon: The entire jurisdiction is affected by highly likely possibility of flooding.

Mt. Juliet: The entire jurisdiction is affected by highly likely possibility of flooding.

Watertown and General Area: Flooding has occurred on the following streets and intersections within the past 20 years:

- Haley Road at railroad tracks
- Fite Road at creek crossing
- Neal Road, from Highway 70 to Fite Road
- Linwood Road, from Highway 70 to Roberts Road
- Beech Log Road East
- Old Statesville Road
- Richland Avenue South
- Statesville Avenue South
- Main Street in front of the elementary school
- Watertown City Park
- Turner Road

An location of note exists south of Watertown in the Statesville Community in the area of Statesville Road and Main Street. There are 30 residential homes at risk along the banks of two creeks prone to flooding. Further east from Watertown in the county a second highly critical area is that near County Line Road.

Wilson County (unincorporated): The entire jurisdiction is affected by highly likely possibility of flooding.

6. Hail

A. Hazard Definition for Hail

Hail is frozen water droplets formed inside a thunderstorm cloud. They are formed during the strong updrafts of warm air and downdrafts of cold air, when the water droplets are carried well above the freezing level to temperatures below 32 degrees Fahrenheit, and then the frozen droplets begin to fall, carried by cold downdrafts. As they move into warmer air toward the bottom of the thunderstorm, they may begin to thaw. This movement up and down inside the cloud, through cold then warmer temperatures, causes the droplets to add layers of ice. These round, oval or irregularly shaped droplets can become quite large before finally falling to the ground as hail. Hail size ranges from smaller than a pea to as large as a softball, and it can be very destructive to buildings, vehicles and crops. Even small hail can cause significant damage to young and tender plants. You should take cover immediately in a hailstorm, and protect pets and livestock, which are particularly vulnerable to hail.

B. Previous Occurrences for Hail

According to the National Weather Service, there were 51 reports of hail storms in Wilson County from 1950 through 2006. There were no injuries or deaths attributed to these hail storms, nor were any significant property damage incurred in any of these storms.

The following information was gathered by the National Climatic Data Center.

Lebanon:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
04/08/1998	10:38 AM	Hail	0.75 in.	0	0	0
06/10/1998	06:45 PM	Hail	0.75 in.	0	0	0
06/14/1998	09:40 PM	Hail	0.75 in.	0	0	0
08/12/1999	04:25 PM	Hail	0.75 in.	0	0	0
08/19/1999	03:12 PM	Hail	0.75 in.	0	0	0
06/26/2000	02:25 PM	Hail	1.00 in.	0	0	0
07/02/2002	03:30 PM	Hail	1.50 in.	0	0	0
07/03/2002	12:15 PM	Hail	0.75 in.	0	0	0
03/19/2003	09:00 AM	Hail	0.75 in.	0	0	0
04/29/2003	05:06 PM	Hail	0.75 in.	0	0	0
05/05/2003	01:25 AM	Hail	0.75 in.	0	0	0
05/05/2003	02:47 PM	Hail	1.75 in.	0	0	0
05/05/2003	09:37 PM	Hail	0.75 in.	0	0	0
07/09/2003	04:29 PM	Hail	1.00 in.	0	0	0
08/04/2003	10:00 PM	Hail	1.00 in.	0	0	0

05/10/2004	04:43 PM	Hail	0.88 in.	0	0	0
06/02/2004	06:56 PM	Hail	1.00 in.	0	0	0
06/02/2004	07:18 PM	Hail	0.75 in.	0	0	0
07/27/2005	12:31 PM	Hail	0.75 in.	0	0	0
09/15/2005	01:50 PM	Hail	0.88 in.	0	0	0
04/07/2006	03:52 PM	Hail	0.88 in.	0	0	0
04/19/2006	05:10 AM	Hail	0.75 in.	0	0	0
04/20/2006	08:28 AM	Hail	0.75 in.	0	0	0

Mt. Juliet:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
04/29/1996	02:32 PM	Hail	1.75 in.	0	0	0
05/26/1996	02:57 PM	Hail	1.00 in.	0	0	0
03/28/1997	08:06 PM	Hail	0.75 in.	0	0	0
03/28/1997	08:09 PM	Hail	1.75 in.	0	0	0
07/05/2001	09:17 AM	Hail	0.75 in.	0	0	0
07/05/2001	09:19 AM	Hail	0.88 in.	0	0	0
09/23/2001	08:15 PM	Hail	0.88 in.	0	0	0

11/10/2002	03:34 PM	Hail	0.75 in.	0	0	0
04/25/2003	03:45 PM	Hail	0.75 in.	0	0	0
07/13/2003	01:11 PM	Hail	1.00 in.	0	0	0
08/04/2003	09:30 PM	Hail	1.00 in.	0	0	0
06/02/2004	06:15 PM	Hail	1.25 in.	0	0	0
06/02/2004	06:28 PM	Hail	1.25 in.	0	0	0
12/10/2004	12:30 PM	Hail	1.75 in.	0	0	0
04/07/2006	02:55 PM	Hail	0.75 in.	0	0	0

Watertown:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
05/25/1998	11:51 AM	Hail	1.00 in.	0	0	0
05/25/1998	11:56 AM	Hail	1.00 in.	0	0	0
04/20/2000	05:30 PM	Hail	1.00 in.	0	0	0
02/25/2001	01:30 AM	Hail	0.75 in.	0	0	0
05/05/2003	01:30 AM	Hail	0.75 in.	0	0	0
12/10/2004	01:20 PM	Hail	0.88 in.	0	0	0

Wilson County (unincorporated):

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
07/15/1966	1403	Hail	0.75 in.	0	0	0
04/23/1968	1300	Hail	0.00 in.	0	0	0
04/23/1968	1300	Hail	0.75 in.	0	0	0
04/27/1971	2031	Hail	1.75 in.	0	0	0
03/25/1982	1235	Hail	1.75 in.	0	0	0
06/04/1985	1705	Hail	2.50 in.	0	0	0
04/28/2002	01:40 PM	Hail	0.75 in.	0	0	0
11/10/2002	03:35 PM	Hail	1.75 in.	0	0	0
11/10/2002	03:53 PM	Hail	0.75 in.	0	0	0
04/25/2003	03:50 PM	Hail	0.75 in.	0	0	0
05/05/2003	01:27 AM	Hail	1.00 in.	0	0	0
04/07/2006	04:10 PM	Hail	1.00 in.	0	0	0

C. Geographic Location for Hail

Following information identifies the geographic area(s) affected by each specified hazard.

Although hail events occur sporadically, the entire county is affected during a hail incident. (See Section K)

D. Hazard Extent for Hail

Following information describes the magnitude and severity of each specified hazard.

- Pea = ¼ inch in diameter
- Marble or Mothball = ½ inch in diameter
- Dime or Penny = ¾ inch in diameter - Hail penny sized or larger is considered severe
- Nickel = 7/8 inch in diameter
- Quarter = 1 inch in diameter
- Ping-Pong Ball = 1 ½ inches in diameter
- Golf Ball = 1 ¾ inches in diameter
- Tennis Ball = 2 ½ inches in diameter
- Baseball = 2 ¾ inches in diameter
- Tea Cup = 3 inches in diameter
- Grapefruit = 4 inches in diameter
- Softball = 4 ½ inches in diameter

The severity of damage caused by hail storms depends on the hailstone sizes (average and maximum), number of hailstones per unit area, and associated winds. Storms that produce high winds in addition to hail are most damaging and can result in numerous broken windows and damaged siding.

E. Hazard Summary for Hail

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Wilson County has routinely been affected by hail throughout the past 50 years. Each hail event within Wilson County has produced unique effects. It is highly likely that Wilson County will experience multiple hail occurrences in the following year.

Most hail is small, usually less than 2 inches in diameter. Hailstones can begin to melt and then re-freeze together, forming larger and irregularly shaped hail stones.

Vulnerability is difficult to evaluate since hail occurs in random locations and creates relatively narrow paths of destruction. Hail is capable of causing considerable damage to crops, buildings, and vehicles, and occasionally death to farm animals. Hail can also strip leaves and small limbs from non-evergreen trees. While large hail poses a threat to people caught outside in a storm, it seldom causes loss of human life.

Hail can occur in any strong thunderstorm. However, the size of the hailstones is a direct function of the severity and size of the storm. Hail larger than 1.75 inches in diameter can cause serious damage to cars, roofs, walls, windows, and inflict serious bodily injury as

well. All of Wilson County has a significant exposure to hailstorms, and virtually all buildings and automobiles are at risk. Crops are also at risk since the peak periods for hailstorms occur during early spring and late fall, which coincide with critical agricultural seasons. The probability of Wilson County experiencing a hail event in the following years is highly likely based on the historical records.

F. Calculated Priority Risk Index for Hail

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	4	Highly Likely
Magnitude/Severity:	2	Limited
Warning Time:	4	< 6 Hours
Duration:	1	< 6 Hours

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
4 x .45	+	**2** x .30	+	**4** x .15	+	**1** x .10	=	**3.1**

G. Vulnerability Analysis for Hail

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
All Critical Facilites in Wilson County are vulnerable to hail damage of some kind. The total expected facility impact would be minimal.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.
(2) The specific non-critical facilities vulnerable are:
All non-critical Facilites in Wilson County are vulnerable to hail damage of some kind. The total expected facility impact would be minimal.

H. Hazard Economic Loss Estimation for Hail

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

Due to the fact that the majority of the damage incurred during previous hail events was to personal property instead of to county-owned property, it is difficult to assess a monetary value of potential losses from the occurrence of hail in Wilson County.

I. Hazard Human Loss Estimation for Hail

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Hail

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Hail

Lebanon: The entire jurisdiction is affected by highly likely possibility of hail.

Mt. Juliet: The entire jurisdiction is affected by highly likely possibility of hail.

Watertown: The entire jurisdiction is affected by highly likely possibility of hail.

Wilson County (unincorporated): The entire jurisdiction is affected by hail.

7. Thunderstorms/Lightning and High Winds

A. Hazard Definition for Thunderstorms/Lightning and High Winds

Thunderstorms, sometimes referred to as "thunder events," are recorded and observed as soon as a peal of thunder is heard by an observer at a National Weather Service (NWS) first-order weather station. A thunder event is composed of lightning and rainfall, and can intensify into a severe thunderstorm with damaging or deadly hail, high winds, tornadoes, and flash flooding. The NWS estimates that over 100,000 thunderstorms occur each year on the U.S. mainland. Approximately 10 percent are classified as "severe." Thunderstorms spawn as many as 1,000 tornadoes each year. Since 1975, severe thunderstorms were involved in 327 Federal disaster declarations.

High winds can result from thunderstorm inflow and outflow, downburst winds from a collapsed storm cloud, strong frontal systems, or gradient winds (high or low pressure systems) moving across Tennessee. High winds have speeds reaching 50 mph or greater, either sustaining or gusting.

B. Previous Occurrences for Thunderstorms/Lightning and High Winds

There were 166 reports of thunderstorms and high winds in Wilson County from 1950 through 2006. There was an estimated $2.8 million in property damage that resulted from these severe thunderstorms. There were no deaths recorded but 17 injuries were attributed to these thunderstorms and high winds.

The following information was gathered by the National Climatic Data Center.

Lebanon:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
02/21/1993	1330	Thunderstorm Winds	N/A	0	0	1K
05/14/1995	0345	Thunderstorm Winds	N/A	0	0	7K
05/18/1995	1757	Thunderstorm Winds	N/A	0	0	5K
06/06/1995	1715	Thunderstorm Winds	N/A	0	0	2K
07/22/1995	1535	Thunderstorm Winds	N/A	0	0	2K
07/24/1995	1424	Thunderstorm Winds	N/A	0	0	5K
05/27/1996	01:00 PM	Tstm Wind	50 kts.	0	0	0
06/03/1996	06:55 PM	Tstm Wind	0 kts.	0	0	1K
06/03/1996	07:30 PM	Tstm Wind	50 kts.	0	0	0
02/21/1997	08:00 AM	Tstm Wind	50 kts.	0	0	0
06/13/1997	02:45 PM	Tstm Wind	50 kts.	0	0	0
06/13/1997	07:20 PM	Tstm Wind	50 kts.	0	0	0
07/28/1997	04:10 PM	Tstm Wind	0 kts.	0	0	10K
08/04/1997	03:45 PM	Tstm Wind	50 kts.	0	0	5K
05/23/1999	01:46 PM	Tstm Wind	50 kts.	0	0	0
05/23/1999	04:43 PM	Tstm Wind	50 kts.	0	0	0

08/19/1999	04:07 PM	Tstm Wind	50 kts.	0	0	0
01/03/2000	09:45 PM	Tstm Wind	50 kts.	0	0	0
05/03/2000	02:05 PM	Tstm Wind	50 kts.	0	0	0
06/26/2000	02:50 PM	Tstm Wind	50 kts.	0	0	0
07/06/2000	03:01 PM	Tstm Wind	50 kts.	0	0	0
02/25/2001	01:30 AM	Tstm Wind	52 kts.	0	0	0
05/31/2001	06:29 PM	Tstm Wind	55 kts.	0	0	0
05/01/2003	02:56 PM	Tstm Wind	50 kts.	0	0	10K
05/05/2003	01:35 AM	Tstm Wind	85 kts.	0	7	0
05/05/2003	02:47 PM	Tstm Wind	50 kts.	0	0	0
05/11/2003	02:36 AM	Tstm Wind	50 kts.	0	0	0
05/11/2003	03:14 AM	Tstm Wind	51 kts.	0	0	0
05/17/2003	11:15 AM	Tstm Wind	55 kts.	0	0	0
07/21/2003	02:02 PM	Tstm Wind	50 kts.	0	0	0
08/04/2003	10:00 PM	Tstm Wind	55 kts.	0	0	0
11/18/2003	02:22 PM	Tstm Wind	55 kts.	0	0	0
04/23/2004	01:00 PM	Tstm Wind	65 kts.	0	0	2K
06/09/2004	06:35 PM	Tstm Wind	50 kts.	0	0	0

06/12/2004	01:55 PM	Tstm Wind	60 kts.	0	0	1K
07/04/2004	03:40 PM	Tstm Wind	50 kts.	0	0	0
07/12/2004	01:55 PM	Tstm Wind	50 kts.	0	0	0
07/13/2004	08:10 PM	Tstm Wind	60 kts.	0	0	5K
07/13/2004	08:15 PM	Tstm Wind	60 kts.	0	0	0
10/19/2004	12:10 AM	Tstm Wind	70 kts.	0	1	5K
12/07/2004	05:03 AM	Tstm Wind	50 kts.	0	0	0
05/19/2005	04:09 PM	Tstm Wind	50 kts.	0	0	0
07/27/2005	12:36 PM	Tstm Wind	50 kts.	0	0	0
07/27/2005	12:36 PM	Tstm Wind	50 kts.	0	0	5K
08/13/2005	03:43 PM	Tstm Wind	50 kts.	0	0	0
08/14/2005	07:18 PM	Tstm Wind	50 kts.	0	0	0
11/06/2005	05:25 AM	Tstm Wind	50 kts.	0	0	0
03/09/2006	05:30 PM	Tstm Wind	60 kts.	0	0	20K
04/02/2006	03:20 PM	Tstm Wind	61 kts.	0	0	70K
04/02/2006	03:55 PM	Tstm Wind	50 kts.	0	0	0

Mt. Juliet:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
03/31/1993	1535	Thunderstorm Winds	N/A	0	0	1K
04/15/1993	1430	Thunderstorm Winds	N/A	0	0	1K
09/03/1993	1500	Thunderstorm Winds	N/A	0	0	1K
05/18/1995	1130	Thunderstorm Winds	N/A	0	0	5K
01/18/1996	02:00 PM	Tstm Wind	0 kts.	0	0	0K
05/26/1996	02:57 PM	Tstm Wind	0 kts.	0	0	0
07/14/1997	09:35 PM	Tstm Wind	0 kts.	0	0	5K
04/08/1998	02:35 AM	Tstm Wind	0 kts.	0	0	0K
04/08/1998	06:15 PM	Tstm Wind	50 kts.	0	0	0
04/08/1998	11:50 AM	Tstm Wind	52 kts.	0	0	0
06/14/1998	09:30 PM	Tstm Wind	50 kts.	0	0	0
01/17/1999	08:30 PM	Tstm Wind	0 kts.	0	0	2K
06/04/1999	11:14 PM	Tstm Wind	50 kts.	0	0	0
08/19/1999	06:22 PM	Tstm Wind	0 kts.	0	0	1K
02/18/2000	05:35 PM	Tstm Wind	50 kts.	0	0	1K
07/05/2001	09:06 AM	Tstm Wind	52 kts.	0	0	0
07/05/2001	09:10	Tstm Wind	55 kts.	0	0	0

	AM					
08/05/2001	05:57 PM	Tstm Wind	60 kts.	0	0	0
10/24/2001	06:55 PM	Tstm Wind	61 kts.	0	0	0
10/24/2001	07:05 PM	Tstm Wind	55 kts.	0	0	0
05/01/2002	03:00 AM	Tstm Wind	50 kts.	0	0	0
05/13/2002	03:35 AM	Tstm Wind	50 kts.	0	0	0
05/13/2002	09:40 AM	Tstm Wind	50 kts.	0	0	0
07/02/2002	11:20 PM	Tstm Wind	60 kts.	0	0	0
07/03/2002	12:52 PM	Tstm Wind	50 kts.	0	0	0
07/03/2002	12:55 PM	Tstm Wind	55 kts.	0	0	8K
04/23/2003	02:13 PM	Tstm Wind	50 kts.	0	0	0
05/01/2003	02:52 PM	Tstm Wind	50 kts.	0	0	0
06/10/2003	02:25 PM	Tstm Wind	50 kts.	0	0	0
06/11/2003	02:30 PM	Tstm Wind	55 kts.	0	0	0
06/11/2003	02:45 PM	Tstm Wind	50 kts.	0	0	0
07/10/2003	12:15 PM	Tstm Wind	50 kts.	0	0	0
08/22/2003	06:50 PM	Tstm Wind	50 kts.	0	0	0
06/13/2004	04:05 PM	Tstm Wind	50 kts.	0	0	0
05/19/2005	03:55	Tstm Wind	50 kts.	0	0	0

	PM					
05/19/2005	04:00 PM	Tstm Wind	50 kts.	0	1	0
06/27/2005	04:55 PM	Tstm Wind	50 kts.	0	0	0
08/14/2005	06:15 PM	Tstm Wind	50 kts.	0	0	0
03/09/2006	04:57 PM	Tstm Wind	50 kts.	0	0	0

Watertown:

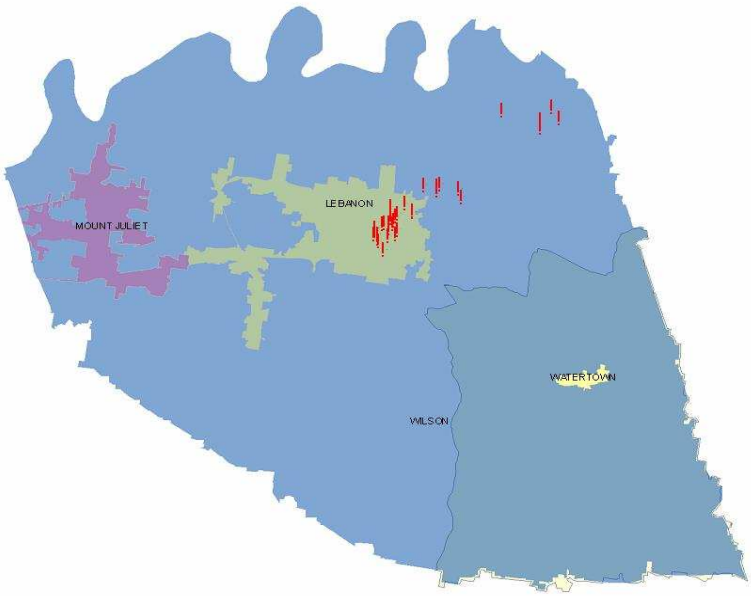
Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
07/22/1995	1510	Thunderstorm Winds	N/A	0	0	5K
01/03/2000	10:20 PM	Tstm Wind	50 kts.	0	0	0
06/27/2001	04:00 PM	Tstm Wind	50 kts.	0	0	0
04/05/2003	01:20 AM	Tstm Wind	50 kts.	0	0	0
04/23/2004	01:02 PM	Tstm Wind	55 kts.	0	0	0
05/28/2006	12:20 PM	Tstm Wind	50 kts.	0	0	0

Wilson County (unincorporated):

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
03/20/1964	1700	Tstm Wind	0 kts.	0	0	0
04/30/1966	1300	Tstm Wind	0 kts.	0	0	0
07/10/1966	1600	Tstm Wind	50 kts.	0	0	0
07/15/1966	1406	Tstm Wind	50 kts.	0	0	0
03/25/1970	2355	Tstm Wind	0 kts.	0	0	0
08/03/1970	1930	Tstm Wind	0 kts.	0	0	0
11/20/1970	0030	Tstm Wind	0 kts.	0	0	0
04/07/1972	1818	Tstm Wind	0 kts.	0	0	0
02/23/1975	1500	Tstm Wind	0 kts.	0	0	0
03/23/1975	2350	Tstm Wind	0 kts.	0	0	0
04/19/1975	0058	Tstm Wind	0 kts.	0	0	0
07/24/1975	1300	Tstm Wind	0 kts.	0	0	0
06/12/1977	1700	Tstm Wind	0 kts.	0	0	0
03/03/1979	2030	Tstm Wind	0 kts.	0	0	0
11/25/1979	1600	Tstm Wind	0 kts.	0	0	0
05/07/1984	0500	Tstm Wind	0 kts.	0	0	0
06/04/1985	1650	Tstm Wind	0 kts.	0	0	0
06/04/1985	1705	Tstm Wind	0 kts.	0	0	0
06/10/1985	1600	Tstm Wind	0 kts.	0	0	0
09/25/1985	2300	Tstm Wind	0 kts.	0	0	0
08/10/1986	1730	Tstm Wind	0 kts.	0	0	0
07/23/1987	1500	Tstm Wind	0 kts.	0	0	0
05/09/1988	1838	Tstm Wind	0 kts.	0	0	0
04/04/1989	0050	Tstm Wind	0 kts.	0	0	0
05/20/1989	0130	Tstm Wind	0 kts.	0	0	0
08/26/1989	1030	Tstm Wind	0 kts.	0	0	0

10/04/1990	0230	Tstm Wind	0 kts.	0	0	0
03/22/1991	1945	Tstm Wind	0 kts.	0	0	0
04/09/1991	1225	Tstm Wind	0 kts.	0	3	0
07/10/1991	1300	Tstm Wind	0 kts.	0	0	0
07/10/1991	1510	Tstm Wind	0 kts.	0	0	0
07/24/1991	1145	Tstm Wind	0 kts.	0	0	0
06/18/1992	1430	Tstm Wind	0 kts.	0	0	0
07/03/1992	0300	Tstm Wind	0 kts.	0	0	0
01/28/1994	0130	High Winds	0 kts.	0	0	500K
04/11/1995	0630	High Winds	0 kts.	0	4	1.0M
06/09/1996	02:35 AM	Tstm Wind	0 kts.	0	0	600K
07/21/1996	09:15 PM	Tstm Wind	50 kts.	0	0	0
01/24/1997	05:00 PM	Tstm Wind	0 kts.	0	0	10K
03/08/1998	06:10 PM	Tstm Wind	50 kts.	0	0	0
04/08/1998	02:30 AM	Tstm Wind	50 kts.	0	0	0
04/08/1998	02:41 AM	Tstm Wind	50 kts.	0	0	0
06/20/1998	06:00 PM	Tstm Wind	50 kts.	0	0	0
06/20/1998	06:20 PM	Tstm Wind	50 kts.	0	1	0
05/05/1999	08:51 PM	Tstm Wind	50 kts.	0	0	0
05/25/2000	12:20 AM	Tstm Wind	55 kts.	0	0	0
08/05/2000	01:30 PM	Tstm Wind	55 kts.	0	0	0
11/09/2000	12:28 PM	Tstm Wind	55 kts.	0	0	20K

04/15/2001	06:15 AM	Tstm Wind	60 kts.	0	0	0
05/07/2001	05:55 PM	Tstm Wind	50 kts.	0	0	0
05/31/2001	07:05 PM	Tstm Wind	50 kts.	0	0	0
06/04/2001	07:12 PM	High Wind	52 kts.	0	0	0
06/27/2001	03:30 PM	Tstm Wind	50 kts.	0	0	0
04/28/2002	04:45 AM	Tstm Wind	55 kts.	0	0	0
06/04/2002	04:15 PM	Tstm Wind	50 kts.	0	0	0
07/02/2002	03:30 PM	Tstm Wind	50 kts.	0	0	0
06/10/2003	02:20 PM	Tstm Wind	50 kts.	0	0	0
05/19/2005	04:05 PM	Tstm Wind	50 kts.	0	0	0
08/30/2005	01:00 AM	Strong Wind	N/A	0	0	49K



C. Geographic Location for Thunderstorms/Lightning and High Winds

Following information identifies the geographic area(s) affected by each specified hazard.

The entire county is affected during a severe thunderstorm. Damage from high winds or lightning can affect any and all of Wilson County. (Please See Section K)

D. Hazard Extent for Thunderstorms/Lightning and High Winds

Following information describes the magnitude and severity of each specified hazard.

A worst case scenario involving thunderstorms would be a solid line of severe thunderstorms that moves through the entire County. These storms can result in heavy rains, causing widespread flooding and road closures. Large economic loss to agriculture and/or major damage to buildings and other property can result if such storms are accompanied by hail and high winds. High winds and lightning associated with such storms can also down trees and highline poles and result in large-scale power outages. In the event of high winds that sometimes accompany tunderstorms and lightning, the recorded events vary widely in wind speed, which is measured in knots.

Beaufort Wind Scale Simplified scale developed to aid in the estimation of wind speed and typical effects:
25 - 31 mph: Strong Breeze Large branches in motion; whistling in telephone wires; umbrellas used with difficulty.
32 - 38 mph: Near Gale Whole trees in motion; resistance felt while walking against the wind.
39 - 46 mph: Gale Twigs break off of trees; wind impedes walking.
47 - 54 mph: Strong Gale Slight structural damage to chimneys and slate roofs.
55 - 63 mph: Storm Seldom felt inland; trees uprooted; considerable structural damage.
64 - 72 mph: Violent Storm Very rarely experienced; widespread structural damage; roofing peels off buildings; windows broken; mobile homes overturned.
73 + mph: Hurricane Widespread structural damage; roofs torn off homes; weak buildings and mobile homes destroyed; large trees uprooted.

E. Hazard Summary for Thunderstorms/Lightning and High Winds

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Vulnerability is difficult to evaluate since thunderstorms can occur at different levels of strength in random locations, and can create relatively narrow paths of destruction. Due to the randomness of this event, the entire population of the County remains vulnerable to possible injury and/or property loss from lightning and strong winds associated with severe thunderstorms. Mobile homes are thought most vulnerable to strong winds. All structures are vulnerable to lightning. Lightning can strike ten miles out from the rain column, enabling injurious lightning strikes to people to occur

under a clear sky ahead of the storm, as they tend to wait to seek shelter until the last minute. It is highly likely that an event will occur within the following year.

F. Calculated Priority Risk Index for Thunderstorms/Lightning and High Winds

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	4	Highly Likely
Magnitude/Severity:	3	Critical
Warning Time:	4	< 6 Hours
Duration:	1	< 6 Hours

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
4 x .45	+	**3** x .30	+	**4** x .15	+	**1** x .10	=	**3.4**

G. Vulnerability Analysis for Thunderstorms/Lightning and High Winds

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
Each Critical Facility in Wilson County is vulnerable to direct structural damage from severe thunderstorms or indirect damage from debris or electricity loss.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.
(2) The specific non-critical facilities vulnerable are:
Each Non-Critical Facility in Wilson County is vulnerable to direct structural damage from severe thunderstorms or indirect damage from debris or electricity loss.

H. Hazard Economic Loss Estimation for Thunderstorms/Lightning and High Winds

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **$2,800,000**.

c. Following is the methodology for estimating losses

The NCDC archive shows Wilson County having 166 Severe Thunderstorm events since 1956. The total property damage for these 166 events was $2.8M. The calculated average is relatively $16,900 per event.

I. Hazard Human Loss Estimation for Thunderstorms/Lightning and High Winds

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Thunderstorms/Lightning and High Winds

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Thunderstorms/Lightning and High Winds

Lebanon: The entire jurisdiction is affected by highly likely possibility of thunderstorms/lightning and high winds.

Mt. Juliet: The entire jurisdiction is affected by highly likely possibility of thunderstorms/lightning and high winds.

Watertown: The entire jurisdiction is affected by highly likely possibility of thunderstorms/lightning and high winds.

Wilson County (unincorporated): The entire jurisdiction is affected by thunderstorms/lightning and high winds.

8. Tornado

A. Hazard Definition for Tornado

Tornadoes are defined as violently rotating columns of air extending from thunderstorms to the ground. Funnel clouds are rotating columns of air not in contact with the ground. However, the violently rotating column of air may reach the ground very quickly - becoming a tornado. If there is debris being picked up or blown around by the "funnel cloud" - it's reached the ground and it's a tornado!

A tornado is spawned by a thunderstorm, which is produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. The damage from a tornado is a result of the high wind velocity and wind-blown debris. Tornado season is generally April through June, although tornadoes can occur at any time of year. They tend to occur in the afternoons and evenings: over 80 percent of all tornadoes strike between 3 PM and 9 PM, but they can occur at any time of day or night. Tornadoes are found most frequently in the United States east of the Rocky Mountains.
While most tornadoes (69%) have winds of less than 100 miles per hour, they can be much stronger. Although violent tornadoes (winds greater than 205 mph) account for only 2% of all tornadoes, they cause 70% of all tornado deaths. In 1931, a tornado in Minnesota lifted an 83-ton railroad train with 117 passengers and carried it more than 80 feet! Once a tornado Oklahoma carried a motel sign 30 miles and dropped it in Arkansas! In 1975 a Mississippi tornado carried a home freezer more than a mile.

B. Previous Occurrences for Tornado

There were 22 reported tornadoes in Wilson County from 1950 through 2006. There was in excess of $13 million in property damage that resulting from these tornadoes. There were no deaths but 13 injuries were attributed to these events.

The following data was gathered by the National Climatic Data Center.

Lebanon:

Date	Time	Type	Magnitude	Death	Injuries	Property Damage
06/09/1996	02:35 AM	Tornado	F1	0	0	150K

Mt. Juliet:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
04/20/2000	05:25 PM	Tornado	F0	0	0	0
05/11/2003	02:20 AM	Tornado	F1	0	0	500K

Watertown:

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
02/25/2001	01:30 AM	Tornado	F0	0	0	0

Wilson County (unincorporated):

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
03/05/1955	1900	Tornado	F2	0	0	25K
01/22/1957	1700	Tornado	F2	0	0	25K
03/17/1965	0900	Tornado	F1	0	0	3K
04/30/1966	1200	Tornado	F1	0	0	0K
04/27/1971	2031	Tornado	F3	0	3	250K
04/25/1973	1525	Tornado	F1	0	0	25K
04/01/1974	1945	Tornado	F1	0	4	2.5M
04/03/1974	1700	Tornado	F2	0	0	2.5M
02/17/1976	2330	Tornado	F1	0	0	250K
03/20/1976	2225	Tornado	F1	0	0	250K
05/17/1980	1430	Tornado	F1	0	1	250K
06/04/1985	1630	Tornado	F2	0	0	25K
08/27/1992	1750	Tornado	F0	0	0	25K
08/27/1992	1850	Tornado	F0	0	0	25K

C. Geographic Location for Tornado

Following information identifies the geographic area(s) affected by each specified hazard.

Historically the average tornado moves from southwest to northeast, but tornadoes have been known to move in any direction. Consequently, vulnerability of humans and property is difficult to evaluate since tornadoes form at different strengths, in random locations, and create relatively narrow paths of destruction. Residents most vulnerable to tornados are those living in mobile homes. Education about and preparedness for this threat is a perpetual process. With peak tornado season in the spring there is a slight risk of crop loss in the tornado path. (Please see Section K)

D. Hazard Extent for Tornado

Following information describes the magnitude and severity of each specified hazard.

Tornado size or rating is only part of the damage analysis used to estimate economical impact. The other factor is housing and building density.

The most severe impact by a tornado would be the result of a F5 tornado moving through the County and hitting several communities.

Scale	Wind Speed	Type of damage
F0	40 – 72 mph	Damage to chimneys; branches off trees; pushes over shallow rooted trees.
F1	73 – 112 mph	Mobile homes pushed off foundations or overturned; moving autos pushed off roads.
F2	113 – 157 mph	Considerable damage. Roofs torn off; mobile homes demolished; large trees snapped or uprooted.
F3	158 – 206 mph	Roof and some walls torn off well constructed homes; trains overturned.
F4	207 – 260 mph	Well-constructed homes leveled; structures with weak foundations blown off; cars thrown.
F5	261 – 318 mph	Strong frame homes lifted off foundations; steel reinforced concrete structures badly damaged.

E. Hazard Summary for Tornado

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

Every portion of the County has been threatened by a tornado at some point over the past 50 years.There have been a total of 22 reported tornado events, according to the archives in the NCDC. There were no deaths due to tornadoes in Wilson County but there were 13 injuries. Wilson County had a total damage loss due to tornadoes of approximately 13 million in the past 50 years. The County interacts regularly with the National Weather Service to improve advanced warning techniques used by emergency

managers. It is highly likely that a tornado will occur within Wilson County in the proceeding years.

F. Calculated Priority Risk Index for Tornado

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	3	Likely
Magnitude/Severity:	4	Catastrophic
Warning Time:	4	< 6 Hours
Duration:	1	< 6 Hours

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
3 x .45	+	**4** x .30	+	**4** x .15	+	**1** x .10	=	**3.25**

G. Vulnerability Analysis for Tornado

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities is vulnerable.
(2) The specific critical facilities vulnerable are:
Each Critical Facility in Wilson County is vulnerable to direct structural damage from tornadoes or indirect damage from debris or electricity loss.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities is vulnerable.
(2) The specific non-critical facilities vulnerable are:
Each Non-Critical Facility in Wilson County is vulnerable to direct structural damage from tornadoes or indirect damage from debris or electricity loss.

H. Hazard Economic Loss Estimation for Tornado

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **$13,000,000**.

c. Following is the methodology for estimating losses

The National Climatic Data Center archives provided the following information for the past 50 years: 0 reported deaths, 13 reported injuries, 22 events, and $13M in property damage. The average damage/lost structures per event is calculated at $591,000.

I. Hazard Human Loss Estimation for Tornado

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **13**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **13**.

J. Vulnerability to Future Assets/Infrastructure for Tornado

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Tornado

Lebanon: The entire jurisdiction is affected by likely possibility of tornados.

Mt. Juliet: The entire jurisdiction is affected by likely possibility of tornados.

Watertown: The entire jurisdiction is affected by likely possibility of tornados.

Wilson County (unincorporated): The entire jurisdiction is affected by likely possibility of tornadoes.

9. Wildfires

A. Hazard Definition for Wildfires

There are three different classes of wild land or wildfires. A surface fire is the most common type and burns along the floor of a forest, moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires present a significant potential for disaster in the southwest -- a region of relatively high temperatures, low humidity, and low precipitation during the summer -- and during the spring, with moderately strong daytime winds. Combine these severe burning conditions with people or lightning and the stage is set for the occurrence of large, destructive wildfires.

B. Previous Occurrences for Wildfires

Lebanon: There have been no reports of wildfires in this area.

Mt. Juliet: There have been no reports of wildfires in this area.

Watertown: There have been no reports of wildfires in this area.

Wilson County (unincorporated): There have been no reports of wildfires in this area.

C. Geographic Location for Wildfires

Following information identifies the geographic area(s) affected by each specified hazard.

Periods of drought, dry conditions, high temperatures, and low humidity set the stage for wildfires in pasture lands. Areas along railroads and homes located in woodland settings (especially cedar woodlands) in rural areas also have an increased risk of wildfire. Ironically, fire suppression is capable of creating larger fire hazards, because live and dead vegetation is allowed to accumulate in areas where fire has been excluded. (Please see Section K)

D. Hazard Extent for Wildfires

Following information describes the magnitude and severity of each specified hazard.

As dry spells occur, it is very likely that wildfires will occur. The various fire departments are put on standby for emergency response to fires as they occur. Most wildfires are small in size and contained by local resources. Therefore, given that there has not been an incidence of wildfire in Wilson County in the past 50 years, it is not considered to be a major threat to the County overall.

Dry conditions, high temperatures, low humidity, and high winds can increase the potential and severity of a wildfire. In such conditions, wildfires can spread quickly, affecting large areas in a short amount of time. A worst case scenario would be multiple wildfires started simultaneously by lightning during dry thunderstorms that move across an area experiencing drought conditions.

E. Hazard Summary for Wildfires

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

There have been no major wildfires reported in Wilson County according to the county historical archives and National Climatic Data Center within the past 50 years.

F. Calculated Priority Risk Index for Wildfires

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	2	Possible
Magnitude/Severity:	2	Limited
Warning Time:	4	< 6 Hours
Duration:	2	< One Day

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
2 x .45	+	**2** x .30	+	**4** x .15	+	**2** x .10	=	**2.3**

G. Vulnerability Analysis for Wildfires

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **75** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.
(2) The specific critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by Wildfire.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.
(2) The specific non-critical facilities vulnerable are:
Any or all Buildings on the Wilson County Facilities Inventory list can be impacted by Wildfire.

H. Hazard Economic Loss Estimation for Wildfires

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

There have been no reported wildfires in Wilson County in the past 50 years according to the NCDC. At this time, it would be difficult to estimate any potential monetary damages that might be incurred if Wilson County were to encounter a wildfire without additional data.

I. Hazard Human Loss Estimation for Wildfires

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **N/A**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **N/A**.

J. Vulnerability to Future Assets/Infrastructure for Wildfires

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Wildfires

Lebanon: The entire jurisdiction is affected by possibility of wildfires.

Mt. Juliet: The entire jurisdiction is affected by possibility of wildfires.

Watertown: The entire jurisdiction is affected by possibility of wildfires.

Wilson County (unincorporated): The entire jurisdiction is affected by possibility of wildfires.

10. Winter Storms

A. Hazard Definition for Winter Storms

A winter storm can range from moderate snow over a few hours to blizzard conditions with high winds, freezing rain or sleet, heavy snowfall with blinding wind-driven snow and extremely cold temperatures that last several days. Some winter storms may be large enough to affect several states while others may affect only a single community. All winter storms are accompanied by cold temperatures and blowing snow, which can severely reduce visibility. A severe winter storm is one that drops 4 or more inches of snow during a 12-hour period, or 6 or more inches during a 24-hour span. An ice storm occurs when freezing rain falls from clouds and freezes immediately on impact. All winter storms make driving and walking extremely hazardous. The aftermath of a winter storm can impact a community or region for days, weeks, and even months. Storm effects such as extreme cold, flooding, and snow accumulation can cause hazardous conditions and hidden problems for people in the affected area. People can become stranded on the road or trapped at home, without utilities or other services. Residents, travelers and livestock may become isolated or stranded without adequate food, water and fuel supplies. The conditions may overwhelm the capabilities of a local jurisdiction. Winter storms are considered deceptive killers as they indirectly cause transportation accidents, and injury and death resulting from exhaustion/overexertion, hypothermia and frostbite from wind chill, and asphyxiation. Also, house fires occur more frequently in the winter due to lack of proper safety precautions.

"Wind chill" is a calculation of how cold it feels outside when the effects of temperature and wind speed are combined. On November 1, 2001, the National Weather Service (NWS) implemented a replacement Wind Chill Temperature (WCT) index for the 2001/2002 winter season. The reason for the change was to improve upon the current WCT Index, which was based on the 1945 Siple and Passel Index. A winter storm watch indicates that severe winter weather may affect your area. A winter storm warning indicates that severe winter weather conditions

are definitely on the way. A blizzard warning means that large amounts of falling or blowing snow and sustained winds of at least 35 miles per hour are expected for several hours.

B. Previous Occurrences for Winter Storms

There were 13 winter storms reported in Wilson County from 1950 through 2006. As a result of these storms, $2.5 million in property damage was incurred. There were 12 injuries to citizens of Wilson County but no deaths occurred as a result of these winter storms.

The following table on winter storms obtained from the National Climatic Data Center is reported as countywide, not separated by jurisdiction.

Date	Time	Type	Magnitude	Deaths	Injuries	Property Damage
01/04/1994	1200	Snow	N/A	0	0	1K
01/14/1994	1800	Snow	N/A	0	0	0K
02/09/1994	2000	Ice Storm	N/A	0	0	500K
01/17/1995	0400	Heavy Snow	N/A	0	0	0
01/17/1995	1700	Ice	N/A	0	0	500K
01/06/1996	05:00 PM	Winter Storm	N/A	0	0	10K
01/06/1996	05:50 AM	Winter Storm	N/A	0	0	0
02/01/1996	05:00 PM	Winter Storm	N/A	0	1	5K
12/23/1998	07:30 AM	Winter Storm	N/A	0	11	1.5M
12/04/2002	06:00 AM	Winter Storm	N/A	0	0	0
01/16/2003	11:00 AM	Heavy Snow	N/A	0	0	0
02/09/2003	09:00 PM	Heavy Snow	N/A	0	0	0
12/22/2004	09:00	Winter	N/A	0	0	0

	PM	Storm				

C. Geographic Location for Winter Storms

Following information identifies the geographic area(s) affected by each specified hazard. (Please See Section K)

Lebanon, Mt. Juliet, Watertown, and Wilson County (unincorporated) have been routinely affected by winter storms. With the unpredictability of the hazard, the geographic location is difficult to determine.

D. Hazard Extent for Winter Storms

Following information describes the magnitude and severity of each specified hazard.

Wilson County has been exposed to almost all characteristics produced by a winter storm. The county has had heavy snow, ice, freezing drizzle, sleet, and freezing rain. These characteristics have produced a total property damage of $2.5 million throughout the county.

Ice and snow produce dangerous driving conditions in Wilson County. Wrecks causing injuries are an indirect result of winter storms. The County has experienced many winter storms of varied intensities that included snow and/or ice. Snow-blocked and ice covered roads not only make travel dangerous, but the removal and clearing of snow and ice can be costly. Downed electrical lines and the resulting loss of power to homes, businesses, and water systems not only increase hardships and hinder recovery, but can also increase potential dollar losses during and after winter storm events.

Winter storms also cause downed power lines in the community. Loss of power can cause diplacees, along with human exposure to extreme temperatures. All of Wilson County is equally at risk from the effects of snow and ice events. Power failures, communications and transportation disruptions are common consequences of winter storms in Wilson County. Heavy accumulations of ice or snow can also result in collapse of or structural damage to buildings. The damage may be caused directly by the excessive weight of the ice/snow accumulation, or by ice-laden trees or branches falling on structures.

E. Hazard Summary for Winter Storms

Following provides information on the probability of future events. In addition, the data provides an overall summary of the Jurisdiction's vulnerability and impact of each hazard.

The entire population of the County can be affected by winter storms, with power outages lasting days or even weeks. Loss of power may also disable rural and municipal water districts, leaving some rural and town residents without running water for days.

A winter storm can range from accumulating snow and/or ice over a few hours to blizzard conditions with blinding, wind-driven snow lasting several days. The aftermath of a winter storm can continue to impact a region for weeks, and even months.

F. Calculated Priority Risk Index for Winter Storms

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index which allows for the prioritization of mitigation activities based on the level of risk.

Probability:	3	Likely
Magnitude/Severity:	3	Critical
Warning Time:	2	12-24 Hours
Duration:	3	< One Week

Probability	+	Magnitude /Severity	+	Warning Time	+	Duration	=	CPRI
3 x .45	+	**3** x .30	+	**2** x .15	+	**3** x .10	=	**2.85**

G. Vulnerability Analysis for Winter Storms

This section serves to identify each hazard confronting the community and its vulnerabilities to that hazard.

a. Population

Approximately **100** percent of the community's population is vulnerable.

b. Critical Facilities

(1) Approximately **100** percent of the community's critical facilities are vulnerable.

(2) The specific critical facilities vulnerable are:

Each Critical Facility in Wilson County is vulnerable to direct or indirect winter storm damage.

c. Non-Critical Facilities

(1) Approximately **100** percent of the community's non-critical facilities are vulnerable.

(2) The specific non-critical facilities vulnerable are:

Each Non-Critical Facility in Wilson County is vulnerable to direct or indirect winter storm damage.

H. Hazard Economic Loss Estimation for Winter Storms

This section describes the potential economic losses due to each hazard confronting the community.

a. Economic Loss

The economic loss resulting from this hazard is approximately **N/A**.

b. Structure Loss

The loss from damage to structures from this hazard is approximately **N/A**.

c. Following is the methodology for estimating losses

No deaths, but 12 injuries have been reported in Wilson County based on Snow and Ice events recorded by the National Climatic Data Center. It is difficult to assess or estimate potential damages that might be incurred if a winter storm were to hit Wilson County in the near future without additional data.

I. Hazard Human Loss Estimation for Winter Storms

This section describes the potential human loss due to each hazard confronting the community.

a. Fatalities

The estimated number of fatalities resulting from this hazard is approximately **N/A**.

b. Injuries

The estimated number of injuries resulting from this hazard is approximately **12**.

c. Displacees

The estimated number of displacees resulting from this hazard is approximately **N/A**.

d. Total Affected

The estimated total number of people affected by this hazard is approximately **12**.

J. Vulnerability to Future Assets/Infrastructure for Winter Storms

The vulnerability to future assets can only be determined by reviewing the HMP for future development on residential/commercial/industrial buildings.

K. Unique and Varied Risks for Winter Storms

Lebanon: The entire jurisdiction is affected by likely possibility of winter storms.

Mt. Juliet: The entire jurisdiction is affected by likely possibility of winter storms.

Watertown: The entire jurisdiction is affected by likely possibility of winter storms.

Wilson County (unincorporated): The entire jurisdiction is affected by likely possibility of winter storms.

4.3 Asset Inventory

A. Processes and Sources for Identifying Assets

Members of the planning team provided specific information pertaining to the asset inventories provided in this plan.

Data Limitations:

An area which Wilson County discovered needed additional data manipulation was in identifying the exact cost for each identified mitigation project.

B. Critical Facilities List:

While it is important to reduce or eliminate risks to all sites throughout your community, there are several types of structures and infrastructure that are more important to protect. Damage to these critical facilities may: 1) impact the delivery of vital services, 2) cause greater damage to other sectors of your community, or 3) place special populations at risk. These facilities are essential to the health and welfare of the whole population and are especially important following hazard events. The potential consequences of losing them are so great that they should be carefully inventoried. Each community should consider not only the structural integrity and content value of its critical facilities, but also the

effects of interruptions to their functions. Vulnerability is based not only on a facility's physical aspects, but also on the services it provides. Since each community within Cleveland County is different, there is no exhaustive list regarding what should be considered a critical facility. However, a number of facility uses that will be on every community's list include:

Fire stations
-Every community will have at least one fire station, and a few of the communities will provide multiple locations.

Police stations
-Each community will provide at least one location, if not multiple locations.

Sewage treatment plants

Water treatment plants and pumping stations

Schools
-The schools can include buildings from elementary/high school to colleges/universities

Retirement homes and senior care facilities
-These centers may include non-English speaking people and/or the elderly, who require special response assistance or medical care in the event of a disaster.

Hospitals
-Although each community may not have a hospital in their jurisdiction, the hospital which provides them with the greatest assistance will be included in their critical facilities list.

Day care Centers

Major roads and bridges

Critical utility sites such as telephone switching stations or electrical transformers

Hazardous material storage areas

In addition, when determining the critical facilities for a community, one should be familiar with the existing and proposed land uses and how the loss of these uses can impact your community. A good working relationship with the transportation experts and utility companies is a must, as well as a good understanding of the geography and geology of your community. The following is a partial list of critical facilities in Wilson County:

Facility Name	Facility Type	Latitude	Longitude
Wilson County			

Facility Name	Facility Type	Latitude	Longitude
Lebanon Municipal Airport	Airport	36.18944	-86.31528
WEMA Fire Station 1	Fire Station	36.19	-86.28
WEMA Fire Station 2	Fire Station	NA	NA
WEMA Fire Station 3	Fire Station	NA	NA
WEMA Fire Station 4	Fire Station	NA	NA
WEMA Fire Station 5	Fire Station	NA	NA
WEMA Fire Station 6	Fire Station	NA	NA
WEMA Fire Station 7	Fire Station	NA	NA
WEMA Fire Station 8	Fire Station	NA	NA
McFarland Hospital	Hospital/Clinic/ER	36.20361	-86.2825
University Medical Center Hospital	Hospital/Clinic/ER	36.19528	-86.27389
Carroll-Oakland Elementary	School	36.28528	-86.27306
Cumberland University	School	36.20389	-86.29944
Friendship Christian School	School		
Gladeville Elementary	School	36.11167	-86.41917
Lakeview Elementary	School	36.26139	-86.55
Lebanon High School	School	36.20194	-86.28611
Lebanon Special School District	School	NA	NA
Lebanon Special School District - Byars-Dowdy Elementary School	School	36.20472	-86.31833
Lebanon Special School District - Sam Houston Elementary School	School	36.22556	-86.28556
Map Academy	School	NA	NA
Mt. Juliet Christian Academy	School	NA	NA
Mt. Juliet High School	School	36.21944	-86.51361
Mt. Juliet Jr. High School	School	36.18417	-86.50972
Pixie School/ McClain Christian Academy	School	NA	NA
Southside Elementary School	School	36.17	-86.30472
Stoner Creek Elementary School	School	36.17222	-86.49417
Tucker's Crossroads Elementary	School	36.19917	-86.17583
Watertown Elementary School	School	36.09917	-86.14167
Watertown High School	School	36.09972	-86.14111
Watertown Junior High School	School	36.09833	-86.14778
West Elementary School	School	36.23167	-86.48
Wilson County School Director	School	NA	NA
Wilson County Vocational Center	School	36.20028	-86.28361

Non-Critical Facilities:

Although many facilities provide a community with an intangible value, these buildings and structures do not have a direct impact on the function of the community.

C. Facility Replacement Costs

This section describes the costs from lost Critical Facilities:

Name	Functional	Displace	Structure	Content	Other
Airport					
Lebanon Municipal Airport	NA	NA	NA	NA	NA
Fire Station					
Fire Station 1	NA	NA	NA	NA	NA
Fire Station 2	NA	NA	NA	NA	NA
Fire Station 3	NA	NA	NA	NA	NA
Fire Station 4	NA	NA	NA	NA	NA
Fire Station 5	NA	NA	NA	NA	NA
Fire Station 6	NA	NA	NA	NA	NA
Fire Station 7	NA	NA	NA	NA	NA
Fire Station 8	NA	NA	NA	NA	NA
Hospital/Clinic/ER					
McFarland Hospital	NA	NA	NA	NA	NA
University Medical Center Hospital	NA	NA	NA	NA	NA
School					
Carroll-Oakland Elementary	NA	NA	NA	NA	NA
Cumberland University	NA	NA	NA	NA	NA
Friendship Christian School	NA	NA	NA	NA	NA
Gladeville Elementary	NA	NA	NA	NA	NA
Lakeview Elementary	NA	NA	NA	NA	NA
Lebanon High School	NA	NA	NA	NA	NA
Lebanon Special School District	NA	NA	NA	NA	NA
Lebanon Special School District - Byars-Dowdy Elementary School	NA	NA	NA	NA	NA
Lebanon Special School District - Sam Houston Elementary School	NA	NA	NA	NA	NA
Map Academy	NA	NA	NA	NA	NA
Mt. Juliet Christian Academy	NA	NA	NA	NA	NA
Mt. Juliet High School	NA	NA	NA	NA	NA
Mt. Juliet Jr. High School	NA	NA	NA	NA	NA
Pixie School/ McClain Christian Academy	NA	NA	NA	NA	NA
Southside Elementary School	NA	NA	NA	NA	NA
Stoner Creek Elementary School	NA	NA	NA	NA	NA
Tucker's Crossroads Elementary	NA	NA	NA	NA	NA
Watertown Elementary School	NA	NA	NA	NA	NA
Watertown High School	NA	NA	NA	NA	NA
Watertown Junior High School	NA	NA	NA	NA	NA
West Elementary School	NA	NA	NA	NA	NA
Wilson County School Director	NA	NA	NA	NA	NA
Wilson County Vocational Center	NA	NA	NA	NA	NA
Totals	NA	NA	NA	NA	NA

D. Future Development

The Wilson County Planning Commission offered the following report based upon their data gathering efforts and also from analysis of comments made during public meetings on the growth of Wilson County. They will attempt to limit the amount of construction and road traffic on small, two-lane roadways; maintain strict adherence to land use regulations to control overbuilding and avoid water runoff problems; and follow the plan of controlled growth and preservation of farmlands wherever possible. The 10 year initiative includes: comprehensive inner agency review, creation of building codes for Wilson County, preservation of century farms, rezoning to protect environmental impact of buildings both residential and commercial, buffer regulations for high density growth areas, updates to major thoroughfare plan to develop a comprehensive transportation plan for Wilson County, and to conduct sewer/septic analysis for the northwest Wilson planned growth area. The largest areas for growth are projected to be in west Wilson County with isolated pockets of growth in the southwest section near the Rutherford County line.

4.4 Analysis of Community Development Trends

Wilson County

In June 2005 Wilson County, Tennessee, contracted with Lose & Associates, Inc., land planners and landscape architects, to conduct research, review existing documents and facilitate public meetings with county residents along with county staff to produce a Gateway Land Use Master Plan for the county. The county had identified the need for a cohesive image to greet visitors and residents as they entered and left the county. In doing so, eight locations were selected as the most typical gateways to the county and were chosen for evaluation and analysis for the master plan. These points were:

- The I-40/Linwood Road interchange, including Tucker's Crossroads
- Highway 109 entering from Sumner County
- The SR-840 Couchville Pike interchange
- The SR-840/Stewarts Ferry Pike interchange
- Sparta Pike on both sides of Watertown
- Highway 231 entering from Rutherford County
- Highway 70 entering from Smith County
- Highway 231 entering from Trousdale County

An integral part of the process was gathering public input from citizens and county representatives so that the master plan report would accurately reflect the desires of the community. Thus, on October 18, 2005 a public hearing was held for citizens and members of the Wilson County planning commission and the Wilson County commissioners. A second meeting was held on November 28, 2005 with the Joint Economic Development Board, and a third was held on December 13 in the evening at the county courthouse. The overriding concern of citizens was preservation of the rural character of the county, with the acknowledgement that rapid growth was

imminent in the county. Thus, many expressed a desire for zoning regulations that would limit the areas and nature of this growth. This plan assesses the existing condition at each of the eight gateway locations, provides an analysis of the most appropriate potential at each and proposes recommendations for types and locations of future growth. For additional information please contact the Wilson County planning department.

-Approximately 36% of all travel spending in the State of Tennessee was spent within a 50 mile radius of Lebanon.
-Prime Outlets of Lebanon had over 2.5 million visitors since 1999.
-With 2,000,000 visitors annually, the busiest welcome center in Tennessee is 25 miles east of Lebanon on I-40.
-Cedars of Lebanon State Park, located five miles south of Lebanon, has more than 650,000 visitors annually.
-The $125,000,000 Nashville Superspeedway, which opened in April 2001, is just 15 miles south of Lebanon.
-Lebanon's Town Square, located two miles north of I-40, draws thousands of antique and collectibles shoppers.
-The Wilson County Fair drew more than 420,000 attendees in 2004, the state's largest fair.
-The U.S. Travel Data Center's report "Economic Impact of Travel on Tennessee's Counties Report for the State of Tennessee" shows a steady increase in tourism and travel expenditures in Wilson County.

Lebanon

There are four gateways within the county that could increase in residential, commercial, and industrial establishments in Lebanon. The first gateway is the I-40 & Linwood Road Exchange. At this point this location in still in the beginning phases of planning. There will need to be additional infrastructure to support a plethora of residential and commercial development. The second gateway is located near the SR-840 & Couchville Pike Interchange and Speedway Area. This sector of the jurisdiction has been dedicated to rural large-lot, single-family development and farmland. In the past few years, this area has seen commercial development for the traveling public. Another potential development region of Lebanon is along Highway 70 entering from Smith County. This area should be limited to residential development and should remain rural. The last area that is underdeveloped is along Highway 231 entering from Trousdale County. This area would allow several residential sub-divisions and a minimal amount of commercial. There will need to be additional development on the infrastructure prior to a heavy increase in commercial development.

Mt. Juliet

There are a few sections in the county providing potential development in the Mt. Juliet area. The area located along Highway 231 from the southern part of Wilson County. There should be limited commercial development, low density/intensity retail services, due to the location of Cedars of Lebanon State Park. There is currently in influx of residential development due to the growth in Rutherford County. The second gateway allowing additional growth in Mt. Juliet is located near Highway 109 entering from Sumner County. This has great potential for residential and commercial development.

Watertown

The development trends associated with Watertown and surrounding areas are primarily residential developments. There is anticipation of 40-50 residences to be built near Beach Log Road and Weaver Road. In addition, there is a possibility of a large development of 2000 plus homes in the Northwest section of Watertown. In regards to Industrial and commercial, Watertown does not have any future plans for new industry attractions. The commercial areas should be limited and directed towards the Beech Log Rd and East Main Street region.

Hazard Mitigation Plan
Community of Wilson County, TN

Section 5 Mitigation Strategy

5.1 Summary of Mitigation Goals

Following section provides an overview of the Mitigation Goals and Objectives:

The goals were developed by the Wilson County HMPC by reviewing other hazard mitigation plans, holding planning team meetings, and having discussions with committee members. The goals were presented and discussed, and a general consensus reached during the public hazard mitigation strategy meeting, which also included the Wilson County HMPC. The goals were developed by the risk assessment and review of plans to reduce the affects on people and structures throughout the county for all hazards. The primary GOAL of the HMP is to reduce the risk of natural hazards, and to protect the life and property within Wilson County.

5.2 Mitigation Goals

1. A-To Provide Public Awareness about Disasters and Develop Partnerships

Goal Description: Public Awareness and Partnerships. Promote coordination and communication between individual citizens, private businesses, public agencies and non-profit organizations to improve the overall ability for the community to respond to and recover from a natural disaster. From these partnerships, encourage leadership to prioritize and undertake specific projects for mitigation.

Objectives:

1. Educate the public about the risks associated with natural hazards and the steps they can take to be prepared.
2. Initiate programs to promote on-going partnerships within the community to address mitigation and emergency management.
3. Establish public programs and regulations for community involvement in emergency planning, including regular open-forum meetings and an on-going public awareness campaign.

Duration: Short-Term

2. B-To Develop or Improve Structures to be Disaster Resistant

Goal Description: The County will establish planning mechanisms and relationships with contractors and vendors to ensure that building materials and methods will enhance safety and withstand hazardous events.

Objectives:

1. Initiate preferred contractor relationships with vendors demonstrating use of safer materials and methods.

2. Establish a committee including local contractors to discuss products available for new structures which can withstand future expected hazards.

Duration: Long-Term

3. C-To Develop or Amend County Laws and Regulations.

Goal Description: To develop or amend county laws and codes so they effectively address hazard mitigation needs assessment.

Objectives: Pass into law building codes for Wilson County with minimum standards for safety and sustainability.

Duration: Long-Term

4. D-Reduce the Impact of Hazards on Vulnerable Populations

Goal Description: To reduce the impact of hazards on residents of mobile homes and campgrounds.

Objectives: Place warning systems near trailer parks and light structures as well as work on laws to mandate tornado shelters and tie-downs for trailer parks and unsecured structures.

Duration: Long-Term

5. E-Improve Public Knowledge of Hazards

Goal Description: To improve the public knowledge of hazards including natural and manmade disasters.

Objectives: Develop a county-wide public awareness campaign for natural and manmade hazards and encourage Wilson County residents to be proactive in protecting themselves and preparing for the impact and recovery phases of all types of disasters.

Duration: Long-Term

6. F-To Provide Our Residents with Enhanced Protection Against All Hazards

Goal Description: To provide the residents of Wilson County with enhanced protection from natural and manmade hazards. The projects identified within this plan will increase the safety of residents living and visiting Wilson County and make Wilson County one of, if not the safest, county in Tennessee.

Objectives: - Increase safety against natural and manmade hazards through reduction of flood prone areas
- Enforce or create where necessary strong building codes
- Place tornado sirens and shelters in areas of dense or vulnerable populations
- Place generators in critical needs facilities

Duration: Short-Term

7. G- Enhance the Disaster Warning System of Wilson County

Goal Description: To enhance the disaster warning system for Wilson County so that residents are warned in a timely manner and provided evacuation direction in the event of flooding, hazardous weather, dam failures or manmade hazards.

Objectives: - Enhance county warning systems to include more tornado sirens
- Create the capability to warn more people via the internet, TV, radio, and other media outlets
- Provide preplans for dam failures and evacuation routes from flood-prone areas

Duration: Short-Term

8. H-Reduce Repetitive Structural Losses

Goal Description: Reduce repetitive structural losses, including homes damaged by flooding.

Objectives: Work to reduce building and rebuilding in flood-prone areas as identified in the new 2006 FEMA Flood Plan.

Additionally, work to mitigate flooding in rapidly developing areas that were not included in the FEMA Flood Plan, but are located in flood-prone areas.

Duration: Long-Term

5.3 Mitigation Actions/Projects

This section serves to identify proposed projects in the community.

The Benefit-Cost Ratio uses the following equation to compare cost-effectiveness of mitigation projects.

$$\beta = \frac{\sum_{i=1}^{N} \frac{\rho_i}{100}(E_i + D_i)}{P}$$

Where B is the Benefit-Cost Ratio of the project, p is the mitigation effectiveness factor of the ith hazard, E is the economic loss of the ith Hazard, D is the structural damage loss of the ith hazard, and P is the total cost of the project.

Wilson County Community Projects

Wilson County Project: Goal 1A

Name: Project 01 Dam Failure-Wilson County

Description: The County will provide the citizens with the updated emergency routes and mapping of high risk areas due to dam inundation.

Lead Agency: Wilson County Emergency Management

Local Priority: High

Total Cost: $5,000

Funding Description: The project will be funded entirely by the County.

Hazards Mitigated:

1 . Dam Failure: 100%

Wilson County Project: Goal 1B

Name: Project 23 Flooding-Lebanon

Description: The County will elevate Bluebird Road between Peyton Road and Bluebird Extension. This will not only help prevent flooding, but will allow local traffic to access this road during heavy inundation.

Lead Agency: Wilson County Road Commission

Local Priority: High

Total Cost: $75,000

Funding Description: This project will be funded through the 75/25 match provided with HMGP. The county will assume the 25% match and FEMA will assume the additional 75%.

Hazards Mitigated:

1 . Flooding: 100%

Wilson County Project: Goal 1C

Name: Project 06 Earthquake-Wilson County

Description: The County will create and pass into law building codes for Wilson County and hire two full-time building inspectors.

Lead Agency: Wilson County Planning Offices

Local Priority: High

Total Cost: $90,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Earthquake: 100%

2 . Tornado: 100%

Wilson County Project: Goal 1D

Name: Project 07 Thunderstorm-Wilson County

Description: Implement building codes for all mobile home/pre-fabricated/lightweight structure residents for the purpose of enforcing the use of tie-downs to minimize damage caused from storms.

Local Priority: Critical

Total Cost: $1,000

Funding Description: This project will be entirely funded by the County.

Hazards Mitigated:

1 . Thunderstorms/Lightning and High Winds: 100%

2 . Tornado: 100%

Wilson County Project: Goal 1E

Name: Project 03 Drought Awareness-Wilson County

Description: The County will establish a working relationship with local newspapers, radio stations and County weather professionals to effectively communicate with agricultural producers on potential drought periods.

Lead Agency: Wilson County Emergency Management

Local Priority: Medium

Total Cost: $2,500

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Drought: 100%

Wilson County Project: Goal 1F

Name: Project 21 Flooding-Watertown

Description: Project 21 Flooding-Watertown
The County will conduct a biannual debris removal effort on 840 Barnett Road and install a larger corrugated, galvanized metal pipe to allow better flow away from the area. In addition, the city will conduct a biannual debris removal from the following creeks; RoadLick, Thornbranch, Claver, Fall, and Smithfork.

Local Priority: Medium

Total Cost: $150,000

Funding Description: This project will be funded with a 25/75 match through Wilson County and FEMA.

Hazards Mitigated:

1 . Flooding: 100%

Wilson County Project: Goal 1G

Name: Project 10-Tornado Warning System-Wilson County

Description: The County will place an additional 22 tornado warning systems (sirens) throughout Wilson County. This will enhance the warning effectiveness around the cities of Lebanon and Mt. Juliet, and along Highway 70 between Lebanon and Mt. Juliet.

Lead Agency: Wilson County Emergency Management

Local Priority: Critical

Total Cost: $325,000

Funding Description: This project will be accomplished with a 25%/75% split between Wilson County and FEMA, respectively.

Hazards Mitigated:

1 . Tornado: 100%

2 . Thunderstorms/Lightning and High Winds: 25%

Wilson County Project: Goal 1H

Name: Project 18 Flooding Preparedness-Wilson County

Description: The County and jurisdictions will review the infrastructure with the Wilson County Road Commission bi-annually to minimize flooding, addressing such items as drainage cleanup and creating reservoir ponds in heavy residential/commercial developments.

Lead Agency: Wilson County Road Commission

Local Priority: High

Total Cost: $10,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Flooding: 100%

Wilson County Project: Goal 2A

Name: Project 02 Dam Failure-Wilson County

Description: The County will provide a biannual update of the status on the County dams which pose a high hazard risk to the County.

Lead Agency: Wilson County Emergency Management

Local Priority: High

Total Cost: $3,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Dam Failure: 100%

Wilson County Hazard Mitigation Planning Addendum to Plan
Section 5.3, Mitigation Actions/Projects

January 5, 2009

Wilson County Project 2-B

Name: Project AA1, Protection of Vulnerable Populations from Wind/Tornadoes/Thunderstorms

Description: Reduce danger to populations in schools, nursing homes and other public gathering places and/or residences by construction of shelter areas within the buildings which will be less susceptible to wind or tornado damage and provide a haven during these events or during the watch and warning phases of these events. This will include both new construction of safe rooms or sites and the renovation and/or remodeling of existing walls, floors, ceilings, etc. to improve their wind resistance and reduce the chance for damage and injury due to wind and wind blown debris.

Local Priority: High

Funding Description: Matching or full grant depending on the grant Source

Hazards Mitigated: Windstorm, tornado

Wilson County Project: Goal 2D

Name: Project 09 Thunderstorm-Wilson County

Description: The County will work with the school board to replace existing windows in educational buildings with wind-proof glass.

Lead Agency: Wilson County School Board

Local Priority: Critical

Total Cost: $500,000

Funding Description: This project will be accomplished through a 25/75 split between Wilson County and FEMA, respectively.

Hazards Mitigated:

1 . Thunderstorms/Lightning and High Winds: 100%

Wilson County Project: Goal 2E

Name: Project 04 Drought-Wilson County

Description: The County will collaborate with the local agriculturalist and agriculture committee in determining if the water supply amount is sufficient. This will help minimize the effects of drought on agriculture and maximize the use of the water supply.

Lead Agency: Wilson County Public Works

Local Priority: Medium

Total Cost: $5,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Drought: 100%

Wilson County Project: Goal 2F

Name: Project 22 Winter Storm-Mt. Juliet

Description: The County needs to address the high risk route along East Division between Lebanon and Mt. Juliet. This infrastructure, at a minimum, needs installation of guard rails to prevent vehicles from leaving the roadway. This road was built on a converted railroad bed, is extremely narrow and has no "shoulder." Due to the inherent positioning, the guard rails will prevent vehicles from dropping off the sides, which range in height from 5-10 feet.

Lead Agency: Wilson County Road Commission

Local Priority: High

Total Cost: $100,000

Funding Description: The funding on this project will be a 75/25 match through FEMA and the County.

Hazards Mitigated:

1 . Winter Storms: 100%

Wilson County Project: Goal 3A

Name: Project 05 Earthquake Preparedness-Wilson County

Description: The County will provide documentation and procedures to residents and local contractors (residential/commercial) on minimizing the effects of earthquakes.

Lead Agency: Wilson County Emergency Management

Local Priority: High

Total Cost: $10,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Earthquake: 100%

Wilson County Project: Goal 3D

Name: Project 12 Wildfire Prevention-Wilson County

Description: The County will publicize to the local citizens days for restricting burning during specific periods throughout the year when extreme weather conditions make burning more hazardous.

Lead Agency: Wilson County Emergency Management

Local Priority: High

Total Cost: $10,000

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Wildfires: 100%

Wilson County Project: Goal 3E

Name: Project 11 Wildfire Awareness Program-Wilson County

Description: The County will collaborate with the fire departments within the jurisdiction and establish a program to reduce the risk of fires. This program will educate the public on how to prevent and minimize the effects of wildfires.

Lead Agency: Wilson County Emergency Management

Local Priority: Medium

Total Cost: $2,500

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Wildfires: 100%

Wilson County Project: Goal 3F

Name: Project 13 Winter Storm Power Generator-Wilson County

Description: Winter Storms often result in county-wide power loss. County schools have been identified as both shelters and alternate care sites in the event of emergencies. Additionally, weather conditions may deteriorate once children are already at school, causing school buses to be grounded. Generators are necessary to provide heat for children and personnel at the schools until they can be safely transported to their homes.

Lead Agency: Wilson County School Board

Local Priority: Critical

Total Cost: $100,000

Funding Description: This project will be funded with a 25%/75% split between Wilson County and FEMA, respectively.

Hazards Mitigated:

1 . Winter Storms: 100%

Wilson County Project: Goal 4A

Name: Project 14 Extreme Heat Public Education-Wilson County

Description: Distribute literature throughout the county to inform the citizens on procedures to follow during periods of extreme heat.

Lead Agency: Wilson County Emergency Management

Local Priority: Medium

Total Cost: $2,500

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Extreme Heat: 100%

Wilson County Project: Goal 4B

Name: Project 16 Hail Airport Hangars-Lebanon

Description: Hangar space is at a premium at the Lebanon Airport (M54). Numerous aircraft are tied down without structural protection, resulting in damage estimates in the hundreds of thousands of dollars after major hailstorms. The creation of two T-Hangars would mitigate damage to aircraft in the event of hailstorms.

Lead Agency: State of Tennessee Airport Association

Local Priority: High

Total Cost: $180,000

Funding Description: This project would be funded with a 25%/75% split between the City of Lebanon and FEMA, respectively.

Hazards Mitigated:

1 . Hail: 100%

Wilson County Project: Goal 4F

Name: Project 15 Extreme Heat Community Program-Wilson County

Description: The County will work with local churches and other non-profit organizations to inform citizens of the designated buildings providing shelter during periods of extreme heat.

Lead Agency: Wilson County Emergency Management

Local Priority: Medium

Total Cost: $2,500

Funding Description: This project will be funded entirely by the County.

Hazards Mitigated:

1 . Extreme Heat: 100%

Wilson County Project: Goal 5A

Name: Project 19 Winter Storm-Wilson County

Description: The County will work with the local utilities on the possibilities of installing power lines underground to mitigate the effects of winter storms by reducing the likelihood of power outages.

Lead Agency: Wilson County Road Commission

Local Priority: High

Total Cost: $10,000

Funding Description: This project will be entirely funded by the County.

Hazards Mitigated:

1 . Winter Storms: 100%

Wilson County Project: Goal 5C

Name: Project 17 Hail Prevention Standards-Wilson County

Description: The County will establish documentation on higher hail damage prevention standards with local contractors for residential and commercial buildings.

Lead Agency: Wilson County Planning Commission

Local Priority: Medium

Total Cost: $15,000

Funding Description: This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.

Hazards Mitigated:

1 . Hail: 100%

Wilson County Project: Goal 5F

Name: Project 08 Tornado Storm Shelters-Wilson County

Description: To place, at a minimum, one storm shelter per mobile home park throughout the county. This may be expanded to include public parks and others areas of public gathering.

Local Priority: Critical

Total Cost: $750,000

Funding Description: This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.

Hazards Mitigated:

1 . Thunderstorms/Lightning and High Winds: 100%

2 . Tornado: 100%

Wilson County Project: Goal 6B

Name: Project 24 Bridge Construction-Watertown

Description: The City of Watertown has several Low Water Bridges that need to be replaced with standard bridges to allow vehicular passage during heavy inundation.

Lead Agency: Watertown Local Road Commission

Local Priority: Medium

Total Cost: $1,000,000

Funding Description: The funding of this project will be a 25/75 split with Watertown and FEMA.

Hazards Mitigated:

1 . Flooding: 100%

Wilson County Project: Project E-1

Name: Lebanon Flooding at 412B Sam Houston Drive

Description: Residents at this location called to report that during periods of heavy rainfall their yard floods. After the rain the area will retain moisture, making mowing difficult, and encouraging the breeding and increased population of mosquitoes during warm weather.

Local Priority: Low

Latitude: 36.22

Longitude: -86.28

Hazards Mitigated:

1 . Flooding: 100%

Wilson County Project: Project E-2

Name: Watertown Flooding 840 Barrett Road

Description: The bridge at 840 Barrett Road in Statesville (nearest community is Watertown) floods with every rainfall, cutting off the road for the three elderly families that live at the end of it. No personal or emergency vehicles can cross during periods of heavy rainfall. A resident stated that the bridge floods because of debris that has built up underneath it.

Plan for Implementation and Administration: Have the Watertown Public Works Department clear the debris out from under the bridge so that water can flow freely.

Local Priority: Medium

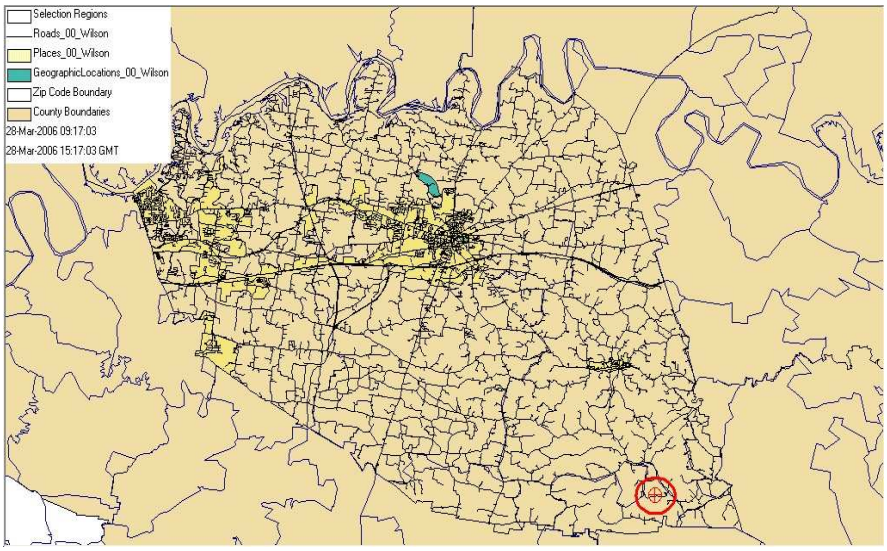
Latitude: 35.991

Longitude: -86.097

Hazards Mitigated:

1 . Flooding: 100%

Description: JPG of the location within Wilson County of 840 Barrett Road. The area is circled in red with the marker placed at the location of the bridge.
Title: 840 Barrett Road
Project: Project E-2



Wilson County Project: Project E-3

Name: Sam Houston Drive Flooding

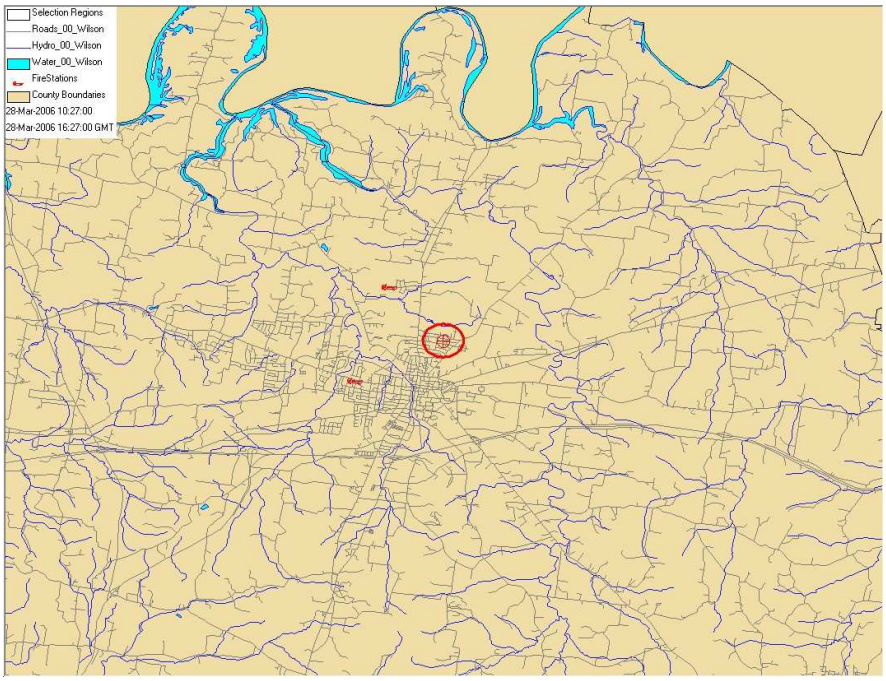
Description: Residents at this location report that their yard floods repeatedly and covers the bridge whenever it rains.

Local Priority: Low

Hazards Mitigated:

1 . Flooding: 100%

Description: Mapping of 412 Sam Houston Drive where flooding goes into a culvert.
Title: 412 Sam Houston Drive JPG
Project: Project E-3



This section serves to identify the proposed projects in the community by hazard.

Following table identifies Projects to mitigate the **Dam Failure** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1A Project 01 Dam Failure-Wilson County	0.00	100%	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 2A Project 02 Dam Failure-Wilson County	0.00	100%	$3	$3	$0	$3 *(2007)*	$0	$0	$0
Goal 2F Project 22 Winter Storm-Mt. Juliet	0.00	100%	$100	$100	$0	$25 *(2008)*	$0	$75 *(2008)*	$0
Totals:			**$108**	**$108**	**$0**	$**33**	$**0**	$**75**	$**0**

Following table identifies Projects to mitigate the **Drought** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1E Project 03 Drought Awareness-Wilson County	0.00	100%	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 2E Project 04 Drought-Wilson County	0.00	100%	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Totals:			**$8**	**$8**	**$0**	$**8**	$**0**	$**0**	$**0**

Following table identifies Projects to mitigate the **Earthquake** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1C Project 06 Earthquake-Wilson County	0.00	100%	$90	$90	$0	$90 *(2008)*	$0	$0	$0
Goal 3A Project 05 Earthquake Preparedness-Wilson County	0.00	100%	$10	$10	$0	$10 *(2008)*	$0	$0	$0
Totals:			**$100**	**$100**	**$0**	$**100**	$**0**	$**0**	$**0**

Following table identifies Projects to mitigate the **Extreme Heat** hazard (Dollar Amounts in Thousands).

F

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 4A Project 14 Extreme Heat Public Education-Wilson County	0.00	100%	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 4F Project 15 Extreme Heat Community Program-Wilson County	0.00	100%	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Totals:			**$5**	**$5**	**$0**	$**5**	$**0**	$**0**	$**0**

Following table identifies Projects to mitigate the **Flooding** hazard. (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1B Project 23 Flooding-Lebanon	0.00	100%	$75	$75	$0	$19 *(2008)*	$0	$56 *(2008)*	$0
Goal 1F Project 21 Flooding-Watertown	0.00	100%	$150	$150	$0	$38 *(2008)*	$0	$112 *(2008)*	$0
Goal 1H Project 18 Flooding Preparedness-Wilson County	0.00	100%	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 6B Project 24 Bridge Construction-Watertown	0.00	100%	$1,000	$1,000	$0	$250 *(2008)*	$0	$750 *(2008)*	$0
Totals:			**$1,235**	**$1,235**	**$0**	$**316**	$**0**	$**919**	$**0**

Following table identifies Projects to mitigate the **Hail** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 4B Project 16 Hail Airport Hangars-Lebanon	0.00	100%	$180	$180	$0	$0	$45 *(2008)*	$135 *(2008)*	$0
Goal 5C Project 17 Hail Prevention Standards-Wilson County	0.00	100%	$15	$15	$0	$15 *(2007)*	$0	$0	$0
Totals:			**$195**	**$195**	**$0**	$**15**	$**45**	$**135**	$**0**

Following table identifies Projects to mitigate the **Thunderstorms/Lightning and High Winds** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1D Project 07 Thunderstorm-Wilson County	0.00	100%	$1	$1	$0	$1 *(2008)*	$0	$0	$0
Goal 1G Project 10-Tornado Warning System-Wilson County	0.00	25%	$325	$325	$0	$81 *(2008)*	$0	$244 *(2008)*	$0
Goal 2D Project 09 Thunderstorm-Wilson County	0.00	100%	$500	$500	$0	$125 *(2009)*	$0	$375 *(2009)*	$0
Goal 5F Project 08 Tornado Storm Shelters-Wilson County	0.00	100%	$250	$250	$0	$62 *(2009)*	$0	$188 *(2009)*	$0
Totals:			**$1,076**	**$1,076**	**$0**	$**270**	$**0**	$**806**	$**0**

Following table identifies Projects to mitigate the **Tornado** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 1C Project 06 Earthquake-Wilson County	0.00	100%	$90	$90	$0	$90 *(2008)*	$0	$0	$0
Goal 1D Project 07 Thunderstorm-Wilson County	0.00	100%	$1	$1	$0	$1 *(2008)*	$0	$0	$0
Goal 1G Project 10-Tornado Warning System-Wilson County	0.00	100%	$325	$325	$0	$81 *(2008)*	$0	$244 *(2008)*	$0
Goal 5F Project 08 Tornado Storm Shelters-Wilson County	0.00	100%	$250	$250	$0	$62 *(2009)*	$0	$188 *(2009)*	$0
Totals:			**$666**	**$666**	**$0**	$**235**	$**0**	$**431**	$**0**

Following table identifies Projects to mitigate the **Wildfires** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 3D Project 12 Wildfire Prevention-Wilson County	0.00	100%	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 3E Project 11 Wildfire Awareness Program-Wilson County	0.00	100%	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Totals:			**$12**	**$12**	**$0**	$**12**	$**0**	$**0**	$**0**

Following table identifies Projects to mitigate the **Winter Storms** hazard (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Wilson County									
Goal 2F Project 22 Winter Storm-Mt. Juliet	0.00	100%	$100	$100	$0	$25 *(2008)*	$0	$75 *(2008)*	$0
Goal 3F Project 13 Winter storm Power Generators-Wilson County	0.00	100%	$100	$100	$0	$25 *(2007)*	$0	$75 *(2007)*	$0
Goal 5A Project 19 Winter storm-Wilson County	0.00	100%	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Totals:			**$210**	**$210**	**$0**	$**60**	$**0**	$**150**	$**0**

5.4 Implementation Strategy and Analysis of Mitigation Projects

Wilson County HMPC discussed several objectives to implement the County's goal to mitigate natural hazards, but due to the County's limited resources at this time, only a few were selected and addressed in this initial Plan. Each selected objective includes a Mitigation Project designed to meet the objective. Each Action was discussed publicly and with the HMPC. These actions are prioritized and summarized below, including a schedule of when the action(s) may begin. The categories -- cost versus benefit, citizens served, likelihood of the event, and number of hazards mitigated by the Action -- were considered when priority ranking the Actions. The projects illustrate the criteria used to determine the priorities. Note that these priorities are subject to change. It is also important to note that additional mitigation actions will be included as more of the public, and other entities within the County, become involved; as the HMP is updated; and as funding becomes available to the County. The HMPC prioritized the actions by using an open forum discussion and consensually agreeing on the feasibility of the mitigation actions based on the criteria above.

This section serves to identify the Proposed Projects in the community.

Following tables represents the summation of all mitigation projects related to all hazards threatening the community of Wilson County.

Table 1 The projects are prioritized purely on the basis of the Calculated B/C Ratio (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 1A **Project 01 Dam Failure-Wilson County** *(Wilson County)*	0.00	Dam Failure *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 1B **Project 23 Flooding-Lebanon** *(Wilson County)*	0.00	Flooding *(100%)*	$75	$75	$0	$19 *(2008)*	$0	$56 *(2008)*	$0
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*	0.00	Earthquake *(100%)* Tornado *(100%)*	$90	$90	$0	$90 *(2008)*	$0	$0	$0
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$1	$1	$0	$1 *(2008)*	$0	$0	$0
Goal 1E **Project 03 Drought Awareness-Wilson County** *(Wilson County)*	0.00	Drought *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 1F **Project 21 Flooding-Watertown** *(Wilson County)*	0.00	Flooding *(100%)*	$150	$150	$0	$38 *(2008)*	$0	$112 *(2008)*	$0
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(25%)* Tornado *(100%)*	$325	$325	$0	$81 *(2008)*	$0	$244 *(2008)*	$0
Goal 1H **Project 18 Flooding Preparedness-Wilson County** *(Wilson County)*	0.00	Flooding *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 2A **Project 02 Dam Failure-Wilson County** *(Wilson County)*	0.00	Dam Failure *(100%)*	$3	$3	$0	$3 *(2007)*	$0	$0	$0

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 2D **Project 09 Thunderstorm-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)*	$500	$500	$0	$125 *(2009)*	$0	$375 *(2009)*	$0
Goal 2E **Project 04 Drought-Wilson County** *(Wilson County)*	0.00	Drought *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*	0.00	Dam Failure *(100%)* Winter Storms *(100%)*	$100	$100	$0	$25 *(2008)*	$0	$75 *(2008)*	$0
Goal 3A **Project 05 Earthquake Preparedness-Wilson County** *(Wilson County)*	0.00	Earthquake *(100%)*	$10	$10	$0	$10 *(2008)*	$0	$0	$0
Goal 3D **Project 12 Wildfire Prevention-Wilson County** *(Wilson County)*	0.00	Wildfires *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 3E **Project 11 Wildfire Awareness Program-Wilson County** *(Wilson County)*	0.00	Wildfires *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 3F **Project 13 Winter storm Power Generators-Wilson County** *(Wilson County)*	0.00	Winter Storms *(100%)*	$100	$100	$0	$25 *(2007)*	$0	$75 *(2007)*	$0
Goal 4A **Project 14 Extreme Heat Public Education-Wilson County** *(Wilson County)*	0.00	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 4B **Project 16 Hail Airport Hangars-Lebanon** *(Wilson County)*	0.00	Hail *(100%)*	$180	$180	$0	$0	$45 *(2008)*	$135 *(2008)*	$0
Goal 4F **Project 15 Extreme Heat Community Program-Wilson County** *(Wilson County)*	0.00	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 5A **Project 19 Winter storm-Wilson County** *(Wilson County)*	0.00	Winter Storms *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 5C **Project 17 Hail Prevention Standards-Wilson County** *(Wilson County)*	0.00	Hail *(100%)*	$15	$15	$0	$15 *(2007)*	$0	$0	$0
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$250	$250	$0	$62 *(2009)*	$0	$188 *(2009)*	$0
Goal 6B **Project 24 Bridge Construction-Watertown** *(Wilson County)*	0.00	Flooding *(100%)*	$1,000	$1,000	$0	$250 *(2008)*	$0	$750 *(2008)*	$0
Totals:			**$2,849**	**$2,849**	**$0**	**$794**	**$45**	**$2,010**	**$0**

Table 2 The projects are prioritized purely on the basis of Local Priority (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**Local Priority**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*	Critical	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$1	$1	$0	$1 *(2008)*	$0	$0	$0

Projects				Available Financing					
Project Number	**Local Priority**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*	Critical	Thunderstorms/Lightning and High Winds *(25%)* Tornado *(100%)*	$325	$325	$0	$81 *(2008)*	$0	$244 *(2008)*	$0
Goal 2D **Project 09 Thunderstorm-Wilson County** *(Wilson County)*	Critical	Thunderstorms/Lightning and High Winds *(100%)*	$500	$500	$0	$125 *(2009)*	$0	$375 *(2009)*	$0
Goal 3F **Project 13 Winter storm Power Generators-Wilson County** *(Wilson County)*	Critical	Winter Storms *(100%)*	$100	$100	$0	$25 *(2007)*	$0	$75 *(2007)*	$0
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*	Critical	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$250	$250	$0	$62 *(2009)*	$0	$188 *(2009)*	$0
Goal 1A **Project 01 Dam Failure-Wilson County** *(Wilson County)*	High	Dam Failure *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 1B **Project 23 Flooding-Lebanon** *(Wilson County)*	High	Flooding *(100%)*	$75	$75	$0	$19 *(2008)*	$0	$56 *(2008)*	$0
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*	High	Earthquake *(100%)* Tornado *(100%)*	$90	$90	$0	$90 *(2008)*	$0	$0	$0
Goal 1H **Project 18 Flooding Preparedness-Wilson County** *(Wilson County)*	High	Flooding *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 2A **Project 02 Dam Failure-Wilson County** *(Wilson County)*	High	Dam Failure *(100%)*	$3	$3	$0	$3 *(2007)*	$0	$0	$0

Projects				Available Financing					
Project Number	**Local Priority**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*	High	Dam Failure *(100%)* Winter Storms *(100%)*	$100	$100	$0	$25 *(2008)*	$0	$75 *(2008)*	$0
Goal 3A **Project 05 Earthquake Preparedness-Wilson County** *(Wilson County)*	High	Earthquake *(100%)*	$10	$10	$0	$10 *(2008)*	$0	$0	$0
Goal 3D **Project 12 Wildfire Prevention-Wilson County** *(Wilson County)*	High	Wildfires *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 4B **Project 16 Hail Airport Hangars-Lebanon** *(Wilson County)*	High	Hail *(100%)*	$180	$180	$0	$0	$45 *(2008)*	$135 *(2008)*	$0
Goal 5A **Project 19 Winter storm-Wilson County** *(Wilson County)*	High	Winter Storms *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 1E **Project 03 Drought Awareness-Wilson County** *(Wilson County)*	Medium	Drought *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 1F **Project 21 Flooding-Watertown** *(Wilson County)*	Medium	Flooding *(100%)*	$150	$150	$0	$38 *(2008)*	$0	$112 *(2008)*	$0
Goal 2E **Project 04 Drought-Wilson County** *(Wilson County)*	Medium	Drought *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 3E **Project 11 Wildfire Awareness Program-Wilson County** *(Wilson County)*	Medium	Wildfires *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0

Projects				Available Financing					
Project Number	**Local Priority**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 4A **Project 14 Extreme Heat Public Education-Wilson County** *(Wilson County)*	Medium	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 4F **Project 15 Extreme Heat Community Program-Wilson County** *(Wilson County)*	Medium	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 5C **Project 17 Hail Prevention Standards-Wilson County** *(Wilson County)*	Medium	Hail *(100%)*	$15	$15	$0	$15 *(2007)*	$0	$0	$0
Goal 6B **Project 24 Bridge Construction-Watertown** *(Wilson County)*	Medium	Flooding *(100%)*	$1,000	$1,000	$0	$250 *(2008)*	$0	$750 *(2008)*	$0
Totals:			**$2,849**	**$2,849**	**$0**	**$794**	**$45**	**$2,010**	**$0**

Table 3 The projects are prioritized purely on the basis of Total Cost (Dollar Amounts in Thousands).

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 6B **Project 24 Bridge Construction-Watertown** *(Wilson County)*	0.00	Flooding *(100%)*	$1,000	$1,000	$0	$250 *(2008)*	$0	$750 *(2008)*	$0
Goal 2D **Project 09 Thunderstorm-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)*	$500	$500	$0	$125 *(2009)*	$0	$375 *(2009)*	$0

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(25%)* Tornado *(100%)*	$325	$325	$0	$81 *(2008)*	$0	$244 *(2008)*	$0
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$250	$250	$0	$62 *(2009)*	$0	$188 *(2009)*	$0
Goal 4B **Project 16 Hail Airport Hangars-Lebanon** *(Wilson County)*	0.00	Hail *(100%)*	$180	$180	$0	$0	$45 *(2008)*	$135 *(2008)*	$0
Goal 1F **Project 21 Flooding-Watertown** *(Wilson County)*	0.00	Flooding *(100%)*	$150	$150	$0	$38 *(2008)*	$0	$112 *(2008)*	$0
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*	0.00	Dam Failure *(100%)* Winter Storms *(100%)*	$100	$100	$0	$25 *(2008)*	$0	$75 *(2008)*	$0
Goal 3F **Project 13 Winter storm Power Generators-Wilson County** *(Wilson County)*	0.00	Winter Storms *(100%)*	$100	$100	$0	$25 *(2007)*	$0	$75 *(2007)*	$0
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*	0.00	Earthquake *(100%)* Tornado *(100%)*	$90	$90	$0	$90 *(2008)*	$0	$0	$0
Goal 1B **Project 23 Flooding-Lebanon** *(Wilson County)*	0.00	Flooding *(100%)*	$75	$75	$0	$19 *(2008)*	$0	$56 *(2008)*	$0
Goal 5C **Project 17 Hail Prevention Standards-Wilson County** *(Wilson County)*	0.00	Hail *(100%)*	$15	$15	$0	$15 *(2007)*	$0	$0	$0
Goal 1H	0.00	Flooding	$10	$10	$0	$10	$0	$0	$0

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Project 18 Flooding Preparedness-Wilson County *(Wilson County)*		*(100%)*				*(2007)*			
Goal 3A **Project 05 Earthquake Preparedness-Wilson County** *(Wilson County)*	0.00	Earthquake *(100%)*	$10	$10	$0	$10 *(2008)*	$0	$0	$0
Goal 3D **Project 12 Wildfire Prevention-Wilson County** *(Wilson County)*	0.00	Wildfires *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 5A **Project 19 Winter storm-Wilson County** *(Wilson County)*	0.00	Winter Storms *(100%)*	$10	$10	$0	$10 *(2007)*	$0	$0	$0
Goal 1A **Project 01 Dam Failure-Wilson County** *(Wilson County)*	0.00	Dam Failure *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 2E **Project 04 Drought-Wilson County** *(Wilson County)*	0.00	Drought *(100%)*	$5	$5	$0	$5 *(2007)*	$0	$0	$0
Goal 2A **Project 02 Dam Failure-Wilson County** *(Wilson County)*	0.00	Dam Failure *(100%)*	$3	$3	$0	$3 *(2007)*	$0	$0	$0
Goal 1E **Project 03 Drought Awareness-Wilson County** *(Wilson County)*	0.00	Drought *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 3E **Project 11 Wildfire Awareness Program-Wilson County** *(Wilson County)*	0.00	Wildfires *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0

Projects				Available Financing					
Project Number	**B/C Ratio**	**Hazard**	**Total Cost**	**Total Funding**	**City** *(FY)*	**County** *(FY)*	**State** *(FY)*	**Federal** *(FY)*	**Other** *(FY)*
Goal 4A **Project 14 Extreme Heat Public Education-Wilson County** *(Wilson County)*	0.00	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 4F **Project 15 Extreme Heat Community Program-Wilson County** *(Wilson County)*	0.00	Extreme Heat *(100%)*	$2	$2	$0	$2 *(2007)*	$0	$0	$0
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*	0.00	Thunderstorms/Lightning and High Winds *(100%)* Tornado *(100%)*	$1	$1	$0	$1 *(2008)*	$0	$0	$0
Totals:			**$2,849**	**$2,849**	**$0**	**$794**	**$45**	**$2,010**	**$0**

Table 4 The projects are prioritized purely on the basis of the CPRI of the Primary Hazard (Dollar Amounts in Thousands).

Project Number	CPRI	Hazard	Total Cost	Strategy	Funding
Goal 1B **Project 23 Flooding-Lebanon** *(Wilson County)*	3.40	Flooding *(100%)*	$75		This project will be funded through the 75/25 match provided with HMGP. The county will assume the 25% match and FEMA will assume the additional 75%.
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*	3.40	Thunderstorms/Lightning and High Winds *(100%)*	$1		This project will be entirely funded by the County.
Goal 1F **Project 21 Flooding-Watertown** *(Wilson County)*	3.40	Flooding *(100%)*	$150		This project will be funded with a 25/75 match through Wilson County and FEMA.
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*	3.40	Thunderstorms/Lightning and High Winds *(25%)*	$325		This project will be accomplished with a 25%/75% split between Wilson County and FEMA, respectively.

Project Number	CPRI	Hazard	Total Cost	Strategy	Funding
Goal 1H **Project 18 Flooding Preparedness-Wilson County** *(Wilson County)*	3.40	Flooding *(100%)*	$10		This project will be funded entirely by the County.
Goal 2D **Project 09 Thunderstorm-Wilson County** *(Wilson County)*	3.40	Thunderstorms/Lightning and High Winds *(100%)*	$500		This project will be accomplished through a 25/75 split between Wilson County and FEMA, respectively.
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*	3.40	Thunderstorms/Lightning and High Winds *(100%)*	$250		This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.
Goal 6B **Project 24 Bridge Construction-Watertown** *(Wilson County)*	3.40	Flooding *(100%)*	$1,000		The funding of this project will be a 25/75 split with Wilson County and FEMA.
Goal 1A **Project 01 Dam Failure-Wilson County** *(Wilson County)*	3.25	Dam Failure *(100%)*	$5		The project will be funded entirely by the County.
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*	3.25	Tornado *(100%)*	$90		This project will be funded entirely by the County.
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*	3.25	Tornado *(100%)*	$1		This project will be entirely funded by the County.
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*	3.25	Tornado *(100%)*	$325		This project will be accomplished with a 25%/75% split between Wilson County and FEMA, respectively.
Goal 2A **Project 02 Dam Failure-Wilson County** *(Wilson County)*	3.25	Dam Failure *(100%)*	$3		This project will be funded entirely by the County.
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*	3.25	Dam Failure *(100%)*	$100		The funding on this project will be a 75/25 match through FEMA and the County.
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*	3.25	Tornado *(100%)*	$250		This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.

Project Number	CPRI	Hazard	Total Cost	Strategy	Funding
Goal 4B **Project 16 Hail Airport Hangars-Lebanon** *(Wilson County)*	3.10	Hail *(100%)*	$180		This project would be funded with a 25%/75% split between the State and FEMA, respectively.
Goal 5C **Project 17 Hail Prevention Standards-Wilson County** *(Wilson County)*	3.10	Hail *(100%)*	$15		This project will be funded entirely by the County.
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*	2.85	Winter Storms *(100%)*	$100		The funding on this project will be a 75/25 match through FEMA and the County.
Goal 3F **Project 13 Winter storm Power Generators-Wilson County** *(Wilson County)*	2.85	Winter Storms *(100%)*	$100		This project will be funded with a 25%/75% split between Wilson County and FEMA, respectively.
Goal 5A **Project 19 Winter storm-Wilson County** *(Wilson County)*	2.85	Winter Storms *(100%)*	$10		This project will be entirely funded by the County.
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*	2.70	Earthquake *(100%)*	$90		This project will be funded entirely by the County.
Goal 3A **Project 05 Earthquake Preparedness-Wilson County** *(Wilson County)*	2.70	Earthquake *(100%)*	$10		This project will be funded entirely by the County.
Goal 4A **Project 14 Extreme Heat Public Education-Wilson County** *(Wilson County)*	2.70	Extreme Heat *(100%)*	$2		This project will be funded entirely by the County.
Goal 4F **Project 15 Extreme Heat Community Program-Wilson County** *(Wilson County)*	2.70	Extreme Heat *(100%)*	$2		This project will be funded entirely by the County.
Goal 3D **Project 12 Wildfire Prevention-Wilson County** *(Wilson County)*	2.30	Wildfires *(100%)*	$10		This project will be funded entirely by the County.
Goal 3E **Project 11 Wildfire Awareness Program-Wilson County** *(Wilson County)*	2.30	Wildfires *(100%)*	$2		This project will be funded entirely by the County.

Project Number	CPRI	Hazard	Total Cost	Strategy	Funding
Goal 1E **Project 03 Drought Awareness-Wilson County** *(Wilson County)*	1.60	Drought *(100%)*	$2		This project will be funded entirely by the County.
Goal 2E **Project 04 Drought-Wilson County** *(Wilson County)*	1.60	Drought *(100%)*	$5		This project will funded entirely by the County.

Table 5 The projects are prioritized purely on the basis of the potential fatalities from the Primary Hazard (Dollar Amounts in Thousands).

Project Number	Est. Deaths	Hazard	Total Cost	Strategy	Funding
Goal 6B **Project 24 Bridge Construction-Watertown** *(Wilson County)*		Flooding *(100%)*	$1,000		The funding of this project will be a 25/75 split with Wilson County and FEMA.
Goal 2D **Project 09 Thunderstorm-Wilson County** *(Wilson County)*		Thunderstorms/Lightning and High Winds *(100%)*	$500		This project will be accomplished through a 25/75 split between Wilson County and FEMA, respectively.
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*		Thunderstorms/Lightning and High Winds *(25%)*	$325		This project will be accomplished with a 25%/75% split between Wilson County and FEMA, respectively.
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*		Thunderstorms/Lightning and High Winds *(100%)*	$250		This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.
Goal 1F **Project 21 Flooding-Watertown** *(Wilson County)*		Flooding *(100%)*	$150		This project will be funded with a 25/75 match through Wilson County and FEMA.

Project Number	Est. Deaths	Hazard	Total Cost	Strategy	Funding
Goal 1B **Project 23 Flooding-Lebanon** *(Wilson County)*		Flooding *(100%)*	$75		This project will be funded through the 75/25 match provided with HMGP. The county will assume the 25% match and FEMA will assume the additional 75%.
Goal 1H **Project 18 Flooding Preparedness-Wilson County** *(Wilson County)*		Flooding *(100%)*	$10		This project will be funded entirely by the County.
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*		Thunderstorms/Lightning and High Winds *(100%)*	$1		This project will be entirely funded by the County.
Goal 1G **Project 10-Tornado Warning System-Wilson County** *(Wilson County)*		Tornado *(100%)*	$325		This project will be accomplished with a 25%/75% split between Wilson County and FEMA, respectively.
Goal 5F **Project 08 Tornado Storm Shelters-Wilson County** *(Wilson County)*		Tornado *(100%)*	$250		This project will be accomplished with a 25/75 split between Wilson County and FEMA, respectively.
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*		Dam Failure *(100%)*	$100		The funding on this project will be a 75/25 match through FEMA and the County.
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*		Tornado *(100%)*	$90		This project will be funded entirely by the County.
Goal 1A **Project 01 Dam Failure-Wilson County** *(Wilson County)*		Dam Failure *(100%)*	$5		The project will be funded entirely by the County.
Goal 2A **Project 02 Dam Failure-Wilson County** *(Wilson County)*		Dam Failure *(100%)*	$3		This project will be funded entirely by the County.

Project Number	Est. Deaths	Hazard	Total Cost	Strategy	Funding
Goal 1D **Project 07 Thunderstorm-Wilson County** *(Wilson County)*		Tornado *(100%)*	$1		This project will be entirely funded by the County.
Goal 4B **Project 16 Hail Airport Hangars-Lebanon** *(Wilson County)*		Hail *(100%)*	$180		This project would be funded with a 25%/75% split between the State and FEMA, respectively.
Goal 5C **Project 17 Hail Prevention Standards-Wilson County** *(Wilson County)*		Hail *(100%)*	$15		This project will be funded entirely by the County.
Goal 3F **Project 13 Winter storm Power Generators-Wilson County** *(Wilson County)*		Winter Storms *(100%)*	$100		This project will be funded with a 25%/75% split between Wilson County and FEMA, respectively.
Goal 2F **Project 22 Winter Storm-Mt. Juliet** *(Wilson County)*		Winter Storms *(100%)*	$100		The funding on this project will be a 75/25 match through FEMA and the County.
Goal 5A **Project 19 Winter storm-Wilson County** *(Wilson County)*		Winter Storms *(100%)*	$10		This project will be entirely funded by the County.
Goal 1C **Project 06 Earthquake-Wilson County** *(Wilson County)*		Earthquake *(100%)*	$90		This project will be funded entirely by the County.
Goal 3A **Project 05 Earthquake Preparedness-Wilson County** *(Wilson County)*		Earthquake *(100%)*	$10		This project will be funded entirely by the County.
Goal 4A **Project 14 Extreme Heat Public Education-Wilson County** *(Wilson County)*		Extreme Heat *(100%)*	$2		This project will be funded entirely by the County.
Goal 4F **Project 15 Extreme Heat Community Program-Wilson County** *(Wilson County)*		Extreme Heat *(100%)*	$2		This project will be funded entirely by the County.

Project Number	Est. Deaths	Hazard	Total Cost	Strategy	Funding
Goal 3D **Project 12 Wildfire Prevention-Wilson County** *(Wilson County)*		Wildfires *(100%)*	$10		This project will be funded entirely by the County.
Goal 3E **Project 11 Wildfire Awareness Program-Wilson County** *(Wilson County)*		Wildfires *(100%)*	$2		This project will be funded entirely by the County.
Goal 2E **Project 04 Drought-Wilson County** *(Wilson County)*		Drought *(100%)*	$5		This project will funded entirely by the County.
Goal 1E **Project 03 Drought Awareness-Wilson County** *(Wilson County)*		Drought *(100%)*	$2		This project will be funded entirely by the County.

5.5 Capability Assessment

Wilson County Capability Assessment

Storm Water Management Ordinances: **No**

Stream Maintenance Ordinances: **No**

Zoning Management Ordinances: **Yes**

Subdivision Management Ordinances: **No**

Erosion Management Ordinances: **No**

Floodplain Management Ordinances: **No**

Elevation Certificates Maintained: **No**

National Flood Insurance Program Community: **No**

Land Use Plan: **No**

Community Zoned: **No**

Established Building Codes: **No**

Section 6 Plan Maintenance

6.1 Monitoring, Evaluating and Updating the Plan

Plan Last Updated On: January 5, 2009

The Wilson County Mitigation Plan will become a regular agenda item, on a quarterly basis, for the Wilson County Board of Commissioners meeting. The Board of Commissioners represents all segments of Wilson County and conducts meetings on a monthly basis. Having the Hazard Mitigation Plan as a quarterly item will allow for monitoring, evaluating and updating of the plan, to be discussed by all persons present at the meetings. Wilson County has implemented Visual Risk Technologies **MitigationPlan.com**™ web-based planning tool into its planning process. This tool will allow for real-time data updates as well as project tracking capabilities for Wilson County. Each community's representative will be responsible for coordinating with the project leader at Wilson County Emergency Management Agency (WEMA) so that the project leader can input the data into the website for their mitigation project(s) and keep the county informed at the quarterly meetings. These reports will focus on activities that impact the Wilson County Hazard Mitigation Plan and ensure that information is kept current. The Emergency Management Director is responsible for printing out a current status report of the mitigation projects and submitting it to the Board of Commissioners chairperson.

The WEMA Hazard Mitigation Planning Director will work in conjunction with the Hazard Mitigation Planning Committee to evaluate the effectiveness of the mitigation projects. Using the following criteria, they will assess whether:

- Goals and objectives address current and expected conditions
- The nature or magnitude of risks has changed
- Mitigation projects are progressing as scheduled and within budget
- Current resources are appropriate for implementing the plan
- Outcomes have occurred as expected
- Agencies and other partners participated as originally proposed

With the occurrence of future adversities, additional mitigation projects may be developed and added to the plan. Since Wilson County has experienced disasters in the past, future disasters will result in new mitigation objectives and will be added to the plan as appropriate.

Future laws, government regulations, and/or mitigation projects may require changes to the Hazard Mitigation Plan. If this occurs, the Wilson County Board of Commissioners will be informed by the WEMA Director of any necessary changes that need to made to the plan, and if necessary, adopted by the county per a resolution. Once this is done, the state will be notified of any changes that were made to the plan. Visual Risk Technologies representative and the state will be contacted for professional and technical assistance as needed. The Wilson County Hazard Mitigation Plan will be updated by the Hazard Mitigation Planning Committee every five years and submitted to TEMA and FEMA, as required to remain eligible for HMGP funding.

The WEMA Hazard Mitigation Planning Director will work in conjunction with the Hazard Mitigation Planning Committee to perform Hazard Mitigation Plan reviews and updates every three years. The Hazard Mitigation Plan will then be resubmitted within the five-year cycle for approval.

Each department will also explore the uses of other financial sources to implement mitigation measures. Other funding sources considered can be fees, taxes, bonds, loans, HMGP, Homeland Security, or any other funding source deemed appropriate by local officials.

6.2 Implementation through Existing Programs

The following process has been implemented, by the officials of Wilson County, the City of Lebanon, the City of Mt. Juliet and Watertown, to incorporate the requirements of the Hazard Mitigation Plan into the Capital Improvement Plans, Building Codes (city), and any additional community development type plans that the county and jurisdictions have already established or will establish in the future.

This implementation determines how major development projects and subdivision reviews are addressed in hazard prone areas and ensures that hazard mitigation concerns are considered in the approval of major capital improvement projects and/or the publication of new local laws, ordinances or resolutions that might impact the hazard mitigation strategy of that local jurisdiction.

Once the plan is approved, the WEMA Director will conduct meetings with local officials and implement the Hazard Mitigation Plan with the existing plans stated previously. The plans noted above will require a review of the Hazard Mitigation projects and goals when updated. This will allow the county official and planning committee to fully acknowledge completion of projects and address new projects for the future.

The key element in this process is having a direct link from the Wilson County Hazards Mitigation Plan to other plans in the community, which will identify any legal, financial, administrative, operational, personnel, or planning issues that will impact positively or negatively with all respective plans at the county and local level.

6.3 Continued Public Involvement

Description of the Opportunities and Mechanisms for On-Going Public Involvement

Each community's representative will be responsible for notifying the WEMA Hazard Mitigation Planning Officer of data to be entered into the website for their mitigation project(s). The Board of Commissioners will be notified of any changes at each quarterly meeting by the WEMA Director.

There will also be a continued public involvement through semi-annual newspaper articles and quarterly postings in public locations. In addition, the Planning Committee will make every attempt to ensure the public will be able to directly comment on and provide feedback about the Plan by posting the agenda and submitting meeting notices to local media. This process will inform the county citizens on any revisions to the Wilson County Hazard Mitigation Plan.

APPROVALS

- Wilson County – February 25, 2008
- City of Lebanon – February 17, 2009
- City of Mt. Juliet – February 11, 2008
- City of Watertown – February 26, 2008