Pike County Missouri Natural Hazard Mitigation Plan Five Year Update

Section 7

Clarksville

Pike County, Missouri Table of Contents

Section 7 Clarksville

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City Profile----Clarksville

History of Clarksville

Clarksville was established in 1817. Sources indicate uncertainty about whose name was being honored either Territorial governor William Clark or the more famous General George Rogers Clark of the Lewis and Clark expedition. Clarksville was once nicknamed "Appletown" because in the 1850's a very large amount of apples was shipped from its docks. It once had four thriving tobacco warehouses, a flourmill, a vinegar factory, two hotels, a paper mill, a cooper factory, dressmaking shops, and other shops. In 1880 Clarksville boasted of a population of more than 1400 residents. It steadily declined over the next 100 years to 585 in 1980. In spite of this decline, the community has rallied to survive and has won several awards for community improvement from 1965 to present. Some of the awards have come from paving of streets, constructing apartment buildings, installing a sewer system, opening a Senior Citizen's Center and substantial rebuilding of the historic district.

Another attraction in Clarksville is the Lock and Dam No. 24 on the Mississippi River. It was constructed at Clarksville in 1936 by the Works Progress Administration and currently maintained by the Army Corp. of Engineers. The lock has remained a popular tourist attraction bringing many visitors into Clarksville.

Because of Clarksville's proximity to the Mississippi River, many of its historic homes are susceptible to floods each spring. In the record flood of 1993 due to the heroic sandbagging efforts of the citizens of Clarksville and volunteers from many other communities the historic district on the banks of the Mississippi was spared.





Form of Government

Clarksville's city government is Mayor and Board of Alderman. Clarksville has a North Ward and a South Ward, each with two elected aldermen.

In-Place Plans

Upon adoption of the Pike County Natural Hazards Mitigation Plan, the plan will serve as a baseline of information on the natural hazards that impact Pike County and the city of Clarksville. These mitigation goals and objectives will help local governments and other organizations in the Pike County plan for natural hazard mitigation in their own planning documents. The meetings of the Hazard Mitigation Committee will provide an opportunity for committee member to report back on the progress made on the integration of mitigation planning into the county and city planning documents and procedures.

Below is a listing of some of the current planning documents that will be used:

Hazardous Material Response Plan LEPC

Pike County

Emergency Operations Plans (EOP)

Pike County EOP

Floodplain Development Procedures:

The purpose of this ordinance is to promote the public health, safety and general welfare and minimize losses and to establish and maintain the city's eligibility for participation in the National Flood Insurance Program (NFIP). The Clarksville Floodplain Map is on following page.

Zoning

Sandbagging Action Plan

A detailed plan has been developed by the City of Clarksville to coordinate the placing of sandbags for flood control for all river stages during a possible flood along the Mississippi River. This plan was used very effectively during the Great flood of 1993.

Clarksville's Participation in NFIP (National Flood Insurance Program)

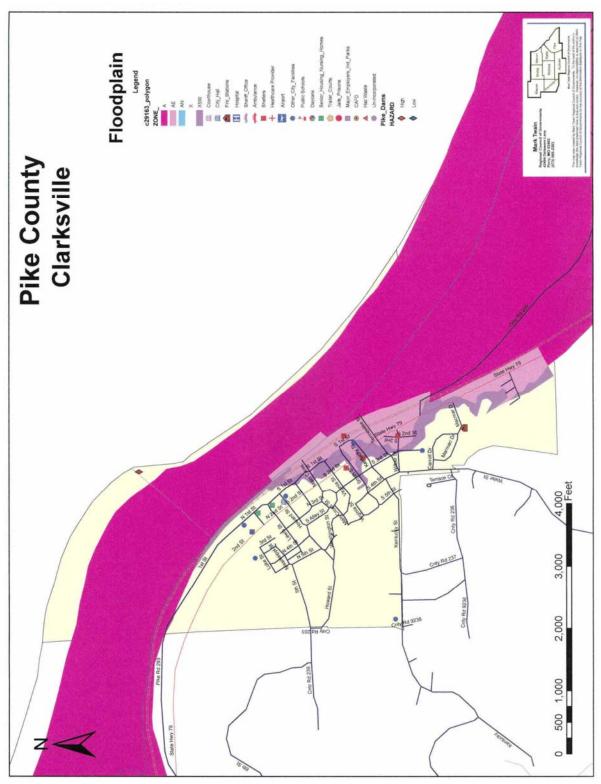
	Date joined NFIP	Policies in Force	Insurance in Force	Number of claims	Total Payments 1978-2009
Clarksville	5/24/74	37	\$4,530,800	126	\$1,042,019

Mitigation Programs

Mitigation entails taking actions to reduce or eliminate injury, loss of life, and property damage from natural hazards. Because of Pike County's location on the Mississippi River, the majority of its mitigation efforts focus on floodplain management regulations and participation in the National Flood Insurance Program. The first Pike County Natural Hazards mitigation plan was implemented in 2004. Through public involvement and planning, the county has

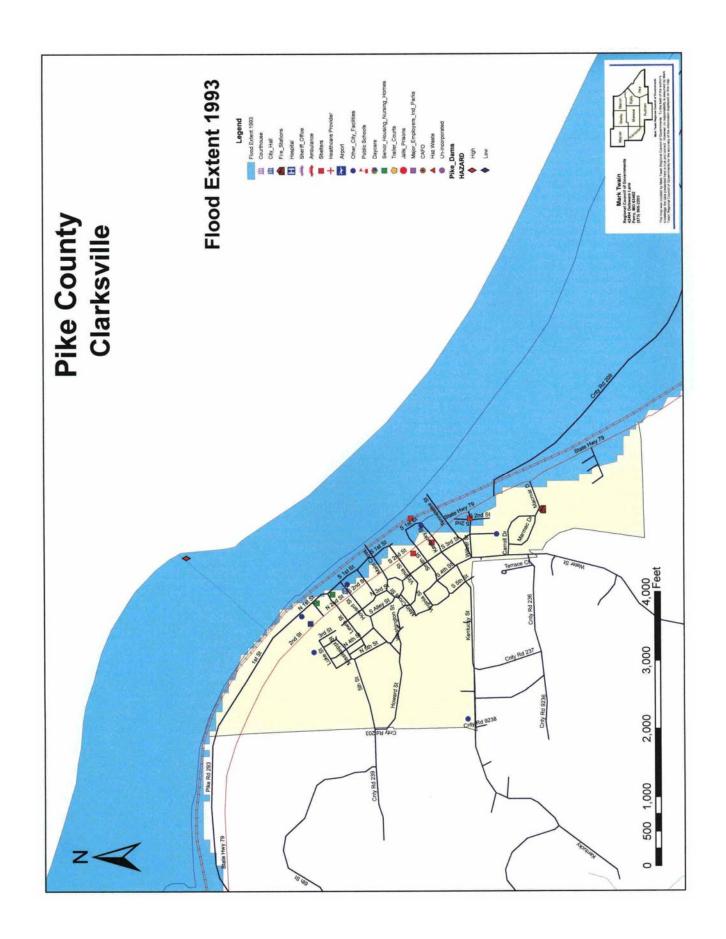
adopted this policy. Though the focus remains on rescue and response, a number of mitigation efforts have been implemented.

- The County participated in a federally funded property acquisition program following the 1993 flood. Those residents who previously resided in the floodplain were offered financial incentives to move out of the floodplain through a buy-out process of their property.
- Pike County is currently cooperating with the U.S. Corps of Engineers regarding levee systems along the Mississippi River to determine what actions are needed to recertify the levees and keep those areas affected in the National Flood Insurance Program (NFIP).
- Pike County's Emergency Plan and LEPC contain mitigation measures.
- Pike County receives NWS warnings, and the sheriff's office is staffed on a 24-hour basis by dispatch personnel. Additionally, the county has implemented the use of a text messaging warning system through cell phones. For those outside of incorporated areas, this measure has increased both awareness and the effectiveness of the county's warning system. However, large-scale warning equipment (sirens, etc.) is still limited to the county's municipalities and the means used to alert each respective community varies. The use of local media remains prevalent as an effective warning system.
- Pike County works collaboratively with all municipalities in identifying key sites in each incorporated area as well as sharing information regarding any/all natural threats with those entities that are interested in hazard response and mitigation.
- The County works conjunctively with local media (newspapers, radio, cable providers, and Internet service providers) to both provide information to the public and highlight mock disasters in an effort to raise public awareness about natural hazards and the planned responses. Various trainings, including weather spotting courses, have been offered to help mitigate the effects of severe weather upon the county's citizenry.
- All Pike County schools have written and compiled an all-hazards plan which includes mitigation measures for natural disasters.
- The Emergency Management Director keeps a working reference library of all materials regarding disaster response, natural hazard mitigation, and rescue/evacuation plans. The reference material is freely shared with the public as well as interested municipal officials.



Floodplain Zones on FIRM maps

Zone A Flood hazard area inundated by 100-year flood. No base flood elevations determined. Zone AE Flood hazard area inundated by 100-year flood. Base flood elevations determined. Zone X Areas of 500-year flood.



Population and Demographics

Clarksville has a diverse population by age. . The median age in Clarksville is 36.0 years. The population under the age of five years is 6.3%. Senior citizens, those over the age of 65, constitute 18.4% of the Clarksville's total population compared to 13.5% for the state of Missouri. These two groups, along with the children of school age will be given special consideration when planning mitigation actions for Clarksville.

City of Clarksville	2000 Census	
Population Density	Number	Percent
Total Persons	490	100
Number of Households	225	XX
Average Household Size	2.18	XX
Source: 2000 U.S. Census		

City of Clarksville	2000 Census	
Population by Age Group	Number	Percent
Under 5 years	31	6.3
Between 5 and 19 years	102	20.8
Between 20 and 64 years	267	54.5
65 years and over	90	18.4
Median age	36.0 years	XX
Source: 2000 U.S. Census		

Utilities

Water Supplied by: City of Clarksville

Wastewater Treatment Supplied by: City of Clarksville

Electricity and Natural Gas Supplied by: AmerenUE

Cable TV Supplied by: First Cable

Employment

Clarksville has a diverse work force as seen in Table 3. The 2000 Census records show that Clarksville had an unemployment rate of 4.9% out of total work force of 224 persons. These workers had a mean travel time to work of 24.5 minutes and their median household income was \$23,611. The statistics show that over 28% of the work force is professional or management. An additional 35% is in service, sales and office employment. Construction, maintenance, production and transportation account for an additional 35%.

City of Clarksville	2000 Census	
Occupation	Number	Percent
Management, Professional	61	28.6
Service occupations	37	17.4
Sales and office occupations	38	17.8
Farming, fishing, and forestry	4	1.9
Construction and maintenance	23	10.8
Production and transportation	50	23.5
Total civilians employed	213	XX
Unemployment rate	11	4.9
Mean Travel time to work	24.5 minutes	XX
Median Household Income	\$23,611	XX
Persons below poverty level	106	22.2
Source: 2000 U.S. Census		

Clarksville has no major employers (over 100 employees) within the city limits. However, Holcim Cement, Inc. is located just outside the city limits north on Highway 79. Most workers compute to other parts of Pike, Ralls, and Lincoln counties and the St. Louis area.

Employer	Number of Employees	Location
Holcim Cement, Inc.	115	Clarksville

Education

The tables below show Clarksville's education profile. At least 73 % of those over 25 years of age have at least earned their high school diploma. Over 22 % of those have gone on to obtain an Associate, Bachelor, or advanced college degree.

City of Clarksville	2000 Census	
Education Profile	Number	Percent
Total Persons over 25 years old	334	100
Less than High School Degree	76	22.7
High School Graduate	108	32.3
Some college	74	22.2
Associate or Bachelor Degree	60	18.0
Post-graduate or Professional Degree	16	4.8
Source: 2000 U.S. Census		

City of Clarksville	2000 Census	
Educational Enrollment	Number	Percent
Total Persons enrolled in school	116	100
Nursery, pre-school	2	1.7
Kindergarten	9	7.8
Elementary (1 – 8)	69	59.5
High School (9 – 12)	21	18.1
College or graduate school	15	12.9
Source: 2000 U.S. Census		

School students in Clarksville attend the Clopton schools.

Name	Location	Students	Staff
Clopton # 3			
Clopton Schools	28176 Hwy WW	313	29

^{****}Clopton Schools are not within the city limits of Clarksville

Scheduled Large Gatherings For more details visit the following website.

http://www.clarksvillemo.us/events.html

Masters of the Sky and Eagle Days

3rd and 4th weekends in January

Regional Chili Cook off Contest 1st Saturday in June

Old Fashioned Christmas

Weekends in December

50 miles of Art

April and November

Antique Shows

Big River Days

Vulnerabilities

Public and Critical Facilities

Name	Location	City
U.S. Facilities		
U.S. Post Office	First Street	Clarksville
U.S. Army Corp of Engineers, Lock and	305 N. First Street	Clarksville
Dam # 24		
City Of Clarksville Facilities		
Clarksville City Hall	111 Howard	Clarksville
Clarksville Fire Department	113 Marmac Dr.	Clarksville
Library	N Second Street	Clarksville

Health Care Facilities

Name	Location	# Units
Pike County Memorial Hospital	2305 W. Georgia, Louisiana	45 beds
Clarksville Clinic	Main Cross, Clarksville	XX

Other Hospitals---Hannibal Regional Hospital, Hannibal. Lincoln County Hospital, Troy

Long Term Care and / Nursing Homes / Senior Housing

Name	Location
Swettman Building	1 st and Mississippi, Clarksville
Jameson Building	1 st and Lewis, Clarksville

Licensed Child Care Facilities

Name	Location	Capacity
Clopton Preschool	28176 Highway WW	25

^{****}Clopton Schools are not within the city limits of Clarksville

School students in Clarksville attend the Clopton schools.

Name	Location	Students	Staff
Clopton # 3			
Clopton Schools	28176 Hwy WW	313	29

^{****}Clopton Schools are not within the city limits of Clarksville

Trailer Courts—No Trailer Courts in the city

Hazardous Materials

The local Pike County LEPC handles any emergencies involving hazardous materials. It is important to know the location of hazardous material because of the cascading effect from a natural hazard. Addresses of the hazardous material locations in the county can be found in the Pike County Emergency Operations Plan—Hazardous Materials Response--LEPC manual. The Hazard Mitigation Committee recommends that a comprehensive map of these locations be made available to all emergency personnel in the event of a natural hazard.

Though not within the city limits, the large cement plant is just to the north of Clarksville is of concern to the citizens of Clarksville.

Capabilities

Public and Critical Facilities

Name	Location						
U.S. Facilities							
U.S. Post Office	First Street	Clarksville					
U.S. Army Corp of Engineers, Lock and	305 N. First Street	Clarksville					
Dam # 24							
City Of Clarksville Facilities							
Clarksville City Hall	111 Howard	Clarksville					
Clarksville Fire Department	113 Marmac Dr.	Clarksville					
Library	N Second Street	Clarksville					

Health Care Facilities

Name	Location	# Units
Pike County Memorial Hospital	2305 W. Georgia, Louisiana	45 beds
Clarksville Clinic	Main Cross, Clarksville	XX

 Other Hospitals---Hannibal Regional Hospital, Hannibal. Lincoln County Hospital, Troy

Law Enforcement and Fire Departments

Name	Location	Staff
Clarksville Volunteer Fire Dept.	113 Marmac	17 firefighters
Pike County Sheriff	Bus. 54, Bowling Green	7 officers

Emergency Operations Centers

Name	Location
Pike County Sheriff	Bus 54, Bowling Green
Clarksville Community Center	Howard Street, Clarksville

Shelters

Name	Location
American Legion Hall	First Street, Clarksville
Visitor's Center	Hwy 79 N., Clarksville
Baptist Church	Main Street, Clarksville

Emergency services

911Center

The 911 Center at the Pike County Sheriff's Office, Bowling Green, takes all emergency calls, then dispatches ambulance, fire and law enforcement departments that serve Clarksville.

Pike County Health Department takes steps to prevent contamination and other health concerns in emergencies and disasters.

In addition Clarksville maintains Agreements of Mutual Assistance with all the surrounding communities.

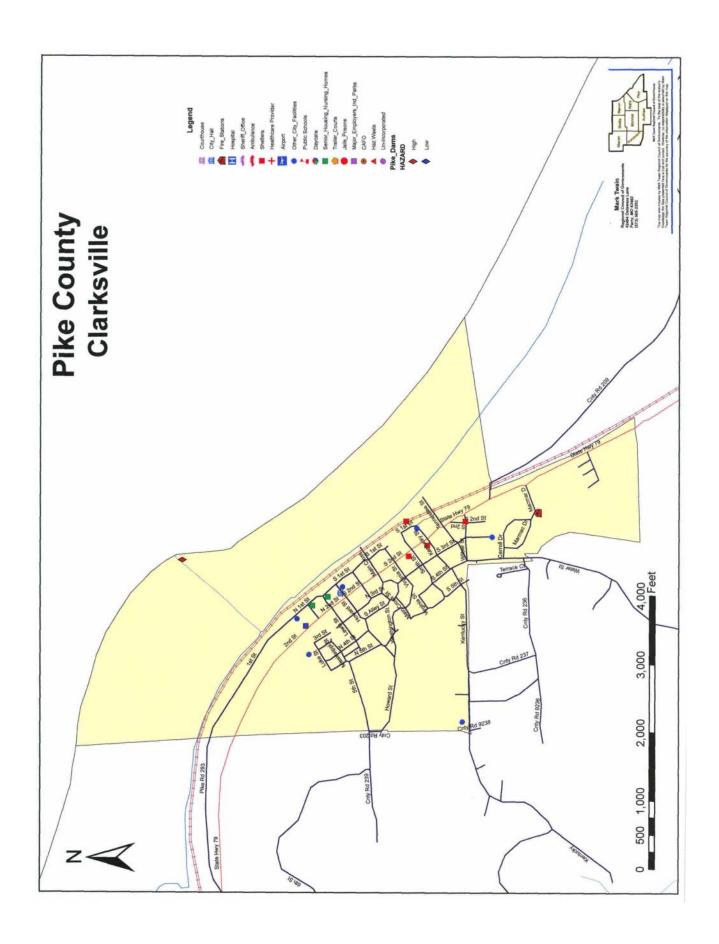
In-Place Plans

Hazardous Material Response Plan LEPC

Pike County

Emergency Operations Plans (EOP)

Pike County EOP



Mitigation

Definition of Mitigation

Mitigation is defined as "...sustained (long-termed) action that reduces or eliminates long-term risk to people and property from natural hazards and their effects." It describes the ongoing effort at the Federal, State, local and individual levels to lessen the impact of disasters upon our families, homes, communities and economy. (HMP Handbook p.15)

Multi-Hazard Mission, Goals, Objectives, Action Items and Strategies

This section describes the framework that focuses the plan on developing successful mitigation strategies. The framework is made up of four parts: the **Mission, Goals,** Objectives and Action Items and Strategies.

Mission

The mission of the Clarksville Natural Hazards Mitigation Plan is to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards.

Goals

The plan goals describe the overall direction that Clarksville agencies, organizations, and citizens can take to minimize the impacts of natural hazards. The goals are stepping-stones between the broad direction of the mission statement and the specific recommendations that are outlined in the action items.

Objectives

The plan objectives are significant results that contribute to the achievement of the plan goals. The objectives will be fulfilled by a combination action items and strategies that will be completed within a specific time frame.

Action Items and Strategies

The action items are a listing of activities in which county agencies and citizens can be engaged to reduce risk. Each action item includes an estimate of the timeline and strategies for implementation. When developing mitigation strategy, the planning committee followed several guidelines for selection of action items. They looked for action items that were socially acceptable, technically feasible, administratively executable by local communities, **p**olitically acceptable, **l**egally implemented by county, economically feasible and environmentally sound (STAPLEE). The planning committee eliminated no action items after the STAPLEE guidelines were followed. A summary of the STAPLEE guidelines for each action item can be found at the end of this section.

Mission Statement

The mission of the Clarksville-Pike County Natural Hazards Mitigation Plan is to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards. This can be achieved by increasing public awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities to guide the county towards building a safer, more sustainable community. This plan will work in conjunction with plans in place listed at the end of the community profiles.

Mitigation Goals

The three goals of natural hazard mitigation for Clarksville are:

- A. Protect the lives and livelihoods of all the citizens
- B. Decrease the impact of natural hazards
- C. Ensure continued operation of government and emergency functions in a disaster.

Mitigation Plan Objectives

The Plan objectives help to guide direction of future activities aimed at reducing risk and preventing loss from natural hazards. The objectives listed here serve as checkpoints as agencies and organizations begin implementing mitigation action items.

1. Protect Life and Property

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to natural hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Improve hazard assessment information to make recommendations for discouraging new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards.

2. Public Awareness

- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

3. Natural Systems

- Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve natural □ □ hazard mitigation functions.

Partnerships and Implementation 4.

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations □ to prioritize and implement local, county, and regional hazard mitigation activities.

5. **Emergency Services**

- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Mitigation Action Items and Strategies

Action Items and Strategies were developed for each of the seven natural hazards that may face the citizens of Clarksville. Timeframe for completion, strategies to complete each action item and the coordinating organizations were determined for each action. The action items addressed by the Clarksville Hazard Mitigation Committee included:

- **Prevention.** Prevention actions are intended to keep a hazard risk problem from getting worse. Using prevention actions, future development can be guided away from hazards, while maintaining other community goals.
- Property Protection. Property protection actions are used to modify buildings subject to hazard risk, rather than to prevent the hazard from occurring. These actions directly protect people and property at risk.
- Natural Resource Protection. Natural resource protection actions are intended to reduce the intensity of hazard effects as well as to improve the quality of the environment and wildlife habitats. Conservation agencies usually implement these activities.

- Emergency Services. Emergency services actions protect people before and after a hazards event. Most counties have emergency management offices to coordinate warning, response, and recovery during a disaster.
- Structural. Structural actions involve construction of man-made structures to control hazards. Examples are levees, floodwalls, and storm sewers.
- Public Information. Public information activities inform and remind people about hazardous areas and the measures necessary to avoid potential damage and injury.

Organization of Mitigation Action Items

The mitigation plan identifies action items developed through data collection and research. Action items were determined that pertained to all the natural hazards (AH) that face Clarksville, and then determined specific action items for each of the seven natural hazards. To help ensure activity implementation, each action item includes information on the timeline and coordinating organizations. Upon implementation, the coordinating organizations may look to partner organizations for resources and technical assistance.

- Coordinating Organization. The coordinating organization is the organization that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of or responsible for implementing activities and programs.
- **Timeline**. Action items include both short and long-term activities. Each action item includes an estimate of the timeline for implementation.
- Ideas for Implementation. Each action item includes ideas for implementation and potential resources, which may include grant programs or human resources.
- Plan Objectives Addressed. The plan objectives addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.
- **Priority.** The Mitigation Action Items and Strategies are listed in this section in order of priority for each hazard and summarized in a Five Year Matrix at the end of this section.

Economic Analysis of Mitigation Projects--Cost Benefit Review

Cost-Benefit Review – takes into account the monetary and non-monetary costs and benefits associated with each action. Conducting a benefit/cost review for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Determining the economic feasibility of mitigating natural hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Utilizing the previous Natural Hazards Mitigation Plan, the Clarksville Hazard Mitigation Committee has a comprehensive list of possible hazards and ways to mitigate their impact. The benefit/cost is determined by considering the number of citizens served by the action, the longterm effects of said action, and a number of other factors.

The Cost-Benefit Review was a very important step in the prioritization of mitigation actions found in this plan. Each jurisdiction looked at each mitigation action they discussed and answered a few questions:

- How many people in various demographics could be affected by the Hazard that the action addresses?
- What is the extent or the degree that a natural hazard event could affect a particular area?
- How much property damage might occur and what will be the resulting monetary cost?
- How many properties or physical assets might have loss of use?
- How many people might lose their life?
- How many people might be injured?
- How can each action item be implemented?
- What are the possible sources of funding available for the implementation?

The information needed to answer these questions effectively can be found throughout the plan. This information assisted each jurisdiction in answering these questions. Once they used this procedure, each jurisdiction was able to prioritize their mitigation actions. Once jurisdictions had completed the Cost-Benefit Review, they then had to take into account other variables such as the ability to implement actions and funding considerations to complete the prioritization process.

Public Participation

Meetings with the Hazard Mitigation Committees served as the method to obtain input and identify priorities in developing goals for reducing risk and preventing loss from natural hazards in Clarksville. Articles in the local papers informed the public that hazard mitigation planning was occurring in their communities and they were invited to let their concerns be known.

In accordance with Missouri's "sunshine law" (RSMo 610.010, 610.020, 610.023, and 610.024), the public was notified each time the Hazard Mitigation Committees met and the plan, or sections of the plan, was presented for review. Input from the general public was solicited through media outlets and various reminders at public gatherings.

The Hazard Mitigation Committees met to determine action items that would address each of the plan objectives, determine which organizations or groups within the county would be responsible for the action, an estimated timeline for the action, and to prioritize the action items.

5 Year Review, Update and Revision Process 2009

All Hazard Mitigation Plans are required to be revised every five years after initial approval by FEMA. The first Pike County Multi-Jurisdiction Natural Hazard Mitigation Plan was finalized in December 2004. The city of Clarksville was contacted to form a Hazard Mitigation Committee.

At the initial meeting, the committee reviewed and discussed the applicability of each portion in the original Hazard Mitigation Plan and opted to update all sections of the plan, though in varying degrees. Committee members were asked to provide updated information on critical response capabilities and assets within their communities for the next meeting.

At the next committee meeting the committee reviewed the Introduction, Hazard Risk and Assessment, and Profile sections. Utilizing the committee's information and suggestions, these portions of the plan were updated. The hazards of Sinkholes, Landslides, and Levee Failure were added to the hazards discussion in this revision and this section was updated with historical data as well as the latest storm and hazard records. The Profile section was updated the most recent U.S. Census data. The committee also reviewed and updated the information on all capabilities and vulnerabilities.

The next meetings were held to discuss the mitigation action items developed in the 2004 plan and if they were completed, needed revision or were to be deleted, and any new action items that the committee felt were needed. The result of those meetings is summarized in the 5 Year Mitigation Action Matrix found at the end of the Mitigation section for each jurisdiction. The 2004 Action Items are presented followed by the revision and comments highlighted in yellow.

The committee's final meeting was focused on plan maintenance and implementation and review of the entire plan. Annual assessments will be conducted by the County's Emergency Management Director and will be open to the public. Press releases in local newspapers will encourage public participation in the assessment process. Plan copies will be publicly accessible in each local jurisdiction for review and comment by county citizens.

The 2004 Action Items and the 2009 revisions are also analyzed using **STAPLEE** (action items that were **s**ocially acceptable, **t**echnically feasible, **a**dministratively executable by local communities, politically acceptable, legally implemented by county, economically feasible and environmentally sound (STAPLEE)). A summary of the STAPLEE guidelines for each action item can be found at the end of this section just before the 5 Year Mitigation Action Matrix. The 2004 action items are listed, and the 2009 revisions and new action items are in bold print.

City of Clarksville --- Hazard Mitigation Committee 2009

Jo Anne Smiley Mayor Jennifer Dixon Alderman Victor Wright Water Dept.

Jamie Hallows Water/ Street Depts Joe Mabry Captain, Fire Dept.

Stephen Korte Sheriff Stacy Yates Alderman Lou Dixon Citizen

Bud Garrison **Emergency Management Coordinator**

Tommy Beauchamp Fire Chief Alan Tucker **CGR Planning** Adrian Stroupe FEMA LTCR Stephen Steinhoff FEMA LTCR

Hugh Hanna LTRC Case Manager

Staplee Evaluation of Action Items.

		S	Т	Α	Р	L	Ε	Е
***	Action Item The 2004 action items are listed, and the 2009 revisions and new action items are in bold print.	Social	Technical	Administrative	Political	Legal	Economic	Environmental
AH #1	Develop a EOP (Emergency Operations Plan) for the city of Clarksville, based on the Pike County EOP Will complete in 1 ½ years and then review and update annually	✓	✓	✓	✓	✓	✓	✓
AH #2	Work with the local cable TV company to set up an EAS (Emergency Alert System) DELETE—Dishnet out of Bowling Green supplies local cable service and has weather alert	✓	✓	✓	✓	✓	1	NA
AH #3	Obtain sufficient back-up generators for designated "after the event" shelters Applied for HLS grant for a generator for "after the event" shelter at American Legion Hall.	✓	✓	✓	✓	✓	✓	NA
AH #4	Education, brochures, provided to citizens Ongoing—Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/	✓	✓	✓	✓	✓	✓	NA
AH #5	Promote NOAA radio Use Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/ Will contact Senior Housing regarding NOAA radios	~	✓	~	~	~	~	NA
AH #6	Maintain transportation infrastructure Ongoing and current	✓	✓	✓	✓	✓	✓	NA
AH #7	Participate in regularly scheduled Table-top exercises and mock emergency exercises Participate in several exercises in Pike County including, Fire, LEPC, sheriff. Hosted an emergency exercise in Clarksville in 2008	~	✓	~	~	~	~	NA
AH #8	Maintain Mutual Aid Agreements and update on regular schedule Ongoing and current	✓	✓	✓	✓	✓	✓	NA
AH #9	City has Group Cast system in place to notify by phone all citizens of Clarksville of important information and immanent hazardous situations. 211 service is also available in the city	✓	✓	✓	✓	✓	1	NA
AH #10	List of shelters in place and updated annually. 2 shelters in city	✓	✓	✓	✓	✓	✓	NA
AH #11	Have appointed an EMD for the city	✓	✓	✓	✓	✓	✓	NA
AH #12	Upgrade communications for emergency personnel to inner- operability standards as the county upgrades. Radios will be replaced with digital system.	✓	✓	√	✓	✓	1	NA
AH #13	Establish a EOC for the city and upgrade communications for city hall.	✓	✓	✓	✓	✓	✓	NA
AH #14	Master plan in place for city which includes plans for hazard mitigation and floodwall.	✓	✓	✓	✓	✓	✓	✓

F -- Flooding, EQ -- Luncht LS--Landslide **** WW -- Winter Weather / Ice Storms T -- Tornados/ Storms EQ -- Earthquake WF -- Wildfire DF -- Dam Failure EHD -- Extreme Heat/ Drought SH -- Sinkhole LF -- Levee Failure AH -- All Hazards

Staplee Evaluation of Action Items.

		S	T	Α	Р	L	Ε	Е
****	Action Item The 2004 action items are listed, and the 2009 revisions and new action items are in bold print.	Social	Technical	Administrative	Political	Legal	Economic	Environmental Considerations
T #1	Participate in regularly scheduled training for weather spotters Currently no weather spotters in the city. Encourage fire fighters to attend the next weather spotter class. All firefighters are outfitted with pagers.	✓	~	✓	✓	~	✓	NA
T #2	Promote use of NOAA radios in senior housing, businesses, private homes, and large gatherings City hall has scanner in place and weather alerts on computer system. Encourage senior housing to obtain NOAA radios. Will include information on city website http://www.clarksvillemo.us/	✓	√	✓	✓	✓	√	NA
T #3	Update and maintain list of buildings that are "after the event" shelters, distribute list Update list of "after the event" shelters annually	✓	~	✓	✓	~	✓	NA
T #4	Educational brochures on what to do during a tornado or severe storm Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/	✓	✓	✓	✓	✓	✓	NA
T #5	Investigate sources for funding available to obtain a warning siren The warning siren in town has been re-worked and is now functioning. 911 can activate the siren, city hall will be able to also activate the siren within 6 months	✓	~	✓	✓	~	~	NA
T #6	Make a plan to warning of citizens until a warning siren can be obtained Deletenow have working warning siren and Group Cast in place.	✓	✓	✓	✓	✓	✓	NA
F #1	Review storm water drainage system and upgrade as needed—Investigate possible funding sources to upgrade Have received CDBC Block Grant to upgrade the storm water drainage system and the work is currently in progress	✓	✓	✓	✓	✓	✓	~
F #2	Maintain, enforce, and update as neededFloodplain Ordinance Ongoing	✓	✓	✓	✓	~	✓	✓
F #3	Work with FEMA and Army Corp of Engineers on Lock and Dam #24 and to update Floodplain map as needed FEMA is currently working on updating the floodplain maps and the new maps will go into effective in approximately 6 months. Meet with Corp of Engineers regarding Lock & Dam #24 on a regular basis.	✓	✓	✓	✓	✓	✓	~
F #4	Maintain and clean as need the local drainage system and creeks Ongoing	✓	✓	✓	✓	✓	✓	✓
F# 5	Maintain and update as needed, the Clarksville sand bagging plan Clarksville has written and has in place a Flood Emergency Plan	✓	✓	✓	✓	✓	✓	✓
F# 6	Currently working with CGR (Community Group Resources) on a Flood Mitigation Plan for the city of Clarksville.	✓	✓	✓	✓	✓	✓	✓

**** WW -- Winter Weather / Ice Storms T -- Tornados/ Storms F -- Flooding, EQ -- Earthquake WF -- Wildfire DF -- Dam Failure EHD -- Extreme Heat/ Drought LS--Landslide SH -- Sinkhole LF -- Levee Failure AH -- All Hazards

Staplee Evaluation of Action Items.

		S	Т	Α	Р	L	Ε	Е
***	Action Item The 2004 action items are listed, and the 2009 revisions and new action items are in bold print.	Social	Technical	Administrative	Political	Legal	Economic	Environmental Considerations
F# 7	Looking into engineering plan to upgrade the sanitary and storm water drainage systems.	✓	✓	✓	✓	✓	✓	✓
F# 8	Applying for stimulus monies for flood mitigation projects	✓	✓	✓	✓	✓	✓	✓
WW #1	Remove trees from power line easements in addition to current trimming program Ongoing	✓	✓	✓	✓	✓	✓	NA
WW #2	Shelter is available. List updated annually	✓	✓	✓	✓	✓	✓	NA
WW #3	Upgrade snow plow truck as needed and funds become available.	✓	✓	✓	✓	✓	✓	NA
EQ #1	Informational brochures available to public, newspaper articles Included in the handout of brochures to all residents/households two years ago. Will include information on city website http://www.clarksvillemo.us/	✓	✓	✓	✓	✓	~	NA
EQ #2	Participate in regularly scheduled training exercises Participate in several exercises in Pike County	✓	✓	✓	✓	✓	✓	NA
EHD #1	Establish cooling centers Shelter is available. List updated annually	✓	✓	1	✓	✓	✓	NA
EHD #2	Encourage Drought resistant yard watering practices DELETE	✓	✓	✓	✓	✓	✓	✓
WF # 1	Pike County Commission and Fire Dept issues burning bans as needed.	✓	✓	✓	✓	✓	✓	✓
WF # 2	Burning in city is allowed only on specified days and/or by permit from the Fire Dept.	✓	✓	✓	✓	✓	✓	✓
DF # 1	Army Corp of Engineers monitors and maintains Lock & Dam # 24	✓	✓	✓	✓	✓	✓	✓
LS # 1	Work with MODOT on State Hwy 79 north of city. Rock/mudslide could cut off access to city from north.	✓	✓	✓	✓	✓	✓	✓
LS	NA							
LF	NA							

**** WW -- Winter Weather / Ice Storms T -- Tornados/ Storms F -- Flooding, EQ -- Earthquake WF -- Wildfire DF -- Dam Failure EHD -- Extreme Heat/ Drought LS--Landslide SH -- Sinkhole LF -- Levee Failure AH -- All Hazards

Five Year Matrix Mitigation Action Summary Sheets

Natural Hazards Considered for Mitigation

Tornados and Thunderstorms Flooding Winter Weather/ Ice Storms Extreme Heat / Drought Earthquake Wildfire Dam Failure Sinkholes Landslides Levee Failure

Action Items that pertain to All Hazards.

11101	nligation Action items are listed in order of prior		/ totion ite	no apaa	dated in 2009 are in yellow snaded rows.									
							Go	als		Obj	<u>ec</u>	tiv	<u>es</u>	,
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **
All hazards AH #1	Develop a EOP (Emergency Operations Plan) for the city of Clarksville, based on the Pike County EOP.	HMC, Fire, Emerg. Operations personnel	1-3 years			√	✓	✓	✓			✓	√	
2009 Update	Will complete in 1 ½ years and then review and update annually	HMC, Fire Dept, Emergency personnel	18 months	R	LF	√	~	1	✓			✓	\	
All hazards AH #2	Work with the local cable TV company to set up an EAS (Emergency Alert System).	HMC, local Cable Company	6 months- 1 year			>	✓		✓	✓		✓	>	
2009 Update	DELETE—Dishnet out of Bowling Green supplies local cable service and has weather alert.		X											
All hazards AH #3	Obtain sufficient back-up generators for designated "after the event" shelters.	HMC	1-2 years			√	✓		✓			✓	√	
2009 Update	Applied for HLS grant for a generator for "after the event" shelter at American Legion Hall.	НМС	6 months	R	LF F-S-G	√	✓		✓			✓	✓	E
All hazards AH #4	Education, brochures, provided to citizens.	HMC, media	1-2 years			√	✓		✓	✓		✓		
2009 Update	Ongoing—Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/	HMC, media	Ongoing 6 months	O R	LF	✓	~		✓	✓			✓	

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	Action items are listed in order of priority for ea		items upua			ľ		als		Obj	ec	tiv	es/	
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **
All hazards AH #5	Promote NOAA radio Use.	HMC, media	1year			✓	✓		✓	✓		√		
2009 Update	Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/ Will contact Senior Housing regarding NOAA radios	HMC, media	Ongoing 6 months 3 months	R	LF	✓	✓		✓	✓		✓		
All hazards AH #6	Maintain transportation infrastructure.	City street dept. MODOT	Ongoing			✓	✓	√	√			✓	✓	
2009 Update	Ongoing and current	Street Dept. MODOT	Ongoing	0	LF	✓	✓	✓	✓				<	
All hazards AH #7	Participate in regularly scheduled Table-top exercises and mock emergency exercises.	Fire Department., HMC	Ongoing			✓	✓	✓	√			✓	√	
2009 Update	Participate in several exercises in Pike County including, Fire, LEPC, sheriff. Hosted an emergency exercise in Clarksville in 2008	HMC, Fire Dept, emergency personnel	Ongoing	0	LF	✓	✓	✓	✓			✓	✓	
All hazards AH #8	Maintain Mutual Aid Agreements and update on regular schedule.	Fire Department, HMC	Ongoing			✓	✓	✓	✓			✓	✓	
2009 Update	Ongoing and current	HMC, Fire Dept, emergency personnel	Ongoing	0	LF	✓	✓	✓	✓			✓	✓	

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J	Action items are listed in order or priority for ea		nems upda			Goals Objective							es/	
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **
2009 Update All hazards AH #9	City has Group Cast system in place to notify by phone all citizens of Clarksville of important information and immanent hazardous situations. 211 service is also available in the city	HMC, Fire Dept, emergency personnel	Ongoing	N	LF	✓	✓	✓	✓	~			✓	
2009 Update All hazards AH #10	List of shelters in place and updated annually. 2 shelters in city	HMC, Fire Dept, emergency personnel	Ongoing	N	LF	✓	✓		✓		_	✓	✓	
2009 Update All hazards AH #11	Have appointed an EMD for the city	HMC, Fire Dept, emergency personnel	Ongoing	N	LF	✓	✓	√	✓		_	✓	✓	
2009 Update All hazards AH #12	Upgrade communications for emergency personnel to inner-operability standards as the county upgrades. Radios will be replaced with digital system.	HMC, Fire Dept, emergency personnel	1- 3 years	N	LF F-S-G	√	√		✓				✓	~
2009 Update All hazards AH #13	Establish a EOC for the city and upgrade communications for city hall.	HMC, Fire Dept, emergency personnel	1-2 years	N	LF F-S-G	√	√	✓	✓				✓	E N
2009 Update All hazards AH #14	Master plan in place for city which includes plans for hazard mitigation and floodwall.	HMC, Fire Dept, emergency personnel		N	LF	✓	✓	√	✓	✓		✓	✓	N

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The Miligation	Action Items are listed in order of priority for ea	l Action	l	iteu iii Zu	09 are in yellow shaded rows.										
							Goals Objectiv								
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **	
Tornados/ Storms T #1	Participate in regularly scheduled training for weather spotters.	HMC, Fire department	Ongoing			√	✓	✓	√			✓	√		
2009 Update	Currently no weather spotters in the city. Encourage fire fighters to attend the next weather spotter class. All firefighters are outfitted with pagers.	HMC, Fire department	6 months - 1 year	R	LF	>	~		>	✓			>		
Tornados/ Storms T #2	Promote use of NOAA radios in senior housing, businesses, private homes, and large gatherings.	HMC, media	1-2 years			✓	✓		✓	✓		✓	✓		
2009 Update	City hall has scanner in place and weather alerts on computer system. Encourage senior housing to obtain NOAA radios. Will include information on city website http://www.clarksvillemo.us/	HMC, media	Ongoing 6 months	O R	LF	√	✓		✓	1		_		Е	
Tornados/ Storms T #3	Update and maintain list of buildings that are "after the event" shelters, distribute list.	HMC, fire department	Ongoing			√	✓		√	✓		√	√		
2009 Update	Update list of "after the event" shelters annually	HMC, Fire department	Ongoing	0	LF	>	✓		>			✓	>		
Tornados/ Storms T #4	Educational brochures on what to do during a tornado or severe storm.	HMC, media	1-2 years			✓	✓		√	✓		✓			
2009 Update	Have brochures at city hall Will include information on city website http://www.clarksvillemo.us/	HMC, media	Ongoing 6 months	O R	LF	✓	✓		✓	✓					

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^{**} E = Existing Buildings N = New Buildings

Objectives Goals Decrease Impact of Hazards Protect lives and livelihoods Cont'd operation of government & emergency functions Natural Systems Protect life and Property Natural Coordinating Organization N—New R—Revision O---Ongoing Action Item and Strategy Partnerships Emergency Service Awareness Hazard Structural Funding Timeline Public Tornados/ 1-2 Investigate sources for funding available to HMC. fire Storms vears ✓ obtain a warning siren. department T #5 The warning siren in town has been re-worked HMC, fire and is now functioning. 911 can activate the LF 2009 Update N department, Pike Ongoing siren, city hall will be able to also activate the County 911 siren within 6 months HMC. Pike Co. Tornados/ 6 Sheriff, media, Make a plan to warning of citizens until a Storms ✓ **√** monthswarning siren can be obtained. Emerg, Op. T #6 1 vear Personnel Delete---now have working warning siren and

Action Items updated in 2009 are in yellow shaded rows.

LF

F-S-G

LF

F-S-G

N

N

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Ongoing

2009 Update

Flooding

2009 Update

2009 Update

Flooding

F #2

F #1

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X

1-5

years

Ongoing

Ongoing

Ongoing

** E = Existing Buildings N = New Buildings

√

✓

✓

 \mathbf{E}

Group Cast in place.

funding sources to upgrade.

is currently in progress

Floodplain Ordinance.

Review storm water drainage system and upgrade as needed—Investigate possible

Have received CDBC Block Grant to upgrade

the storm water drainage system and the work

Maintain, enforce, and update as needed---

The Mitigation Action Items are listed in order of priority for each hazard.

HMC, Street Dept.

HMC, Street Dept.

manager, HMC

Floodplain Manager,

Floodplain

HMC

	Action items are listed in order of priority for ea						Go	als	s Objectives									
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods			e and		ems	S	Emergency Service	*				
Flooding F #3	Work with FEMA and Army Corp of Engineers on Lock and Dam #24 and to update Floodplain map as needed.	Floodplain manager	1-5 years			√	√	✓	✓		✓	√						
2009 Update	FEMA is currently working on updating the floodplain maps and the new maps will go into effective in approximately 6 months. Meet with Corp of Engineers regarding Lock and Dam #24 on a regular basis.	FEMA, Army Corp of Engineers, HMC, Floodplain Manager	Ongoing	0	LF F-S-G	√	✓		1	✓	~	✓		Е				
Flooding F #4	Maintain and clean as need the local drainage system and creeks.	HMC, Street Dept.	Ongoing			✓	✓		✓	✓		✓						
2009 Update	Ongoing	HMC, Street Dept.	Ongoing	0	LF	✓	✓		✓	✓	✓							
Flooding F# 5	Maintain and update as needed, the Clarksville sand bagging plan.	HMC, Fire Dept, business owners, home owners in floodplain, FPM	Ongoing				✓	√	✓	✓	√	√	✓					
2009 Update	Clarksville has written and has in place a Flood Emergency Plan	HMC, Floodplain Manager, business and home owners, emergency personnel	Ongoing	N	LF	✓	~	√	✓	✓	✓	✓	✓	Е				
2009 Update Flooding F# 6	Currently working with CGR (Community Group Resources) on a Flood Mitigation Plan for the city of Clarksville.	HMC, CGR, Floodplain Manager	Ongoing	N	LF F-S-G	√	✓	✓	✓		✓	✓	√					

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Action Items updated in 2009 are in yellow shaded rows. The Mitigation Action Items are listed in order of priority for each hazard. **Objectives** Goals Decrease Impact of Hazards
Cont'd operation of government & emergency functions Protect lives and livelihoods Natural Systems Protect life and Property Natural Coordinating Organization N—New R—Revision O---Ongoing Action Item and Strategy Partnerships Emergency Service Awareness Hazard Structural Funding Timeline Public 2009 Update HMC, Floodplain Looking into engineering plan to upgrade the LF **Flooding** N N Manager, Water and 1-5 years F-S-G sanitary and storm water drainage systems. sewer Depts. F#7 2009 Update HMC, Floodplain Flooding Applying for stimulus monies for flood 3 months LF N Manager F-S-G mitigation projects --1 year F# 8 Winter Remove trees from power line easements in Street Dept.. Weather **√** Ongoing addition to current trimming program. AmerenUE, HMC ✓ WW #1 Street Dept., LF \mathbf{O} 2009 Update **Ongoing** Ongoing AmerenUE, HMC 2009 Update

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become available.

Winter

Weather WW #2

2009 Update Winter

WW #3

Weather

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Ongoing

1-5 years

LF

LF

0

0

** E = Existing Buildings N = New Buildings

Shelter is available. List updated annually

Upgrade snow plow truck as needed and funds

HMC, Fire Dept

HMC, Street Dept

							Go	als	Objective							
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **		
Earthquake EQ #1	Informational brochures available to public, newspaper articles.	HMC, web page,	1 year			√	✓		✓	✓		✓				
2009 Update	Included in the handout of brochures to all residents/households two years ago. Will include information on city website http://www.clarksvillemo.us/	HMC, web page	Ongoing 6 months	O R	LF	✓	✓		✓	✓	_	_				
Earthquake EQ #2	Participate in regularly scheduled training exercises.	HMC, EMD Fire Dept. Law Enforcement	Ongoing			√	✓	✓	√			✓	√			
2009 Update	Participate in several exercises in Pike County	HMC, Fire Dept, Emergency personnel	Ongoing	O	LF	✓	>	✓	✓			✓	√			
Extreme Heat/ Drought EHD #1	Establish cooling centers.	HMC, Pike Co. Health Dept.	Ongoing			√	√		✓	✓		>				
2009 Update	Shelter is available. List updated annually	HMC, Fire Dept.	Ongoing	О	LF	✓	✓		✓	~		✓	✓			
Extreme Heat/ Drought EHD #2	Encourage Drought resistant yard watering practices	HMC University Outreach	Ongoing			✓	✓			~	✓	✓				
2009 Update	DELETE		X													

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The Miligation	Action Items are listed in order of priority for ea	ich nazaru. Action	items upda	iteu III Zu	us are III	yellov	v Sila	ueu rows.									
							Go	als	S Objectives								
Natural Hazard	Action Item and Strategy	Coordinating Organization	Timeline	N—New R—Revision OOngoing	Funding	Protect lives and livelihoods	Decrease Impact of Hazards	Cont'd operation of government & emergency functions	Protect life and Property	Public Awareness	Natural Systems	Partnerships	Emergency Service	Structural **			
2009 Update Wildfire WF # 1	Pike County Commission and Fire Dept issues burning bans as needed.	Commission, Fire Dept.	Ongoing	R	LF	✓	✓		✓	~	✓		✓				
2009 Update Wildfire WF # 2	Burning in city is allowed only on specified days and/or by permit from the Fire Dept.	HMC, Fire Dept.	Ongoing	R	LF	✓	>		√	✓	✓						
2009 Update Dam Failure DF # 1	Army Corp of Engineers monitors and maintains Lock & Dam # 24	HMC, Army Corp of Engineers	Ongoing	0	LF F-S-G	✓	✓		✓		✓	✓					
2009 Update Landslide LS # 1	Work with MODOT on State Hwy 79 north of city. Rock/ mudslide could cut off access to city from north.	нмс, морот	Ongoing	0	LF	✓	>	√	√		✓	✓	✓				

2009 Update Levee Failure LF	NA		X														
													_				
2009 Update Sinkholes SH	NA		X														
E00 E	nov Constitute Contain III I continue N/A	Not Applicable CC	C Fadaral /					intina Duild									

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