

3.4 Mitigation Strategy

After reviewing the findings of the hazard profiles and the vulnerability assessment contained in the Risk Assessment, the GRADD Hazard Mitigation Council, with the use of input from public meetings, approached the Mitigation Strategy. With a focus on specific problems in the GRADD region, GRADD staff researched mitigation goals, objectives, and actions, seeking guidance from approved hazard mitigation plans from other communities along with the FEMA “How to Guide” on developing a mitigation plan. The East and West Subcommittees reviewed and discussed examples of mitigation goals. Ultimately, the goals, objectives, and actions, as outlined, will serve as a blueprint for addressing and reducing the area’s vulnerabilities, which were identified in Sections 3.3.3 and 3.3.4. Over time, as accomplishments are realized and new problems arise, the GRADD Hazard Mitigation Council will devise additional goals, objectives, and actions that are responsive to the evolving conditions in the region.

For the plan update, the GRADD Hazard Mitigation Council and the East and West Subcommittees considered the goals, objectives, and actions from the original plan, focusing on the overall utility and the region’s current needs. Additionally, each jurisdiction assessed its priorities by evaluating mitigation actions completed since the approval of the GRADD Hazard Mitigation Plan, mitigation actions in progress, and mitigation actions needed for the future. Several changes were implemented in an effort to create a robust and flexible strategy that will engender enhanced preparedness and inspire action, cooperation, and results in the wake of future natural hazard events.

3.4.1 Capability Assessment

The development of a Mitigation Strategy is the essential component of the response to the hazard profiles and the vulnerability of assets in each jurisdiction. The strategies outlined will offer each jurisdiction a blueprint for the reduction of vulnerabilities identified in the Risk Assessment. To determine the overall strengths and capabilities of the region, GRADD staff analyzed existing authorities, policies, programs, resources, and an area’s ability to expand and improve existing tools.

The capability assessment is divided into the following three sections:

- A. Existing Authorities, Policies, Programs, and Resources
- B. Existing Governmental Structure
- C. GRADD Hazard Mitigation Plan Goals and Objectives

The capability assessment should identify potential hazard mitigation opportunities available to jurisdictions through their daily operations as units of local government. Through careful analysis, the assessment will detect existing gaps, deficiencies, and weaknesses in local government operations that could explain existing vulnerabilities or lead to future vulnerabilities. Additionally, the assessment pinpoints positive measures already in place at the jurisdictional

level, which will hold great potential for enhancement through continued and new local mitigation efforts. As the foundation for the design of an effective Mitigation Strategy, the capability assessment establishes the goals, objectives, and actions for jurisdictions to pursue while ensuring they are reasonable and achievable given local conditions and resources.

A. Existing Authorities, Policies, Programs, and Resources

GRADD staff and the Subcommittees compiled a list of and explored the existing authorities, policies, programs, and resources for each jurisdiction. Subcommittee participants consulted with state and federal agencies to gather an idea of the types of resources available and an indication of resources that have proven effective for other communities. Using the list they developed and their knowledge of additional resources available in the region, the Subcommittee participants devised the goals, objectives, and actions deemed necessary to address vulnerabilities and to facilitate implementation of the strategies outlined in the plan.

For the plan update, Subcommittee participants returned to the listing of authorities, policies, programs, and resources included in the original plan to ensure accuracy. Table 1 is a current summary for each GRADD jurisdiction.

3.4.1 Table 1

GRADD Capability Assessment: Existing Authorities, Policies Programs, and Resources							
Jurisdiction	Floodplain Management Ordinance	Building Codes	Zoning Regulations	Americorps Homeland Security	Cert Team	Economic Development Department	Regional Development Agency
Daviess County	X	X	X	X	X	X	X
City of Owensboro	X	X	X	X	X	X	X
City of Whitesville							X
Hancock County			X	X		X	X
City of Hawesville	X						X
City of Lewisport	X	X	X				X
Henderson County	X	X	X	X		X	X
City of Corydon		X					X
City of Henderson	X	X	X			X	X
City of Robards							X
McLean County	X	X	X			X	X
City of Calhoun	X		X				X

GRADD Capability Assessment: Existing Authorities, Policies Programs, and Resources

Jurisdiction	Floodplain Management Ordinance	Building Codes	Zoning Regulations	Americorps Homeland Security	Cert Team	Economic Development Department	Regional Development Agency
City of Island							X
City of Livermore	X	X					X
City of Sacramento							X
Ohio County	X			X		X	X
City of Beaver Dam	X		X				X
City of Centertown							X
City of Fordsville							X
City of Hartford							X
City of McHenry							X
City of Rockport							X
Union County		X	X			X	X
City of Morganfield	X	X	X				X
City of Sturgis	X			X			X
City of Uniontown	X	X					X
City of Waverly							X
Webster County		X				X	X
City of Clay	X	X					X
City of Dixon							X
City of Providence	X	X					X
City of Sebree	X						X
City of Slaughters	X						X
City of Wheatcroft							X
*Each jurisdiction maintains responsibility for developing, enacting, and enforcing the programs and regulations listed above.							

B. Existing Governmental Structure

Each jurisdiction will maintain responsibility for implementing mitigation actions and strategies within its respective area. The GRADD Hazard Mitigation Council and the East and West Subcommittee participants reviewed the governmental structure of GRADD jurisdictions to

determine overall capabilities for implementing and enforcing the existing, as well as future, policies, programs, and resources. Table 2 summarizes the structures of GRADD county governments.

3.4.1 Table 2

County Governments in the GRADD Region	
County	Type of Government
Daviess	Judge/Executive and 3 Commissioners
Hancock	Judge/Executive and 4 Magistrates
Henderson	Judge/Executive and 5 Magistrates
McLean	Judge/Executive and 4 Magistrates
Ohio	Judge/Executive and 5 Magistrates
Union	Judge/Executive and 5 Magistrates
Webster	Judge/Executive and 3 Magistrates

Table 3 summarizes the class and governmental structure for each city in the region.

3.4.1 Table 3

Incorporated Cities in the GRADD Region			
City	County	Class	Type of Government
Owensboro	Daviess	2	Mayor and 4 Commissioners
Whitesville	Daviess	6	Mayor and 4 Commissioners
Hawesville	Hancock	5	Mayor and 6 Council Members
Lewisport	Hancock	5	Mayor and 6 Council Members
Corydon	Henderson	5	Mayor and 5 Council Members
Henderson	Henderson	2	Mayor and 4 Commissioners
Robards	Henderson	6	Mayor and 4 Commissioners
Calhoun	McLean	5	Mayor and 6 Council Members
Island	McLean	6	Mayor and 4 Commissioners
Livermore	McLean	5	Mayor and 6 Council Members
Sacramento	McLean	6	Mayor and 4 Commissioners
Beaver Dam	Ohio	4	Mayor and 4 Commissioners
Centertown	Ohio	6	Mayor and 4 Commissioners
Fordsville	Ohio	6	Mayor and 4 Commissioners
Hartford	Ohio	5	Mayor and 6 Council Members

Incorporated Cities in the GRADD Region			
City	County	Class	Type of Government
McHenry	Ohio	6	Mayor and 4 Commissioners
Rockport	Ohio	6	Mayor and 4 Council Members
Morganfield	Union	4	Mayor and 6 Council Members
Sturgis	Union	4	Mayor and 6 Council Members
Uniontown	Union	5	Mayor and 6 Council Members
Waverly	Union	6	Mayor and 4 Commissioners
Clay	Webster	5	Mayor and 6 Council Members
Dixon	Webster	6	Mayor and 4 Commissioners
Providence	Webster	4	Mayor and 6 Council Members
Sebree	Webster	5	Mayor and 6 Council Members
Slaughters	Webster	6	Mayor and 4 Commissioners
Wheatcroft	Webster	6	Mayor and 4 Commissioners

C. GRADD Hazard Mitigation Plan Goals, Objectives, and Actions

For the plan update, the GRADD Hazard Mitigation Council and the East and West Subcommittees reviewed the general goals as outlined in the original GRADD Hazard Mitigation Plan. They determined that all goals remain appropriate as they are reflective of the ongoing hazard mitigation aims of the region. The goals remain as follows:

1. Promote public health and safety
2. Protect people and property
3. Improve the quality of life
4. Use public funds effectively

The goals as originally developed served as a foundation for more specific objectives and actions for hazard mitigation planning in the GRADD region. The Council and Subcommittees reviewed these thoroughly during the plan update process. Although they opted to keep all plan objectives the same, they established the need for two additional actions under Goal 2, “Protect People and Property.” Meeting participants expressed the importance of promoting comprehensive planning, and they suggested the need to encourage National Flood Insurance Program (NFIP) participating communities to remain active and in compliance with all program guidelines. These recommendations resulted in the following new actions:

Action 2.1.8 Urge communities to update comprehensive plans per the guidelines and regulations set forth in KRS Chapter 100.00.

Action 2.1.9 Promote continued National Flood Insurance Program affiliation and compliance for current participating communities.

All goals, objectives, and actions are presented below with the newly proposed actions appearing in italicized font.

Goal 1: Promote Public Health and Safety

Objective 1.1: Secure public health and safety through efforts to increase public awareness of local and regional hazards.

Action 1.1.1: Educate the public on dangers that natural hazards pose in the GRADD region.

Action 1.1.2: Advise the public on taking personal responsibility for their safety and property protection.

Action 1.1.3: Facilitate public contributions to the community with the organization of volunteer opportunities and events.

Action 1.1.4: Provide public officials with information regarding hazard mitigation grants, programs, and actions that the community can take to improve public health and safety.

Goal 2: Protect people and property

Objective 2.1: Pursue mitigation activities that ultimately defend and fortify vulnerable populations and properties in the Green River Region.

Action 2.1.1: Reevaluate and enforce established building codes.

Action 2.1.2: Develop land use planning for all jurisdictions.

Action 2.1.3: Encourage participation in the National Flood Insurance Program.

Action 2.1.4: Maintain lifeline utilities.

Action 2.1.5: Enhance emergency services through increased training and improved communications.

Action 2.1.6: Improve the system of community warning devices.

Action 2.1.7: Limit development in particularly hazardous areas unless proper mitigation strategies are in place and enforced.

Action 2.1.8: Urge communities to update comprehensive plans per the guidelines and regulations set forth in KRS Chapter 100.00.

Action 2.1.9: Promote continued National Flood Insurance Program affiliation and compliance for current participating communities.

Goal 3: Improve the quality of life.

Objective 3.1: Support community development efforts while maintaining a strong awareness of the need for hazard mitigation.

Action 3.1.1: Promote long-range planning.

Action 3.1.2: Minimize development in floodplains and other well-known hazardous areas unless proper mitigation measures are in place and enforced.

Goal 4: Use public funds effectively.

Objective 4.1: Develop cost effective hazard mitigation projects that will reduce vulnerabilities and strengthen local communities and the region.

Action 4.1.1: Utilize FEMA cost/benefit analysis to select and prioritize mitigation projects.

Action 4.1.2: Promote interagency and inter-local cooperation.

Action 4.1.3: Pursue all avenues of potential funding including hazard mitigation grant programs.

The development of the goals, objectives, and actions and the revisions that followed during the plan update process involved the incorporation of public interest and input. The GRADD Hazard Mitigation Council and the East and West Subcommittee participants carefully considered all existing authorities, policies, programs, and resources, acknowledging the crucial role these elements will play in the local pursuit of mitigation goals, objectives, and actions. Because the political will of local governments will assume ultimate responsibility for hazard mitigation actions, all mitigation planning must integrate local priorities and capabilities.

3.4.2 Identification and Analysis of Mitigation Measures

The goals, objectives, and actions outlined in Section 3.4.1 are regional in scope and influenced the efforts of each jurisdiction as they devised specific mitigation actions for their communities. With the assistance of the local jurisdictions, the Hazard Mitigation East and West Subcommittees were instrumental in the process of assessing and prioritizing proposed actions. Particular emphasis was placed upon actions that intend to reduce the effects of the hazard identified in this plan.

Maintaining communication among the Subcommittees and the local jurisdictions is critical to ensure accurate and useful updates of actions and project lists. Everyone involved in the planning process understands that circumstances and priorities frequently change, prompting the need for a dynamic Hazard Mitigation Plan. Further description on the development of these actions, along with the process of prioritization, is contained within Section 3.4.4 of this plan.

During the plan update process, each jurisdiction had an opportunity to assess the mitigation projects included in the original plan. Many communities sought revisions to indicate completed projects, new project priorities, and projects no longer under consideration. In the original plan, many county project lists covered incorporated cities within the county. As the plan update process progressed, several cities decided to develop a separate list of projects to address their specific mitigation needs.

A. Mitigation Actions

Daviess County

Daviess County

Projects No Longer Under Consideration:

- Install severe weather/lightning detection equipment and warning systems in all public and private recreational facilities

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Link community website to the Hazard Mitigation page at www.gradd.com

Priority Mitigation Projects:

- Acquire warning sirens for vulnerable areas such as the Fairview Drive/Millers Mill Road area
- Pursue a courthouse surge protection project to fortify PVA, Clerk, Fiscal Court, SO, EMA, and 911 computer systems
- Construct safe rooms for mobile home parks
- Complete seismic mapping process that will process existing data to produce official state maps of earthquake microzones
- Build and equip a hardened EOC on a secure (earthquake resistant site) and consolidate all EM equipment to one site
- Build additional detention/retention basins in areas that experience flooding
- Build bank stabilization to protect riverbanks from further erosion
- Establish an ordinance requiring safe rooms at all manufactured housing parks and subdivisions
- Acquire repetitive loss properties to protect the area from flood events
- Organize a combination of fixed shelters, mobile equipment, and a stocked Special Needs shelter to ensure the proper establishment of shelters throughout the City of Owensboro and the county

- Distribute safe room brochures with building permits
- Educate local residents on the hazards involved with earthquakes through the local school systems
- Coordinate with all GRADD counties to complete a Canopy dedicated/secure wireless broadband system
- Pursue inundation mapping for key areas, including the Ohio River and Panther Creek
- Elevate streets and highways above 100 year floodplain

City of Owensboro

City of Whitesville

Hancock County

Hancock County

Projects No Longer Under Consideration:

- Enact a National Flood Insurance Ordinance

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Complete GIS mapping of all parcels in Hancock County

Priority Mitigation Projects:

- Construct a multiuse county community shelter
- Create a countywide warning system
- Acquire portable generators for critical facilities
- Update emergency services map book
- Establish an ordinance requiring safe rooms in all manufactured housing parks
- Acquire satellite phone and other communication devices
- Educate local residents on the hazards of tornadoes, flooding, and earthquakes through the local school system
- Assess and when necessary elevate roads inundated during heavy rains

City of Hawesville

Priority Mitigation Projects:

- Acquire generators for critical facilities
- Acquire portable pumps for water and sewer services
- Pursue GIS mapping of critical facilities

City of Lewisport

Priority Mitigation Projects:

- Acquire portable generators for critical facilities
- Acquire water and sewer pumps to maintain water and sewer services

- Maintain reserve fuel tanks (gasoline and diesel) for emergency situations
- Implement a satellite phone communications system for emergency situations

Henderson County

Henderson County

City of Corydon

Priority Mitigation Projects

- Acquire NOAA weather radio for the community
- Acquire a new warning siren capable of alerting the community during extreme hazard events
- Acquire generators for critical facilities
- Require safe rooms in new mobile home parks
- Develop a safe room demonstration project
- Distribute safe room brochures with building permits
- Educate local citizens on the hazards involved with tornadoes, flooding, earthquakes, etc. through local schools

City of Henderson

Priority Mitigation Projects

- Develop a retention basin for Canoe Creek
- Henderson Water and Sewer Utility

City of Robards

McLean County

McLean County

City of Calhoun

Projects No Longer Under Consideration:

- Install a NOAA weather radio at city hall
- Place disaster related brochures in public buildings with the assistance of Emergency Management

Priority Mitigation Projects:

- Acquire generators for city hall, the water plant, and the sewer plant
- Acquire generators for all city-operated sewer lift stations
- Update floodplain maps
- Pursue riverbank stabilization projects
- Create a safe room for city hall employees and records
- Distribute safe room brochures with building permits

- Develop a city facility for use as a warming and feeding station during natural hazard events
- Support emergency services in acquiring an interoperable communications system for water, sewer, distribution, and other critical services
- Conduct GIS dynamic modeling and flood mapping on conjunction with county officials
- Educate local residents on the hazards involved with fires through brochures provided to local businesses and schools
- Support emergency services in acquiring necessary equipment for natural disasters
- Create poster contests at the local elementary schools for Fire Prevention Week and Severe Weather Preparedness Month

City of Island

Priority Mitigation Projects:

- Acquire a generator for the sewer plant
- Acquire generators for the sewer pump stations
- Acquire a generator for the city hall facility
- Construct or develop an emergency public shelter
- Implement a community emergency/hazard alert system

City of Livermore

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Acquire submersible sewer pump station at Poplar Street

Priority Mitigation Projects:

- Acquire emergency generators for water treatment plant and city hall
- Address the deterioration of the sewer plant flood wall
- Remove old water tank (structural hazard) at the water treatment plant
- Acquire a generator for the sewer plant
- Acquire generators for three sewer lift stations
- Install two additional warning sirens
- Collect GPS data on critical and essential facilities
- Acquire and install phase protectors on three sewer lift stations
- Repair sewer system infrastructure to reduce discharge
- Educate local citizens on the hazards involved with tornadoes, flooding, earthquakes, etc. through local schools
- Build a new water treatment plant outside of the floodplain

City of Sacramento

Priority Mitigation Projects:

- Elevate KY HWY 85 at Cypress Creek near the intersection of KY HWY 2226 between Sacramento and Island

- Continue efforts to remove storm debris from public facilities and power lines (from the 2009 ice storm)
- Continue efforts to remove storm debris from streams and ditches to mitigate future flood damages (from the 2009 ice storm)
- Define and map local critical facilities and distribute mapping to emergency services and planning personnel

Ohio County

Ohio County

City of Beaver Dam

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Update weather warning siren
- Install NOAA weather radio at city hall
- Update floodplain maps

Priority Mitigation Projects:

- Construct a new fire station that could serve as a shelter
- Require that all new mobile home parks construct a safe room

City of Centertown

Priority Mitigation Projects:

- Acquire generators for the city's water system and other critical facilities
- Replace drainage tiles in roadways due to excessive rainfall
- Pursue the construction of a new city hall facility, which could also serve as a community shelter during natural hazard events
- Purchase equipment for the fire department and other emergency response units

City of Fordsville

Priority Mitigation Projects:

- Reinforce the dam at Water Lake
- Pursue infrastructure protection measures for water and sewer lines in case of an earthquake

City of Hartford

Priority Mitigation Projects:

- Acquire a generator for city hall
- Acquire a generator for the water treatment plant
- Pursue the Barnes Street drainage project to eliminate excessive flooding
- Construct a concrete ditch along Griffin Street to address erosion and area flooding

City of McHenry

City of Rockport

Union County

Union County

Completed projects from the Original GRADD Hazard Mitigation Plan:

- Collect GPS data for critical and essential facilities
- Collect GPS mapping of all parcels in Union County
- Plan Countywide Central Dispatch System with Emergency Operations Center
- Prepare a County Zoning Project to identify floodplain
- Enact a National Flood Ordinance
- Expand sewer lines with a County Joint Sewer Project

Priority Mitigation Projects:

- Obtain levee certifications to ensure that all local communities with levees remain in compliance with various program regulations
- Implement building regulations to mitigate the effects of hazards in the area
- Create Countywide Warning Siren System for severe weather and hazardous materials
- Install fire hydrants in critical county areas
- Update map book of addresses for Emergency Services (computerize all 911 data)
- Provide disaster training for first responders and interested local residents
- Acquire generators for critical facilities
- Distribute Safe Room and Fire Prevention information with building permits
- Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system
- Assess and possibly elevate roads inundated during heavy rain and/or flooding

City of Morganfield

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Continue to provide support for interoperable communications for emergency services
- Plan a wastewater extension project from Union County High School, Union County Middle School, and Community Methodist Hospital to hook up with the City of Morganfield sewer treatment plant

Priority Mitigation Projects:

- Continue the raw water main replacement project from the source (Ohio River) to the water filtration plant
- Replace sewer lines in the old Camp Breckenridge area of the city and address inflow and infiltration (I&I) problems in the area
- Acquire generators for critical facilities

- Pursue the combined sewer separation project
- Dredge the reservoir at the water plant
- Dredge the settlement pond at the sewer plant

City of Sturgis

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Alleviate I&I problems with the city sewer system

Priority Mitigation Projects:

City of Uniontown

Priority Mitigation Projects:

- Pursue a storm drainage project along Pine Street from 4th Street to 7th Street
- Acquire generators for critical facilities

City of Waverly

Webster County

Webster County

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Provide an emergency response vehicle to deliver medicine and food to the elderly or sick in the event of a natural hazard
- Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters (ONGOING)
- Educate the local residents as to the hazards involved with tornadoes, flooding, and earthquakes through the local school systems (ONGOING)

Priority Mitigation Projects:

- Elevate county roads in flood prone areas to eliminate the effects of flooding situations
- Acquire generators for critical facilities
- Acquire and implement an emergency communications system
- Expand present GIS system to include layers for hazard mitigation
- Participate in the National Flood Insurance Program to acquire Flood Insurance Rate Maps
- Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters
- Build emergency generators and pumps to provide potable water in the event of a natural disaster
- Build emergency generators and pumps to provide sewage treatment in the event of a natural disaster

- Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system
- Construct an aboveground shelter for the 911 Dispatch Center
- Construct an aboveground shelter for the County Emergency Operations Center

City of Clay

Priority Mitigation Projects:

- Acquire a generator for the Clay Emergency Services Building
- Acquire generators for critical facilities
- Construct an aboveground tornado shelter for city office personnel, public works personnel, and other first responders
- Build emergency generators and pumps to ensure proper sewage treatment during natural hazard events
- Acquire additional emergency communications devices
- Improve drainage by placing additional drains within the city
- Elevate flood prone roads within the city
- Expand the availability of GIS data for city facilities
- Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters
- Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system

City of Dixon

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Use emergency supplies for ambulance service in emergency situations
- Educate local residents as to the hazards involved with tornadoes, flooding, and earthquakes through local school systems (ONGOING)
- Encourage enforcement of building codes

Priority Mitigation Projects:

- Acquire generators for critical facilities
- Build emergency generators and pumps to ensure proper sewage treatment during natural hazard events
- Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters
- Pursue upgrades to local emergency communications devices
- Make warning devices available to citizens
- Improve an existing structure to create a safe room for residents of Dixon
- Improve drainage by placing additional drains within the city
- Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system

City of Providence

Priority Mitigation Projects:

- Acquire generators for critical facilities

City of Sebree

City of Slaughters

City of Wheatcroft

B. Information Resources

Table 1 reveals a collection of websites that were useful in the development and update of this Hazard Mitigation Plan. These sites supplied information on hazard identification, historical occurrences, event magnitudes, mitigation measures, and planning possibilities. In particular, the local jurisdictions, the GRADD Hazard Mitigation Council, and the East and West Subcommittees found these sites beneficial as they determined future mitigation actions appropriate for their respective areas. GRADD staff utilized many of the sites to gather the most current data available for the update of the plan.

3.4.2 Table 1

Resource Directory -- Websites	
Resource	Web Address
American Planning Association	http://www.planning.org
Center for Earthquake Research and Information	http://www.ceri.memphis.edu
Community Rating System	http://www.fema.gov/business/nfip/crs.shtm
Environmental Research Systems Institute (ESRI)	http://www.esri.com
Federal Emergency Management Agency	http://www.fema.gov
FEMA: Flood	http://www.fema.gov/hazard/flood/index.shtm
FEMA Flood Mitigation Assistance Program	http://www.fema.gov/government/grant/fma/index.shtm
FEMA Hazard Mitigation Grant Program	http://www.fema.gov/government/grant/hmgp/
FEMA Hazard Mitigation Success Stories	http://www.fema.gov/news/newsrelease.fema?id=5256

Resource Directory -- Websites

Resource	Web Address
FEMA Individual Assistance Program	http://www.fema.gov/media/fact_sheets/individual-assistance.shtm
FEMA Library	http://www.fema.gov/library
FEMA Map Service Center	http://msc.fema.gov
FEMA Multi-Hazard Mitigation Planning	http://www.fema.gov/plan/mitplanning/index.shtm
FEMA National Dam Safety Program	http://www.fema.gov/plan/prevent/damfailure/ndsp.shtm
FEMA National Flood Insurance Program	http://www.fema.gov/business/nfip/
FEMA Pre-Disaster Mitigation Grant Program	http://www.fema.gov/government/grant/pdm/
FEMA Presidential Disaster Declarations	http://www.gismaps.fema.gov/recent.pdf
FEMA Protect Your Property	http://www.fema.gov/plan/prevent/property.shtm
FEMA Public Assistance Grant Program	http://www.fema.gov/government/grant/pa/index.shtm
FEMA Safe Rooms	http://www.fema.gov/plan/prevent/saferoom/
FEMA Wildfire	http://www.fema.gov/hazard/wildfire/index.shtm
Firewise Communities	http://www.firewise.org
Green River Area Development District	http://www.gradd.com
Habitat for Humanity	http://www.habitat.org
Hancock Clarion	http://www.hancockclarion.com
Institute for Business and Home Safety	http://www.disastersafety.org
Journal Enterprise	http://isurfwebsterco.com/
Kentucky Cabinet for Economic Development	http://www.thinkkentucky.com
Kentucky Climate Center	http://kyclim.wku.edu/
Kentucky Division of Water	http://www.water.ky.gov
Kentucky Emergency Management	http://kyem.ky.gov

Resource Directory -- Websites

Resource	Web Address
Kentucky Geological Survey	http://www.uky.edu/kgs
Mine Safety and Health Administration	http://www.msha.gov
National Association of Regional Councils	http://www.narc.org
National Climatic Data Center	http://www.ncdc.noaa.org
National Drought Mitigation Center	http://www.drought.unl.edu
National Earthquake Hazard Reduction Program	http://www.nehrp.gov
National League of Cities	http://www.nlc.org
National Lightning Safety Institute	http://www.lightningsafety.com
National Severe Storms Laboratory	http://www.nssl.noaa.gov
National Weather Service	http://www.weather.gov/
National Weather Service Storm Prediction Center	http://www.spc.noaa.gov
NOAA Drought Information Center	http://www.drought.noaa.gov
NOAA Midwestern Region Climate Center	http://mrcc.sws.uicu.edu
Ohio County Times News	http://www.octimesnews.com
Owensboro Messenger-Inquirer	http://www.messenger-inquirer.com/
Small Business Administration	http://www.sba.gov
Spatial Hazard Events and Losses Database for the United States	http://www.sheldus.org
The Grantsmanship Center	http://www.tgci.com
Union County Advocate	http://www.ucadvocate.com

Resource Directory -- Websites	
Resource	Web Address
U.S. Army Corps of Engineers	http://www.usace.army.mil
U.S. Department of Agriculture	http://www.usda.gov
U.S. Department of Housing and Urban Development	http://www.hud.gov
U.S. Department of Transportation	http://www.dot.gov
U.S. Environmental Protection Agency	http://www.epa.gov
U.S. Geological Survey	http://www.usgs.gov
United States Society on Dams	http://www.ussdams.org

In the determination of needed mitigation actions and projects, each jurisdiction and the East and West Subcommittees considered the priorities of their communities along with financial feasibility. Although structural actions typically involve greater costs, mitigation planners and local officials realize that benefits can outweigh the implementation costs, especially when faced with natural disasters. Local jurisdictions will strive to be aggressive in seeking funding opportunities that will facilitate mitigation project implementation.

During the plan update process, local jurisdictions reviewed mitigation projects listed in the original plan, giving special attention to completed actions, actions no longer under consideration, and current priorities. Having endured serious hazard events within recent years, communities in the GRADD region possess a firm grasp of their mitigation needs; however, pursuit of funding remains as one of the most challenging obstacles. Despite funding issues, local jurisdictions will continually evaluate their mitigation needs and goals. This practice will serve as a foundation for future updates to the plan.

3.4.3 Implementation of Mitigation Measures

Although the determination of necessary projects and actions can be a difficult first step to mitigation planning for a jurisdiction, actual implementation of the projects and actions often proves to be an even more difficult second step. Specific measures must be in place to guide communities through the process of maintaining a mitigation project list and using it to move forward to the implementation stage once circumstances are favorable. Often this involves a review of projects to establish priorities and the designation of a local, responsible party who will

take charge in pursuing the project and carrying it through to implementation. The lists of local projects contained in Section 3.4.4 feature an overall prioritization and the responsible party.

Mitigation project planning involves many components, including project administration, implementation timing, and funding. It is often difficult to predict how or even when a project will progress, especially with funding as a primary obstacle. For that reason, knowledge of funding sources is a critical part of the overall planning effort. Proper planning, however, requires acknowledgement of all mitigation planning measures to avoid inaction due to funding frustrations.

A. Administration of Mitigation Projects

To ensure specific and unique local priorities are addressed, each jurisdiction will maintain a list of mitigation projects. Changes can be made to the local list at any time, and the GRADD Hazard Mitigation Council will review project lists annually. Ultimately, the jurisdiction's representative to the GRADD Hazard Mitigation Council, with assistance of the responsible parties designated for particular projects, will oversee the hazard mitigation project list.

While this process will remain intact following the completion of the plan update, the plan update process revealed that although many communities pursued mitigation projects, they did not update their lists. In the end, the update process resulted in improved project lists reflecting both accomplishments and current community needs. Many communities that were represented in a county project list under the original plan developed their own project lists for the plan update, making tremendous steps in identifying and pursuing local priorities.

With lack of funding acknowledged as an obstacle to project implementation, it is important for local officials and planners to note the projects that require only a minimum amount of local funding. Creation and distribution of informational brochures, website links, education efforts at local schools, and the purchase of NOAA radios are all relatively inexpensive endeavors. Additionally, some projects could be funded by the private sector, as would be the case of the building of a retention basin for a construction project in the floodplain. Many jurisdictions will ultimately rely on the availability of federal funding to pursue larger projects, such as the purchase of properties in the floodplain or the elevation of roads. Knowledge of project funding needs and potential funding sources impacts a jurisdiction's prioritization of projects on its list.

B. Implementation Timeline

The original plan offered the following timeline, based in part on plan maintenance measures outlined in Section 3.5:

- By May 31, 2005, all jurisdictions should have adopted the GRADD Hazard Mitigation Plan as their own.

- GRADD Hazard Mitigation Council meetings will be held semi-annually in April and October of each year.
- A status report will be made to the GRADD Board of Directors each November.
- Changes to the list of hazard mitigation projects and priorities will be incorporated into the plan with each annual report.

Upon completion of the plan update, all jurisdictions will have an opportunity to adopt the update as their local plan. This will occur prior to January of 2011. The GRADD Hazard Mitigation Council still intends on meeting in April and October of every year following the plan update approval. Additionally, annual evaluations of the plan will be posted to the Hazard Mitigation page on the GRADD website every December. The evaluations will consider local project developments, from projects that are in various stages of implementation to completed projects. Changes to the local project lists will be included in the annual evaluations as well.

Implementation of projects at the local level inevitably depends on a number of factors, including:

- Available funding;
- Community need;
- Compliance with state and/or federal regulations; and
- Environmental conditions (i.e. weather, seasonal changes, etc.).

Local officials and planners will have to consider these factors when assessing timeframes for implementation and the overall ease of implementing a particular project. Because many of these elements are subject to rapid and unpredictable change, progress and project needs are likely to change almost as rapidly, prompting the need for local jurisdictions to update their lists regularly.

C. Funding Resources

For many jurisdictions, mitigation planning and implementation progress is elusive due to the inability to fund large scale or structural projects. Even when federal funding is available, the requirement of matching funds can discourage small communities. State-level funding is limited as well, though sometimes it does serve as a match to federal funds. Table 1 below features the most prominent programs available from the Federal Emergency Management Agency and other state/federal agencies.

3.4.3 Table 1

Potential Funding Sources for Mitigation Projects

Funding Source	Agency	Description
Hazard Mitigation Grant Program	Federal Emergency Management Agency	Available after major disaster declarations, these grants are awarded to local and state governments to implement long-term hazard mitigation measures.
Pre-Disaster Mitigation Grant Program	Federal Emergency Management Agency	This competitive program awards funds to states, local governments, and universities for mitigation planning and implementation projects designed to reduce the overall risks to people and property. These funds are awarded prior to a disaster event.
Flood Mitigation Assistance Program	Federal Emergency Management Agency	With the aim of reducing or eliminating claims under the National Flood Insurance Program, this program awards funds to states and local governments for projects that will reduce or eliminate long-term flood risks to buildings and structures insurable through the NFIP.
Repetitive Flood Claims Program	Federal Emergency Management Agency	With over \$10 million available annually, this program awards funds to states and communities for measures designed to reduce flood damages for properties with one or more NFIP claims.
Severe Repetitive Loss Program	Federal Emergency Management Agency	The program awards funds to activities that reduce NFIP claims and result in significant savings for the National Flood Insurance Fund.
Public Assistance Grant Program	Federal Emergency Management Agency	Released after a presidential disaster declaration, this funding allows local communities to alleviate suffering and restore order following a natural disaster event.

Potential Funding Sources for Mitigation Projects		
Funding Source	Agency	Description
State Homeland Security Program	Department of Homeland Security	Focused on building capabilities for implementing the goals and objectives of state homeland security strategies, these funds are awarded to state and local governments.
Community Development Block Grant / Community Emergency Relief Fund	Department of Housing and Urban Development / Kentucky Department for Local Government	These funds are available to communities following a major emergency declaration and allow the community to respond to problems resulting from the emergency situation.

For many of the FEMA programs, local matching funds are required; however, in-kind contributions of labor and materials are eligible as matching funds. This allowance reduces the strain on small community budgets, making federal funds for mitigation projects more obtainable.

The Green River Area Development District remains available to assist jurisdictions as they explore and pursue various funding options. Beyond funding, GRADD also assists by promoting and encouraging projects that are regional in scope. GRADD staff reviewed the projects as listed in the original plan to assess progress and to consider what must be done moving forward. Though there were many accomplishments, new projects must be pursued to address the current needs of the region.

Green River Area Development District

Completed Projects from the Original GRADD Hazard Mitigation Plan:

- Develop Geographic Information System (GIS) data on critical and essential facilities (ONGOING)
- Facilitate future meetings with the GRADD Hazard Mitigation Council (ONGOING)
- Create and maintain a Hazard Mitigation page on the GRADD Website (ONGOING)

Priority Mitigation Projects:

- Develop a detailed and interactive priority ranking system for hazard mitigation projects in the region
- Continue with the collection of Geographic Information System (GIS) data for critical and essential facilities
- Coordinate efforts with the Kentucky Geological Survey to pursue a seismic mapping project for every county in the region
- Continue to develop and update the Hazard Mitigation page on the GRADD website
- Create floodplain maps for communities that do not have existing Q3 floodplain data from FEMA
- Facilitate future GRADD Hazard Mitigation Council meetings and continue the pursuit of funding opportunities for mitigation planning projects
- Create a natural hazard event tracking system for the region to maintain awareness of the types of events that pose the greatest risks to the region
- Encourage all jurisdictions to participate in the National Flood Insurance Program

Access to the best available data, especially accurate GIS data, is an essential aspect of hazard mitigation planning. Strong data allows planners and local officials to analyze the effects of hazards and devise actions and strategies that will reduce risks to the area. As data improves, local officials will gain a better understanding of community needs and the types of projects that will save lives and protect property. Ultimately, the Hazard Mitigation Council would like for all jurisdictions to focus on structural projects that will increase protection of the region and result in an increased reduction of risks from natural hazard events. Knowledge and awareness of vulnerabilities facilitates all planning efforts, allowing officials to target the most beneficial structural projects. Future updates of the plan will continue to focus more heavily on structural actions needed for local jurisdictions and the region as a whole.

When reviewing their lists of mitigation actions (as listed in Section 3.4.2), each jurisdiction focused on cost benefit, the presumed ease of implementation, and the overall effectiveness of the action in reducing risks to life and property. The East and West Subcommittees, along with local officials, developed an implementation timeline for projects and assigned implementation oversight responsibilities to the most knowledgeable, appropriate local agency or personnel. Under the plan update process, the GRADD Hazard Mitigation Council and the East and West Subcommittee participants agreed to revise the timetable for project implementation to more accurately reflect the timing for mitigation projects. Additionally, all jurisdictions revised their lists of projects, including the responsible party designations. In the end, however, implementation of mitigation projects is dependent on financial resources and the capabilities of jurisdictions. Jurisdictions, in most cases, will have to actively pursue outside funding from federal and state agencies. Unforeseen delays in funding awards inevitably delay the state of project implementation.

Through the plan update and maintenance processes, the GRADD Hazard Mitigation Council will guide and monitor hazard mitigation concepts and activities while seeking partnerships with organizations and agencies within the planning area. Through this planning effort, cities and counties will continue to cooperate in the implementation of mitigation actions. Ultimately, mitigation actions will promote the use of community resources within jurisdictions to assist with plan implementation. The local citizenry will always have a role in mitigation processes and decision making for the region through local and regional mitigation groups and regular public meetings.

3.4.4 Multi-Jurisdictional Mitigation Strategy

Each jurisdiction developed and will maintain a list of mitigation projects for this plan. As local conditions change, each jurisdiction will have the flexibility to add and delete projects. Because conditions and priorities are frequently changing, projects and actions list are subject to resulting changes. Updates to the plan as a whole will include updated lists of projects and priorities for each jurisdiction.

The East and West Subcommittees created the rating and prioritization system for mitigation actions to gather a closer look at how projects can impact communities. Initially, actions were ranked based on their effectiveness in reducing risks to life and property, relative ease of implementation, and the costs versus benefits of the action. Scores range from 1 (“low/difficult”) to 5 (“high/easy”). The numerical scores assigned to these three categories were added together for each action to produce an “Overall Priority” score. Scores ranging from 11 – 15 represent high priority actions. Medium priority actions fall within the 6 – 10 range while low priority actions are within the 1 – 5 range.

For the plan update process, the GRADD Hazard Mitigation Council and the East and West Subcommittees reviewed the rating and prioritization process and determined that it does provide an efficient evaluation of project. Consequently, they did not pursue any revisions to the prioritization procedure. Local participants did recommend revisions to the timetables used for projects. All agreed that viewing projects of less than a year as “short term” and projects of over a year as “long term” creates a narrow view of project timing. As a result, the Council and Subcommittees considered a “medium term” for projects.

The review and prioritization of projects should guide future implementation efforts. The above criteria allowed the Subcommittees and jurisdictions to pinpoint priorities. As discovered during the capability assessment, some cities do not have the financial resources or the personnel to ensure mitigation implementation and effectiveness, forcing them to rely on the county jurisdiction. The plan update process, however, encouraged many cities to give careful consideration to their specific needs and to develop their own lists of projects.

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Green River Area Development District			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Develop Geographic Information System (GIS) data on critical and essential facilities (ONGOING)	GRADD GIS Staff	Section 3.4.3	Long Term		X		3	4	4	11 -- High
Facilitate future meetings with the GRADD Hazard Mitigation Council (ONGOING)	GRADD Planning Staff	Section 3.4.3	Long Term		X		2	5	3	10 -- Med
Create and maintain a Hazard Mitigation page on the GRADD Website (ONGOING)	GRADD Technical Support Staff	Section 3.4.3	Long Term		X		2	4	3	9 -- Med
Priority Mitigation Projects										
Develop a detailed and interactive priority ranking system for hazard mitigation projects in the region	GRADD Planning Staff	Section 3.4.3	Long Term		X		3	3	5	11 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Green River Area Development District			Short Term (< 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15
			Long Term (> 1 year)							High
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			6-10
			Med							1-5
			Low							
Continue with the collection of Geographic Information System (GIS) data for critical and essential facilities	GRADD GIS Staff	Section 3.4.3	Long Term		X		3	4	4	11 -- High
Coordinate efforts with the Kentucky Geological Survey to pursue a seismic mapping project for every county in the region	GRADD Planning Staff	Section 3.4.3	Long Term		X		4	3	3	10 -- Med
Continue to update the Hazard Mitigation page on the GRADD website	GRADD Planning Staff	Section 3.4.3	Long Term		X		2	4	3	9 -- Med
Create floodplain maps for communities that do not have existing Q3 floodplain data from FEMA	GRADD GIS Staff	Section 3.4.3	Long Term		X		3	3	3	9 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Green River Area Development District			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Facilitate future GRADD Hazard Mitigation Council meetings and continue the pursuit of funding opportunities for mitigation planning projects	GRADD Planning Staff	Section 3.4.3	Long Term		X		2	4	3	9 -- Med
Create a natural hazard event tracking system for the region to maintain awareness of the types of events that pose the greatest risks to the region	GRADD Planning Staff	Section 3.4.3	Long Term		X		2	4	3	9 -- Med
Encourage all jurisdictions to participate in the National Flood Insurance Program	GRADD Planning Staff	Section 3.4.3	Long Term		X		1	3	3	7 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Daviness County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Link community website to the Hazard Mitigation page at www.gradd.com	Technical Support Staff	Section 3.4.3	Short Term		X		1	5	2	8 -- Med
Priority Mitigation Projects										
Acquire warning sirens for vulnerable areas such as the Fairview Drive/Millers Mill Road area	EM Director	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Pursue a courthouse surge protection project to fortify PVA Clerk, Fiscal Court, SO, EMA, and 911 computer systems	County Emergency Management	Section 3.4.3	Short Term		X		5	4	5	14 -- High
Construct safe rooms for mobile home parks	EM Director	Section 3.4.3	Long Term	X			5	3	5	13 -- High
Complete seismic mapping project that will process existing data to produce official state maps of earthquake microzones	EM Director	Section 3.4.3	Short Term		X		3	5	4	12 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Daviess County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Build and equip a hardened EOC on a secure (earthquake resistant) site and consolidate all EM equipment to one site	Judge/Executive	Section 3.4.3	Long Term	X			5	3	4	12 -- High
Build additional detention/retention basins in areas that experience flooding	Road Engineer	Section 3.4.3	Long Term	X			5	2	3	10 -- Med
Build bank stabilization to protect riverbanks from further erosion	Road Engineer	Section 3.4.3	Long Term	X			4	2	4	10 -- Med
Establish an ordinance requiring safe rooms at all manufactured housing parks and subdivisions	Planning/Zoning	Section 3.4.3	Short Term			X	3	3	4	10 -- Med
Acquire repetitive loss properties to protect the area from flood events	County Emergency Management	Section 3.4.3	Long Term		X		5	2	3	10 - Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Daviess County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Organize a combination of fixed shelters, mobile equipment, and a stocked Special Needs shelter to ensure the proper establishment of shelters throughout the City of Owensboro and the county	County Emergency Management	Section 3.4.3	Long Term		X		3	3	3	9 -- Med
Distribute safe room brochures with building permits	OMPC	Section 3.4.3	Short Term		X		1	4	3	8 -- Med
Educate local residents on the hazards involved with earthquakes through local school systems	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Coordinate with all GRADD counties to complete a Canopy dedicated/secure wireless broadband system	County Emergency Management	Section 3.4.3	Long Term		X		2	3	2	7 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Daviess County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Pursue inundation mapping for key areas, including the Ohio River and Panther Creek	City/County GIS Consortium	Section 3.4.3	Long Term		X		2	2	2	6 -- Med
Elevate streets and highways above 100 year floodplain	Road Engineer	Section 3.4.3	Long Term	X			3	1	2	6 -- Med
Upgrade county phone system to provide more reliable, less expensive, and more flexible system with emergency alerting and improved, incorporated security systems	County Emergency Management	Section 3.4.3	Short Term		X		2	2	2	6 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
				Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	
Hancock County			Short Term (< 1 year) Long Term (> 1 year)							11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Complete GIS mapping of all parcels in Hancock County	GRADD GIS Staff	Section 3.4.3	Short Term		X		3	4	4	11 -- High
Priority Mitigation Projects										
Construct a multiuse county community shelter	Judge/Executive	Section 3.4.3	Long Term	X			4	5	4	13 -- High
Create a county wide warning system	Judge/Executive	Section 3.4.3	Long Term		X		4	3	5	12 -- High
Acquire portable generators for critical facilities	EMA Director	Section 3.4.3	Short Term		X		3	4	4	11 -- High
Update emergency services map book	Tech Systems Director	Section 3.4.3	Long Term		X		4	3	4	11 -- High
Establish an ordinance requiring safe rooms in all manufactured housing parks	Judge/Executive	Section 3.4.3	Short Term			X	3	3	4	10 -- Med
Acquire satellite phone and other communication devices	Tech Systems Director	Section 3.4.3	Short Term		X		3	3	3	9 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Hancock County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Educate local residents on the hazards of tornadoes, flooding, and earthquakes through the local school system	EMA Director	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Assess and when necessary elevate roads inundated during heavy rains	Road Superintendent	Section 3.4.3	Long Term	X			3	1	2	6 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Hawesville			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire generators for critical facilities	Mayor, Public Works Superintendent, City Clerk	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Acquire portable pumps for water and sewer services	Mayor, Public Works Superintendent, City Clerk	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Pursue GIS mapping of critical facilities	GRADD GIS Staff	Section 3.4.3	Long Term		X		3	4	4	11 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Lewisport			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire portable generators for critical facilities	Mayor, Council	Section 3.4.3	Short Term		X					
Acquire water and sewer pumps to maintain water and sewer services	Mayor, Council	Section 3.4.3	Short Term		X					
Maintain reserve fuel tanks (gasoline and diesel) for emergency situations	Mayor, Council	Section 3.4.3	Short Term		X					
Implement a satellite phone communications system for emergency situations	Mayor, Council	Section 3.4.3	Short Term		X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Corydon			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire NOAA weather radio for the community	Mayor	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Acquire a new warning siren capable of alerting the community during extreme hazard events	Mayor	Section 3.4.3	Short Term		X		4	4	3	11 -- High
Acquire generators for critical facilities	Mayor	Section 3.4.3	Short Term		X		4	4	3	11 -- High
Require safe rooms in new mobile home parks	City Council Member	Section 3.4.3	Short Term			X	3	3	4	10 -- Med
Develop a safe room demonstration project	City Council Member	Section 3.4.3	Short Term		X		2	3	3	8 -- Med
Distribute safe room brochures with building permits	City Council Member	Section 3.4.3	Short Term		X		1	4	3	8 -- Med
Educate local citizens on the hazards involved with tornadoes, flooding, earthquakes, etc. through local schools	City Clerk	Section 3.4.3	Short Term		X		2	4	2	8 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
				Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	
City of Calhoun			Short Term (< 1 year) Long Term (> 1 year)							11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire generators for city hall, the water plant, and the sewer plant	Mayor, Council, City Staff	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Acquire generators for all city-operated sewer lift stations	Mayor, Council, City Staff	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Update floodplain maps	Mayor, City Staff	Section 3.4.3	Long Term		X		5	5	5	15 -- High
Pursue riverbank stabilization projects	Mayor, Council, Engineers	Section 3.4.3	Long Term	X			5	3	5	13 -- High
Create a safe room for city hall employees and records	Mayor, Council, City Staff	Section 3.4.3	Short Term	X			5	2	5	12 -- High
Distribute safe room brochures with building permits	Mayor, Zoning Administrator	Section 3.4.3	Short Term		X		1	5	1	7 -- Med
Develop a city facility for use as a warming and feeding station during natural hazard events	Mayor, County EMA Director	Section 3.4.3	Short Term	X			2	2	3	7 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Calhoun			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Support emergency services in acquiring an interoperable communications system for water, sewer, distribution, and other critical services	County EMA Director, City Staff	Section 3.4.3	Short Term		X		1	2	2	5 -- Low
Conduct GIS dynamic modeling and flood mapping in conjunction with county officials	City Staff, Engineering Firm	Section 3.4.3	Long Term		X		1	2	2	5 -- Low
Educate local residents on the hazards involved with fires through brochures provided to local businesses and schools	City Fire Chief, City Clerks	Section 3.4.3	Short Term		X		1	2	2	5 -- Low
Support emergency services in acquiring necessary equipment for natural disasters	Mayor, Council, City Staff, County EMA Director	Section 3.4.3	Short Term		X		1	3	1	5 -- Low

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Calhoun			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Create poster contests at the local elementary schools for Fire Prevention Week and Severe Weather Preparedness Month	City Fire Chief, City Staff	Section 3.4.3	Short Term		X		1	2	1	4 -- Low

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Island			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire a generator for the sewer plant	Mayor, Water Superintendent	Section 3.4.3	Short Term		X					
Acquire generators for the sewer pump stations	Mayor, Water Superintendent	Section 3.4.3	Short Term		X					
Acquire a generator for the city hall facility	Mayor, Water Superintendent	Section 3.4.3	Short Term		X					
Construct or develop an emergency public shelter	Mayor	Section 3.4.3	Long Term	X						
Implement a community emergency/hazard alert system	Mayor	Section 3.4.3	Short Term		X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Livermore			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
	Project Scope						1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Acquire submersible sewer pump station at Poplar Street	Sewer System Operators	Section 3.4.3	Short Term	X			3	2	3	8 -- Med
Priority Mitigation Projects										
Acquire emergency generators for water treatment plant and city hall	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Address the deterioration of the sewer plant flood wall	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term	X			5	5	5	15 -- High
Remove old water tank (structural hazard) at the water treatment plant	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term	X			5	4	5	14 -- High
Acquire a generator for the sewer plant	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term		X		5	4	5	14 -- High
Acquire generators for three sewer lift stations	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term		X		5	4	5	14 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Livermore			Short Term (< 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15
			Long Term (> 1 year)							High
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			6-10
										Med
										1-5
										Low
Install two additional warning sirens	Mayor, Emergency Management, City Council, and City Staff*	Section 3.4.3	Short Term		X		4	5	4	13 -- High
Install NOAA weather radio at city hall	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Collect GPS data on critical and essential facilities	Mayor, City Council, and City Staff*	Section 3.4.3	Long Term		X		3	4	4	11 -- High
Acquire and install phase protectors on three sewer lift stations	Mayor, City Council, and City Staff*	Section 3.4.3	Long Term	X			3	4	3	10 -- Med
Repair sewer system infrastructure to reduce discharge	Mayor, City Council, and City Staff*	Section 3.4.3	Long Term	X			3	3	3	9 -- Med
Educate local citizens on the hazards involved with tornadoes, flooding, earthquakes, etc. through local schools	Mayor, City Council, and City Staff*	Section 3.4.3	Short Term		X		2	4	2	8 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Livermore			Short Term (< 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15
			Long Term (> 1 year)							High
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			6-10
Build a new water treatment plant outside of the floodplain	Mayor, City Council, and City Staff*	Section 3.4.3	Long Term	X			2	1	3	1-5 Med
*City Staff includes the Water/Sewer Supervisor, the City Clerk, and the Assistant City Clerk.										

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Sacramento			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Elevate KY HWY 85 at Cypress Creek near the intersection of KY HWY 2226 between Sacramento and Island	Mayor	Section 3.4.3	Long Term	X						
Continue efforts to remove storm debris from public facilities and power lines (from the 2009 ice storm)		Section 3.4.3			X					
Continue efforts to remove storm debris from streams and ditches to mitigate future flood damages (from the 2009 ice storm)		Section 3.4.3	Long Term		X					
Define and map local critical facilities and distribute mapping to emergency services and planning personnel		Section 3.4.3			X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Ohio County			Short Term (< 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15
			Long Term (> 1 year)							High
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Beaver Dam			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Update weather warning siren	Emergency Management	Section 3.4.3	Short Term		X		4	5	4	13 -- High
Install NOAA weather radio at city hall	Mayor	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Update floodplain maps	City Planner	Section 3.4.3	Short Term		X		3	4	3	10 -- Med
Priority Mitigation Projects										
Construct a new fire station that could also serve as a shelter	City Commission	Section 3.4.3	Long Term	X						
Require that all new mobile home parks construct a safe room	City Commission	Section 3.4.3	Short Term			X	3	3	4	10 -- Med

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Centertown			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire generators for the city's water system and other critical facilities	City Clerk	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Replace drainage tiles in roadways due to excessive rainfall	City Clerk	Section 3.4.3	Short Term	X			5	5	5	15 -- High
Pursue the construction of a new city hall facility, which could also serve as a community shelter during natural hazard events	City Clerk	Section 3.4.3	Long Term	X			4	3	4	11 -- High
Purchase equipment for the fire department and other emergency response units	Fire Chief	Section 3.4.3	Short Term		X		3	4	3	10 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Fordsville			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Reinforce the dam at Water Lake	Mayor and City Commissioners	Section 3.4.3	Long Term	X						
Pursue infrastructure protection measures for water and sewer lines in case of an earthquake	Mayor and City Commissioners	Section 3.4.3	Long Term	X						

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Hartford			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire a generator for city hall	City Clerk	Section 3.4.3	Short Term		X					
Acquire a generator for the water treatment plant		Section 3.4.3	Short Term		X					
Pursue the Barnes Street drainage project to eliminate excessive flooding		Section 3.4.3	Long Term	X						
Construct a concrete ditch along Griffin Street to address erosion and area flooding		Section 3.4.3	Long Term	X						

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Union County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Collect GPS data for critical and essential facilities	Emergency Management	Section 3.4.3	Long Term		X		3	4	4	11 -- High
Collect GPS mapping of all parcels in Union County	Emergency Management	Section 3.4.3	Long Term		X		3	4	4	11 -- High
Plan Countywide Central Dispatch System with Emergency Operations Center	Emergency Management	Section 3.4.3	Long Term	X			4	3	3	10 -- Med
Prepare a County Zoning Project to identify floodplain	Planning/Zoning	Section 3.4.3	Long Term		X		3	3	3	9 -- Med
Enact a National Flood Ordinance	Planning/Zoning	Section 3.4.3	Short Term			X	1	3	3	7 -- Med
Expand sewer lines with a County Joint Sewer Project	Wastewater System Operators	Section 3.4.3	Long Term	X			2	2	3	7 -- Med
Priority Mitigation Projects										

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Union County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Obtain levee certifications to ensure that all local communities with levees remain in compliance with various program regulations	Floodplain Manager	Section 3.4.3	Short Term			X	5	5	5	15 -- High
Implement building regulations to mitigate the effects of hazards in the area	Planning Commission	Section 3.4.3	Short Term	X			5	5	5	15 -- High
Create Countywide Warning Siren System for severe weather and hazardous materials	Emergency Management	Section 3.4.3	Short Term		X		4	5	4	13 -- High
Install fire hydrants in critical county areas	Road Engineer	Section 3.4.3	Long Term	X			5	3	4	12 -- High
Update map book of addresses for Emergency Services (computerize all 911 data)	Emergency Management	Section 3.4.3	Long Term		X		4	3	4	11 -- High
Provide disaster training for first responders and interested local residents	Emergency Management	Section 3.4.3	Short Term		X		3	5	2	10 -- Med
Acquire generators for critical facilities	Union County Fiscal Court	Section 3.4.3	Short Term		X		4	3	3	10 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Union County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Distribute Safe Room and Fire Prevention information with building permits	Building Inspector	Section 3.4.3	Short Term		X		1	4	3	8 -- Med
Educate local residents as to the hazards involved with tornadoes, flooding, and earthquakes through the local school system	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Assess and possibly elevate roads inundated during heavy rains and/or flooding	Road Engineer	Section 3.4.3	Long Term	X			3	1	2	6 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Morganfield			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Continue to provide support for interoperable communications for emergency services	Mayor	Section 3.4.3	Short Term		X		5	3	3	11 -- High
Plan a wastewater extension project from Union County High School, Union County Middle School, and Community Methodist Hospital to hook up with the City of Morganfield sewer treatment plant	Wastewater System Operator	Section 3.4.3	Long Term	X			3	2	2	7 -- Med
Priority Mitigation Projects										
Continue the raw water main replacement project from the source (Ohio River) to the water filtration plant	Water System Operator	Section 3.4.3	Long Term	X			3	2	2	7 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Morganfield			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Replace sewer lines in the Old Camp Breckenridge area of the city and address inflow and infiltration (I&I) problems in the area	Mayor	Section 3.4.3	Long Term	X			5	3	3	11 -- High
Acquire generators for critical facilities		Section 3.4.3	Short Term		X					
Pursue the combined sewer separation project		Section 3.4.3	Long Term	X						
Dredge the reservoir at the water plant		Section 3.4.3	Short Term		X					
Dredge the settlement pond at the sewer plant		Section 3.4.3	Short Term		X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Uniontown			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Pursue a storm drainage project along Pine Street from 4th Street to 7th Street		Section 3.4.3	Long Term	X						
Acquire generators for critical facilities		Section 3.4.3	Short Term		X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Webster County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Provide an emergency response vehicle to deliver medicine and food to the elderly or sick in the event of a natural disaster	Emergency Management	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters <i>(ONGOING)</i>	Emergency Management	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Educate the local residents as to the hazards involved with tornadoes, flooding, and earthquakes through the local school systems <i>(ONGOING)</i>	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Priority Mitigation Projects										
Elevate county roads in flood prone areas to eliminate the effects of flooding situations	County Road Department	Section 3.4.3	Long Term	X						
Acquire generators for critical facilities	Emergency Management	Section 3.4.3	Short Term		X					

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Webster County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Acquire and implement an emergency communications system	Emergency Management	Section 3.4.3	Short Term		X					
Expand present GIS system to include layers for hazard mitigation	GRADD GIS Staff	Section 3.4.3	Long Term		X		3	3	4	10 -- Med
Participate in the National Flood Insurance Program to acquire Flood Insurance Rate Maps	Judge/Executive	Section 3.4.3	Long Term			X	1	3	3	7 -- Med
Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters	Emergency Management	Section 3.4.3	Short Term		X		5	3	4	12 -- High
Build emergency generators and pumps to provide potable water in the event of a natural disaster	Water System Operators	Section 3.4.3	Short Term	X			5	3	4	12 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
Webster County			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Build emergency generators and pumps to provide sewage treatment in the event of a natural disaster	Wastewater System Operators	Section 3.4.3	Short Term	X						
Improve drainage with the installation of additional water drains	Water and Wastewater System Operators	Section 3.4.3	Long Term	X						
Educate the local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school systems	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Construct an aboveground shelter for the 911 Dispatch Center	Emergency Management	Section 3.4.3	Long Term	X						
Construct an aboveground shelter for the County Emergency Operations Center	Emergency Management	Section 3.4.3	Long Term	X						

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Clay			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Priority Mitigation Projects										
Acquire a generator for the Clay Emergency Services Building	City Fire Chief	Section 3.4.3	Short Term		X		5	4	5	14 -- High
Acquire generators for critical facilities	City Fire Chief	Section 3.4.3	Short Term		X		5	4	5	14 -- High
Construct an aboveground tornado shelter for city office personnel, public works personnel, and other first responders	City Fire Chief	Section 3.4.3	Long Term	X			4	4	5	13 -- High
Build emergency generators and pumps to ensure proper sewage treatment during natural hazard events	Public Works Director	Section 3.4.3	Long Term	X			4	4	5	13 -- High
Acquire additional emergency communications devices	City Fire Chief	Section 3.4.3	Short Term				4	4	4	12 -- High
Improve drainage by placing additional drains within the city	Public Works Director	Section 3.4.3	Long Term				4	4	4	12 -- high
Elevate flood prone roads within the city	Public Works Director	Section 3.4.3	Long Term	X			4	2	4	10 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Clay			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Expand the availability of GIS data for city facilities	Public Works Director, GRADD GIS Staff	Section 3.4.3	Long Term		X		3	3	4	10 -- Med
Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters	City Fire Chief	Section 3.4.3	Long Term		X		3	3	3	9 -- Med
Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system	All Departments	Section 3.4.3	Long Term		X		2	4	2	8 -- Med

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Dixon			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Completed Projects from the Original GRADD Hazard Mitigation Plan										
Use emergency supplies for ambulance service in emergency situations	Emergency Management	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Educate local residents as to the hazards involved with tornadoes, flooding, and earthquakes through local school systems (ONGOING)	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med
Encourage enforcement of building codes	Mayor	Section 3.4.3	Short Term		X		2	3	2	7 -- Med
Priority Mitigation Projects										
Acquire generators for critical facilities	Mayor	Section 3.4.3	Short Term		X		5	5	5	15 -- High
Build emergency generators and pumps to ensure proper sewage treatment during natural hazard events	Mayor, Wastewater System Operators	Section 3.4.3	Long Term	X			5	5	5	15 -- High

Local Hazard Mitigation Strategy -- Local Mitigation Projects

Jurisdiction / Project Scope	Responsible Party	Funding Source	Estimated Timetable	Project Type			Implementation			Overall Priority
City of Dixon			Short Term (< 1 year) Long Term (> 1 year)	Structural	Nonstructural	Regulatory	Effect on Risk	Ease of Implementation	Cost / Benefit	11-15 High 6-10 Med 1-5 Low
Project Scope							1 (Low/Difficult) to 5 (High/Easy)			
Upgrade and expand the use of early warning devices (NOAA radios) and sirens for natural disasters	Mayor, Emergency Management	Section 3.4.3	Long Term		X		5	3	4	12 -- High
Pursue upgrades to local emergency communications devices	City Fire Chief	Section 3.4.3	Long Term		X		4	4	4	12 -- High
Make warning devices available to citizens	Mayor, Emergency Management	Section 3.4.3	Long Term		X		4	3	5	12 -- High
Improve an existing structure to create a safe room for the residents of Dixon	Mayor, City Council	Section 3.4.3	Short Term	X			3	3	4	10 -- Med
Improve drainage by placing additional drains within the city	Water and Wastewater System Operators	Section 3.4.3	Short Term	X			3	3	3	9 -- Med
Educate local residents on the hazards involved with tornadoes, flooding, and earthquakes through the local school system	All Departments	Section 3.4.3	Short Term		X		2	4	2	8 -- Med

