



4 MITIGATION STRATEGY

44 CFR Requirement 201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section presents the mitigation strategy developed by the Hazard Mitigation Planning Committee (HMPC) based on the risk assessment. The mitigation strategy was developed through a collaborative group process and consists of goals, objectives, and mitigation actions. The following definitions are based upon those found in FEMA publication 386-3, *Developing a Mitigation Plan* (2002):

- **Goals** are general guidelines that explain what you want to achieve. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. They are usually long-term, broad, policy-type statements.
- **Objectives** define strategies or implementation steps to attain the identified goals and are specific and measurable.
- **Mitigation Actions** are specific actions that help achieve goals and objectives.

4.1 Goals and Objectives

The HMPC developed goals and objectives to provide direction for reducing hazard-related losses in Johnson County. These were based upon the results of the risk assessment and a review of goals and objectives from other state and local plans, specifically, the Kansas Hazard Mitigation Plan, the Johnson County Multi-jurisdictional Mitigation 20/20 plan, and the Johnson County Basic Operations Plan. This review was to ensure that this plan's mitigation strategy was integrated with existing plans and policies.

At the second planning meeting, the HMPC identified a variety of possible goals and then came to a consensus on four main goals. Following the development of goals, the HMPC identified specific objectives to achieve each goal. Goals and objectives are listed below, in no particular order:

Goal 1: Reduce risk to the people and property of Johnson County from the impacts of natural and man-made hazards

- Manage growth and development in hazard-prone areas, including flood hazard areas
- Mitigate existing structures in identified flood hazard areas
- Identify and address community safe room and sheltering needs
- Strengthen emergency response capabilities

Goal 2: Protect critical facilities and other community assets from the impacts of hazards

- Assess vulnerability and prioritize projects to mitigate damage to critical facilities and infrastructure
- Protect transportation and access routes to all communities
- Reduce damage to utility lines due to severe weather events

Goal 3: Improve education and awareness about hazards and risk

- Use existing outreach methods to educate public about risk and preparedness measures
- Coordinate new workshops, exercises, and public forums to provide education about hazard risk and mitigation activities
- Continue and enhance partnerships with the business community

Goal 4: Strengthen communication between agencies and with the public

- Improve information dissemination to the public during and after emergency events
- Enhance sirens and warning systems
- Strengthen cooperation and mutual aid agreements
- Improve outreach and communication methods to all parts of Johnson County

4.2 Identification and Analysis of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

At the third meeting of the HMPC, the draft risk assessment was presented to the HMPC committee members. The draft risk assessment was also placed on the County's planning website, specifically created for this planning process at www.jocoem.org/hmp.htm. This planning website was utilized throughout the process to provide access for the HMPC to review the draft plan at various stages of development. Also at the third planning meeting, an idea sheet of key issues was provided to facilitate the development of action ideas. The idea sheet provided the list of key issues or problem statements that were identified through the risk assessment process organized by each hazard analyzed and a list of mitigation actions. The idea sheet of key issues is provided in Appendix B. In addition, AMEC provided the HMPC with information on types of mitigation actions. A handout was provided with the following list of types of mitigation actions, which originated from the National Flood Insurance Program's Community Rating System, as well as definitions and examples for each type of action:

- **Prevention:** Administrative or regulatory actions or processes that influence the way land and buildings are developed and built

-
- **Property protection:** Actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area
 - **Structural:** Actions that involve the construction of structures to reduce the impact of hazard
 - **Natural resource protection:** Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems
 - **Emergency services:** Actions that protect people and property during and immediately after a disaster or hazard event
 - **Public education and awareness:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

After providing this summary information of the potential problems that need to be addressed, as well as the types of mitigation actions, the planning committee participated in a brainstorming exercise to develop actions specific to Johnson County and the jurisdictions participating in plan development. After actions were identified, the responsible jurisdictions were instructed to complete action implementation worksheets and STAPLEE worksheets for each action they wished to include in the plan for their jurisdiction.

4.3 Implementation of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include an action strategy describing how the actions identified in paragraph (c)(2)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefits review of the proposed projects and their associated costs.

To prioritize the mitigation actions, the HMPC discussed the STAPLEE prioritization criteria recommended by FEMA. STAPLEE is a tool used to assess the costs and benefits, and overall feasibility of mitigation actions. STAPLEE stands for the following:

- **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
- **Technical:** Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
- **Aministrative:** Are there adequate staffing, funding, and maintenance capabilities to implement the project?
- **Political:** Will there be adequate political and public support for the project?
- **Legal:** Does your jurisdiction have the legal authority to implement the action?
- **Economic:** Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

The STAPLEE criteria were discussed during the meeting and each jurisdiction was asked to complete the worksheets for the actions they would provide for inclusion in the plan. The STAPLEE scores are provided in Tables 4.2 through 4.33 and a STAPLEE chart is provided in Appendix H.

This process of identification and analysis of mitigation options allowed the HMPC to come to consensus and to prioritize recommended mitigation actions. Emphasis was placed on the importance of a benefit-cost analysis in determining project priority; however, this was not a quantitative analysis. The Disaster Mitigation Act regulations state that benefit-cost review is the primary method by which mitigation projects should be prioritized. Recognizing the federal regulatory requirement to prioritize by benefit-cost, and the need for any publicly funded project to be cost-effective, the HMPC decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and priorities identified in the Kansas Hazard Mitigation Plan. Cost-effectiveness will be considered in additional detail when seeking FEMA mitigation grant funding for eligible projects identified in this plan.

Following the HMPC meeting, the representative from each participating jurisdiction coordinated meetings with his or her jurisdictional planning team (where available) to discuss mitigation actions and to complete the mitigation action implementation worksheets and STAPLEE Worksheets. Through this process, jurisdictions also identified several new actions specific to the risks in their jurisdiction.

Tables 4.1 through 4.33 summarize the resulting mitigation actions after the group brainstorming exercise and individual meetings at the jurisdictional level. There is a separate table for each participating jurisdiction; each table also provides information on the priority level, the STAPLEE score, plan goals addressed, and the hazards addressed. The priority level in these tables resulted from each jurisdiction analyzing the range of actions that had been developed specific to them. Then, based on the order in which they would like to see the actions implemented, they assigned a priority ranking of high, medium, or low. This ranking does not necessarily correspond to the results of the STAPLEE scoring system as the STAPLEE system considers all elements to be weighted the same; whereas, at the local level, in many cases, one or more elements may be more important to constituents and local government driving certain projects to be ranked higher than others.

Table 4.1. Mitigation Action Matrix-Unincorporated County and Multi-Jurisdictions

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
County-1	Active building code enforcement	H	38	1,2	All Hazards
County-2	NFIP - Continue compliance & floodplain management	H	39	1,2	Flood

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
County-3	Habitable building buyout	H	39	1	Flood
County-4	Educate the public on the impacts of major disease outbreak	H	38	3	Major Disease Outbreak
County-5	Educate the impacts of winter storms	H	38	3	Winter Storm
County-6	Inclusion of tornado safe rooms in all future buildings built by the County	H	37	1	Tornado
County-7	All-Hazard education for mitigation, preparedness, response, & recovery	H	39	3	All Hazards
County-8	Improve flood hazard areas through the use of conveyance system structural improvement	H	39	1	Flood
County-9	Educate the impacts of lightning	M	39	3	Lightning
County-10	Low-water crossing elimination	M	39	1	Flood
County-11	Floodwarning system implementation	M	39	4	Flood
County-12	Additional outdoor warning sirens	M	39	4	Tornado, Wind storm
County-13	Promote private insurance	M	39	3	All Hazards
County-14	Promote crop insurance	L	37	3	Agricultural Infestation, Dam and Levee Failure, Drought, Extreme Heat, Flood, Soil Erosion and Dust, Wildfire, Windstorm, Tornado, Winter Storm
County-15	Floodproof buildings	L	39	1,2	Flood
MultiJ-1	Safe Rooms in Private Non-Profit Schools	H	37	1	Tornado
MultiJ-2	Continue Training Responders to Hazardous & Radiological material spills	M	30	3	Hazardous Materials & Radiological Materials
MultiJ-3	Continue participation with the Kansas City Regional Terrorism Early Warning Group (TEW)	M	30	3	Terrorism
MultiJ-4	Increase public & fire dept. training on wildland urban interface fires	L	23	3	Wildfire

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
MultiJ-5	Provide homeowner education on wildfire mitigation in wildland-urban interface	L	22	3	Wildfire
MultiJ-6	Reduce hazardous fuels in prioritized wildfire risk areas	L	23	1,2	Wildfire

Table 4.2 Mitigation Action Matrix-City of De Soto

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
DeSoto-1	Flood Control Projects	H	39	1,2	Flood, Soil Erosion & Dust
DeSoto-2	Back-up generators for Fire Station and EOC	H	35	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm,
DeSoto-3	Fire Station Windstorm Damage Mitigation	H	35	2	Windstorm

Table 4.3 Mitigation Action Matrix-City of Edgerton

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Edgerton-1	NFIP - Continue Compliance	H	39	1,2	Flood
Edgerton-2	Edgerton Storm Shelter	M	29	1	Tornado
Edgerton-3	Portable Electric Generators	M	32	1,2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm,
Edgerton-4	Edgerton Storm Siren System Expansion	M	29	4	Windstorm, Tornado
Edgerton-5	207th Street Grade Separation	H	29	1,2	All Hazards
Edgerton-6	Edgerton Marias des Cygnes Watershed Stormwater Infrastructure	L	34	1,2	Flood

Edgerton-7	Edgerton Dam Infrastructure Repair & Upgrade	L	34	1,2	Dam and Levee Failure, Flood
------------	----------------------------------------------	---	----	-----	------------------------------

Table 4.4 Mitigation Action Matrix-City of Fairway

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Fairway-1	Public education of city businesses, home owners, and residents	H	39	3	All Hazards
Fairway-2	NFIP- continue compliance	H	39	1,2	Flood
Fairway-3	Flood control projects and storm sewer upgrades	H	38	1,2	Flood
Fairway-4	Trailer-mounted, portable generator	M	34	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.5 Mitigation Action Matrix-City of Gardner

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Gardner-1	Storm Watershed Master Plan Study	H	41	1,3,4	Flood
Gardner-2	Flood Control Projects – Doublegate Culvert Replacement Project	H	39	2	Flood
Gardner-3	Generator Project	M	39	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
Gardner-4	National Flood Insurance Program – continue compliance	M	30	1,2	Flood
Gardner-5	Tornado Sirens	M	38	4	All-Hazards

Table 4.6 Mitigation Action Matrix-City of Lake Quivira

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
LQuivira-1	Emergency Power Back-up Generator for City Hall facility	H	29	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm,
LQuivira-2	Emergency Evacuation Exit for gated residential community	H	28	1	Hazardous Materials

Table 4.7 Mitigation Action Matrix-City of Leawood

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Leawood-1	NFIP - Continue Compliance	H	42	1,2	Flood
Leawood-2	Natural Resource Protection	H	39	1,2	Flood, Soil Erosion and Dust
Leawood-3	Natural Resource Protection of Tomahawk & Indian Creeks	H	40	1,2	Flood, Soil Erosion and Dust
Leawood-4	Emergency Services-Protection of Utilities at a Critical Facility	H	38	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
Leawood-5	Installation of additional warning system sirens and computer monitoring system.	H	33	4	Tornado, Windstorm
Leawood-6	Emergency Services – Warning Systems: Weather Radios	H	38	2	Tornado, Windstorm, Winter Storm, Lightning

Table 4.8 Mitigation Action Matrix-City of Lenexa

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Lenexa-1	Continue NFIP participation	H	36	1,2	Flood
Lenexa-2	Construction of Public Safe Rooms	H	35	1	Tornado
Lenexa-3	Back-up generators for critical facilities	H	32	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.9 Mitigation Action Matrix-City of Merriam

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Merriam-1	NFIP – Continue Compliance	H	39	1,2	Flood

Table 4.10 Mitigation Action Matrix-City of Mission

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Mission-1	NFIP – Continue Compliance	H	33	1,2	Flood
Mission-2	Sylvester Powell Jr Community Center Disaster Preparedness Project	M	38	1	All Hazards
Mission-3	Additional Generator for Public Works Facility	L	30	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.11 Mitigation Action Matrix-City of Mission Hills

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
MHills-1	NFIP - Continue Compliance	H	33	1,2	Flood
MHills-2	Mission Drive Channel	H	36	1,2	Flood
MHills-3	Flood Warning System - Phases II and III	M	34	4	Flood
MHills-4	Realign Brush Creek in Hiawasse Park	M	36	1,2	Flood
MHills-5	Peetwood Park Improvements	H	39	1,2	Flood

Table 4.12 Mitigation Action Matrix-City of Mission Woods

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
MWoods-1	Re-Join National Flood Insurance Program	M	34	1,2	Flood

Table 4.13 Mitigation Action Matrix-City of Olathe

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Olathe-1	Cedar Creek Wastewater Treatment Plant flood wall	H	33	2	Flood
Olathe-2	Flood Home Buy-Out for up to five structures	H	39	1	Flood
Olathe-3	Safe room in future public building	M	36	1	Tornado, Windstorm
Olathe-4	Trailer-mounted, portable generator	M	29	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
Olathe-5	CERT training program	H	35	3,4	All Hazards
Olathe-6	Storm drainage culvert expansion at 147/Brougham Dr.	H	38	1,2	Flood
Olathe-7	All-Hazard Citizen Education	H	37	3	All Hazards
Olathe-8	Expansion of Olathe Outdoor Warning System	H	37	4	Tornado, Windstorm
Olathe-9	Upgrade computers for the Olathe EOC & DOC	H	32	4	All Hazards
Olathe-10	Water Plant 2 chlorine gas retrofit	H	31	2	Hazardous Materials
Olathe-11	New construction of free standing safe rooms at Santa Barbara Mobile Home Estates	H	23	1	Tornado, Windstorm
Olathe-12	Continue NFIP participation	H	42	1,2	Flood

Table 4.14 Mitigation Action Matrix-City of Overland Park

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
OP-1	Continue NFIP participation	H	41	1,2	Flood
OP-2	Acquisition of structures with repetitive flood losses.	H	37	2	Flood
OP-3	Public Education for City Businesses, Home owners, Residents, & all City Staff in OP for disaster preparedness, mitigation, & recovery.	H	35	3	All Hazards
OP-4	Flood Control Projects and Storm Sewer Upgrades	H	39	1,2	Flood
OP-5	Evaluation of Critical City Facilities for compliance with FEMA 361.	H	37	2	Tornado, Wind Storm
OP-6	Fire Station Safe Room	H	35	2	Tornado, Wind Storm
OP-7	Generator Project	H	34	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
OP-8	Electronic Plan Review and Recording	H	36	4	All Hazards
OP-9	Fire Station Windstorm Damage Mitigation	H	35	2	Windstorm

Table 4.15 Mitigation Action Matrix-City of Prairie Village

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
PV-1	Bury Underground Utility Cables	M	29	1,2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
PV-2	National Flood Insurance Program	H	42	1,2	Flood

Table 4.15 Mitigation Action Matrix-City of Roeland Park

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Roeland_Pk-1	Back-up generators for City Hall/Police Department and city community center	H	37	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
Roeland_Pk-2	National Flood Insurance Program	H	42	1,2	Flood
Roeland_Pk-3	Habitable building buyout	M	39	1	Flood

Table 4.17 Mitigation Action Matrix-City of Shawnee

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Shawnee-1	Floodplain Management	H	39	1,2	Flood
Shawnee-2	Active building code enforcement	H	38	1,2	All Hazards
Shawnee-3	Inclusion of tornado safe rooms in all future buildings built by the City	H	37	1	Tornado
Shawnee-4	Habitable building buyout	H	39	1	Flood
Shawnee-5	Improve flood hazard areas through the use of conveyance system structural improvement.	H	39	1	Flood
Shawnee-6	Shawnee will work mitigate the impacts of a winter storms.	H	38	3	Winter Storm
Shawnee-7	Floodwarning System Implementation	M	39	4	Flood
Shawnee-8	Floodproof buildings	L	39	1,2	Flood

Table 4.18 Mitigation Action Matrix-City of Spring Hill

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
SpringH-1	Tornado safe rooms in all future city buildings.	H	35	1	Tornado
SpringH-2	Continue compliance with NFIP	H	34	1,2	Flood
SpringH-3	Public information distribution after a disaster	M	34	4	All-Hazards
SpringH-4	Portable generator for City Hall	M	35	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.19 Mitigation Action Matrix-City of Westwood

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Westwood -1	Back-up generators for critical facilities	M	28	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm
Westwood -2	Continue Compliance with NFIP	H	38	1,2	Flood

Table 4.20 Mitigation Action Matrix-City of Westwood Hills

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
Westwood_Hills-1	Continue Compliance with NFIP	H	38	1,2	Flood

Table 4.21 Mitigation Action Matrix for USD 229 Blue Valley

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD229-1	Blue Valley Schools Safe Rooms	M	32	1,2	Tornado, Windstorm

Table 4.22 Mitigation Action Matrix for USD 230 Spring Hill

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD230-1	Tornado safe rooms at all attendance centers	M	37	1,2	Tornado, Windstorm

Table 4.23 Mitigation Action Matrix for USD 231 Gardner/Edgerton

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD231-1	Severe Weather Refuge Area Improvements Study	H	32	1,2	Tornado, Windstorm
USD231-2	Tornado safe rooms in Schools	H	27	1,2	Tornado, Windstorm

Table 4.24 Mitigation Action Matrix for USD 232 De Soto

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD232-1	Safe Room Tornado Shelters in Schools	H	27	1,2	Tornado, Windstorm
USD232-2	Educate students and/or stakeholders	M	34	3	All Hazards

Table 4.25 Mitigation Action Matrix for USD 233 Olathe

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD233-1	Safe Room Tornado Shelters in Schools	H		1,2	Tornado, Windstorm
USD233-2	Back-up generators for food production center, central office, and designated jr high for community shelter	M		2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.26 Mitigation Action Matrix for USD 512 Shawnee Mission

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
USD512-1	Shawnee Mission Schools Safe Rooms	H	34	1,2	Tornado, Windstorm

Table 4.27 Mitigation Action Matrix for Kansas School of the Deaf

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
KSDeaf-1	All-Hazard Staff & Students Evacuation Plan/Education	H	37	1,3,4	All Hazards

Table 4.28 Mitigation Action Matrix Johnson County Community College

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
JCCC-1	Upgrade new Library & other new buildings with safe rooms	H	32	1,2	Tornado, Windstorm

Table 4.29 Mitigation Action Matrix University of Kansas Edwards Campus

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
KUEdwards-1	Update Emergency Management Plan	M	41	1,3,4,	All Hazards
KUEdwards-2	Public Education	M	41	3	All Hazards
KUEdwards-3	Future Design of Buildings - Include Safe Room Design	M	36	1,2	Tornado, Windstorm
KUEdwards-4	Mutual Aid Agreement	M	41	4	All-Hazards

Table 4.30 Mitigation Action Matrix Consolidated Fire District #2

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
ConsFD2-1	Replacement of doors at emergency fire protection facility	H	32	2	Windstorm

Table 4.31 Mitigation Action Matrix Fire District #1

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
FD1-1	Fire Station Windstorm Damage Mitigation	H	35	2	Windstorm

Table 4.32 Mitigation Action Matrix Fire District #2

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
FD2-1	Fire Station Windstorm Damage Mitigation	H	35	2	Windstorm
FD2-2	Purchase Back-up generators	H	31	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

Table 4.33 Mitigation Action Matrix Fire District #3

Action ID	Action	Priority	STAPLEE Score	Goals	Hazards Addressed
FD3-1	Back-up generators for fire stations	M	31	2	Lightning, Tornado, Utility/Infrastructure Failure, Winter Storm, Windstorm

The following tables provide the details for each action included in the above tables. The Action identification number located in the upper left box corresponds to the Action Identification number in the tables above for each subject jurisdiction.

Johnson County-1		Active building code enforcement
Issue/Background:	Johnson County believes in active code enforcement and follows national standards regarding all building codes. In the past we have adopted, within a reasonable time, all code enhancements as deemed applicable and useful in the unincorporated areas of the county.	
Plan for Implementation and Administration:	Johnson County planning will review all enhancements to building codes on the national level and consider adopting those as appropriate based on the agreement of the Board of County Commissioners.	
Lead Agency:	Johnson County Planning	
Partners:	Federal government, Kansas Division of Emergency Management	
Funding Description:	County funding, federal as identified.	
Total Cost:	Unknown	
Benefits (Losses Avoided):	Enhanced building codes will mitigate disasters by strengthening buildings and communities so that they can resist the impact of disasters.	
Completion Date:	ongoing	

Johnson County-2		Continue compliance with NFIP and floodplain management	
Issue/Background:		Current minimum federal requirements allow fill in the floodplain and rising of the water surface elevation.	
Plan for Implementation and Administration:		Restrict/eliminate development in the existing and future conditions floodplains and acquire land if necessary.	
Lead Agency:		Johnson County Public Works	
Partners:		none	
Funding Description:		State and Federal agencies	
Total Cost:		unknown	
Benefits (Losses Avoided):		Minimize potential for the creation of future flooding problems, improve water quality, and improve the environment.	
Completion Date:		Ongoing	

Johnson County-3		Habitable building buyout	
Issue/Background:		Many habitable buildings are located in the floodplain and/or are subject to flooding.	
Plan for Implementation and Administration:		Identify habitable buildings in the floodplain and/or are subject to flooding, prioritize locations, and purchase buildings as funding becomes available.	
Lead Agency:		Johnson County Public Works	
Partners:		State and Federal agencies	
Funding Description:		Stormwater Management Program, state and federal agencies	
Total Cost:		unknown	
Benefits (Losses Avoided):		Minimize potential for people to be stranded in flooding buildings and minimize property damage and loss.	
Completion Date:		Ongoing	

Johnson County-4	Educate the public on the impacts of a major disease outbreak
Issue/Background:	Johnson County, along with the nation as a whole, is extremely concerned about the impact of a major disease outbreak. The federal and state governments are encouraging local governments to monitor for such events.
Plan for Implementation and Administration:	Johnson County will work through the public health department to promote the monitor and mitigation of major disease outbreaks. The County will work with health care providers, government agencies, and the public to monitor events, educate, and promote the mitigation of a major disease outbreak.
Lead Agency:	Johnson County Public Health & Emergency Management
Partners:	Emergency Management, Johnson County Public Health, MARC, regional partners and health care providers & private sector
Funding Description:	State of Kansas, federal sources
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize/reduce the financial and physical impacts of a major disease outbreak.
Completion Date:	Ongoing

Johnson County-5 Educate the public in the impacts of winter storms	
Issue/Background:	Johnson County experiences many winter storm events each year. These can lead to power outages which impact all levels of our citizenry.
Plan for Implementation and Administration:	Johnson county will work with citizens and businesses to prepare for winter storm impacts including power outages. This will be accomplished via web based education campaigns, presentations to citizens, civic groups, businesses, etc., and participation with regional partners on education campaigns. The county will also work to identify critical facilities to enhance power options including multiple providers and generators if possible.
Lead Agency:	Johnson County Emergency Management
Partners:	Emergency Management, Johnson County agencies, regional partners and & private sector
Funding Description:	State of Kansas, federal sources
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize/reduce the financial and physical impacts of a winter storms.
Completion Date:	Ongoing

Johnson County-6 Inclusion of tornado safe rooms in all future buildings built by County	
Issue/Background:	Kansas was the highest rated state for the number of tornadoes in 2008 at 168. In addition, the area is often battered by high wind events that cause extensive damage. The County has plans to review the concept of adding a tornado refuge built to FEMA standards in all new construction because of this issue.
Plan for Implementation and Administration:	Johnson County government will review all future building plans and review the ability to add a safe room for citizens and employees in buildings such as libraries, public safety buildings, general use buildings and other buildings as appropriate. They will seek federal funding to assist with the building of the safe room.
Lead Agency:	Johnson County Facilities
Partners:	Federal government, Kansas Division of Emergency Management
Funding Description:	County funding, federal as identified.
Total Cost:	Unknown
Benefits	Building safe rooms in public buildings where we have many citizens and employees

(Losses Avoided):	that gather on a regular basis will save lives.
Completion Date:	Ongoing

Johnson County-7	All-Hazard education for mitigation, preparedness, response, & recovery
Issue/Background:	Johnson County has many identified hazards that the public needs to be educated how to mitigate, prepare for, respond to and recover from to ensure that all citizens and businesses are as prepared as possible.
Plan for Implementation and Administration:	Johnson County will give public presentations, use of web 2.0 resources, multi media, and print publications. The County will work with all citizens and businesses to help them understand the hazards and how to prepare themselves as well as how to mitigate hazards if possible.
Lead Agency:	Johnson County Emergency Management & Homeland Security
Partners:	All cities, the Kansas City VOAD, the Partnership for Emergency Planning (private sector) and related disciplines.
Funding Description:	County funding, federal as identified.
Total Cost:	\$10,000/yr.
Benefits (Losses Avoided):	Mitigation has been shown to save \$4 for every one \$1 we are able to encourage citizens to spend to protect themselves and their property. Preparation also limits the impact of the hazards and hopefully keeps citizens in their homes and businesses running during the recovery from impact.
Completion Date:	Ongoing

Johnson County-8	Improve flood hazard areas through the use of conveyance system structural improvements
Issue/Background:	Conveyance system structural improvements can be an effective means for flood damage reduction.
Plan for Implementation and Administration:	Prioritize locations where flood damages have/may occur and design/construct improvements as funding becomes available.
Lead Agency:	Johnson County Public Works
Partners:	County and regional jurisdictions
Funding Description:	Stormwater Management Program, state and federal agencies
Total Cost:	Unknown
Benefits	Minimize/reduce the potential for loss of life and property damage.

(Losses Avoided):	
Completion Date:	Ongoing

Johnson County-9		Educate the impacts of lightning	
Issue/Background:	Johnson County experiences many severe weather events with lightning.		
Plan for Implementation and Administration:	Johnson County will suggest to private power companies to install lightning arrestors on buildings & power infrastructure		
Lead Agency:	Emergency Management & private sector		
Partners:	County, private power companies and regional government partners		
Funding Description:	State of Kansas, federal sources		
Total Cost:	Unknown		
Benefits	Minimize/reduce the financial and physical impacts of lightning.		
(Losses Avoided):			
Completion Date:	Ongoing		

Johnson County-10		Low-water crossing elimination	
Issue/Background:	Numerous low-water crossings exist in the county that are a threat to the traveling public.		
Plan for Implementation and Administration:	Prioritize low-water crossings based on risk and traffic count. Eliminate crossings as funding becomes available.		
Lead Agency:	Johnson County Public Works		
Partners:	Cities in Johnson County		
Funding Description:	Stormwater Management Program, state and federal agencies		
Total Cost:	Unknown		
Benefits	Minimize potential for the traveling public to drive in to water that is too deep.		
(Losses Avoided):			
Completion Date:	Ongoing		

Johnson County-11		Floodwarning system implementation	
Issue/Background:		Provide the ability to warn residents and the traveling public about potential/actual flooding that threatens people, property and travel.	
Plan for Implementation and Administration:		Provide system backbone and site-specific floodwarning system components	
Lead Agency:		Johnson County Public Works and Emergency Management	
Partners:		City of Overland Park for operation and maintenance of the backbone system. All regional cities/counties for site-specific system component design/construction.	
Funding Description:		Stormwater Management Program, state and federal agencies	
Total Cost:		Unknown	
Benefits (Losses Avoided):		Minimize potential for residents to be stranded in their homes and the potential for the traveling public to drive in to water that is too deep.	
Completion Date:		Ongoing	

Johnson County-12		Additional outdoor warning sirens	
Issue/Background:		As new development is created in the County, additional outdoor warning sirens will be needed.	
Plan for Implementation and Administration:		Purchase and install additional emergency warning sirens along with a computer based digital monitoring system so that defects or maintenance issues will be reported immediately as they occur.	
Lead Agency:		Johnson County Emergency Management	
Partners:		n/a	
Funding Description:		Annual Budget, HMGP grants	
Total Cost:		Unknown	
Benefits (Losses Avoided):		Provide for Life Safety by improving coverage of outdoor warning.	
Completion Date:		Ongoing	

Johnson County-13		Promote private insurance	
Issue/Background:	Johnson County will promote private insurance for Hail & Fog, Lightening, Expansive soils, land subsidence, landslides, earthquake that causes of personal injury, damage to foundations and roofs, loss in inventory (car lots), & auto damage from wrecks.		
Plan for Implementation and Administration:	Johnson County experienced a hail storm in 1996 that caused an estimated \$10 million dollars in insured and uninsured losses. The County experiences many hail events as well as auto damage during the course of a year. In addition, house settling causes impacts to building / house foundations.		
Lead Agency:	Johnson County Emergency Management & private sector		
Partners:	County, insurance agencies and regional government partners		
Funding Description:	State of Kansas, federal sources		
Total Cost:	Unknown		
Benefits (Losses Avoided):	Minimize/reduce the impact of Hail & Fog, Lightening, Expansive soils, land subsidence, landslides, earthquake that causes of personal injury, damage to foundations and roofs, loss in inventory (car lots), & auto damage from wrecks.		
Completion Date:	Ongoing		

Johnson County-14		Promote crop insurance	
Issue/Background:	County will work with KSU Extension to promote crop insurance in the County – to insure against natural hazards such as agricultural infestation, soil erosion, extreme temperatures, wildfire, windstorm, winter storm, tornado, flooding & drought.		
Plan for Implementation and Administration:	County will work through KSU Extension to promote crop insurance to appropriate policy holders.		
Lead Agency:	Johnson County Emergency Management & KSU Extension Office		
Partners:	County and regional jurisdictions		
Funding Description:	State of Kansas, federal sources		
Total Cost:	Unknown		
Benefits (Losses Avoided):	Minimize/reduce the impact of natural hazards such as agriculture infestation, soil erosion, & drought on agriculture land.		
Completion Date:	Ongoing		

Johnson County-15		Floodproof buildings	
Issue/Background:	Many buildings are located in the floodplain and/or are subject to flooding. If buyout is not an option, installing/completing floodproofing techniques can minimize the potential for loss of life and property damage.		
Plan for Implementation and Administration:	Identify habitable buildings in the floodplain and/or are subject to flooding, prioritize locations, install/complete floodproofing techniques for buildings as funding becomes available if buyout is not an option.		
Lead Agency:	Johnson County Public Works		
Partners:	Cities in Johnson County		
Funding Description:	state and federal agencies		
Total Cost:	Unknown		
Benefits (Losses Avoided):	Minimize potential for property damage and loss.		
Completion Date:	Ongoing		

MultiJ-1		Safe Rooms in Private Non-Profit Schools	
Issue/Background:	Kansas was the highest rated state for the number of tornadoes in 2008 at 168. In addition, the area is often battered by high wind events that cause extensive damage. Private non-profit schools in Johnson County will review the concept of adding a tornado refuge built to FEMA standards in all new construction.		
Plan for Implementation and Administration:	Build safe rooms/"hardened" room in private non-profit school attendance centers in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters".		
Lead Agency:	Private Non-Profit Schools		
Partners:	Johnson County Emergency Management, state and federal partners		
Funding Description:	Private funds		
Total Cost:	Unknown		
Benefits (Losses Avoided):	Building safe rooms in school attendance centers will save lives.		
Completion Date:	Ongoing		

MultiJ-2 Continue Training Responders to Hazardous & Radiological material spills	
Issue/Background:	Accidental and terrorism hazardous material and radiological spills can happen in Johnson County in transportation and fixed facilities.
Plan for Implementation and Administration:	Continue to train the emergency responders for this event.
Lead Agency:	Fire Departments
Partners:	Johnson County Emergency Management
Funding Description:	Unknown
Total Cost:	Unknown
Benefits (Losses Avoided):	Trained responders are better equipped to handle these hazard events.
Completion Date:	Ongoing

MultiJ-3 Continue participation with the Kansas City Regional Terrorism Early Warning Group (TEW)	
Issue/Background:	
Plan for Implementation and Administration:	Local law enforcement officials from Johnson County are active participants in the Kansas City Regional Terrorism Early Warning Group that brings other local agencies as well as state and federal law enforcement officials together with public and private organizations to detect, deter and respond to terrorist threats in the Greater Kansas City community.
Lead Agency:	Johnson County and City law enforcement agencies
Partners:	Mid-America Regional Council
Funding Description:	Mid-America Regional Council
Total Cost:	Unknown
Benefits (Losses Avoided):	The benefit is to detect, deter, and respond to terrorist threats in the Kansas City metropolitan area.
Completion Date:	Ongoing

MultiJ-4 Increase public & fire department training on wildland urban interface fires	
Issue/Background:	Wildfires in the Wildland Urban Interface (WUI), or any location where a fire can spread from vegetation (wildland fuels) to man-made (urban fuels) presents a unique and potentially very dangerous set of hazards to the firefighters that respond to them as well as the public that lives in areas where such fires occur.
Plan for Implementation and Administration:	Several trainings can be implemented to increase the general, tactical, and safety knowledge of anyone living in or responding to fires in the WUI. Topics from tactical decision making to assistance with pre-incident assessments of properties that may be impacted should be covered in these training sessions.
Lead Agency:	Kansas Forest Service
Partners:	Johnson County Fire Departments, and Communities
Funding Description:	The Kansas Forest Service along with its state and federal partners can assist with providing such training opportunities.
Total Cost:	\$30 per student per training session
Benefits (Losses Avoided):	Additional training on the specific tactics and strategies to use in the WUI will increase public and emergency responder safety.
Completion Date:	Ongoing

MultiJ-5 Provide homeowner education on wildfire mitigation in wildland-urban interface.	
Issue/Background:	Before times and conditions of wildfire danger occur homeowners living in the wildland/urban interface need to have the knowledge to prepare their homes and property to be as safe and defensible as possible.
Plan for Implementation and Administration:	Educational workshops to be put on for homeowners associations and/or in rural communities to provide homeowners with property in the wildland/urban interface information on steps that they can take on their own to defend their property from wildfire. Existing programs such as the FIREWISE Communities USA program could be used to supplement local knowledge and expertise provided by the local fire departments and the Kansas Forest Service in providing the needed information at these workshops.
Lead Agency:	Kansas Forest Service and local Fire Departments
Partners:	Home owners associations, rural communities
Funding Description:	Kansas Forest Service and federal grants

Total Cost:	Materials and presenter time per workshop is estimated to be approximately \$500.
Benefits (Losses Avoided):	Losses avoided would be lessening the chances for a fire to spread from vegetation (wildland fuels) to man-made (urban fuels).
Completion Date:	Ongoing

MultiJ-6 Reduce hazardous fuels in prioritized wildfire risk areas	
Issue/Background:	Past experience has shown that there is a threat of having wildland/urban interface fire problems in this area. The Wildland Urban Interface (WUI) is any location where a fire can spread from vegetation (wildland fuels) to man-made (urban fuels). As part of the planning process a wildfire hazard assessment has been conducted to begin to identify those locations that might be in need of some hazard fuel reduction work.
Plan for Implementation and Administration:	In those areas that have been prioritized as posing a threat for wildland/urban interface fires, fuel reduction will be used to create fuel breaks between the wildland fuels and the urban environment. Methods used will be mechanical removal of fuel, mechanical thinning of fuel, and/or prescribed fire.
Lead Agency:	Kansas Forest Service and the Local Fire Departments
Partners:	Home Owners Associations and Rural Communities
Funding Description:	The Kansas Forest Service will assist qualifying communities with pursuing federal WUI grant dollars for hazardous fuel reduction projects.
Total Cost:	Approximately \$85/ac for hazardous fuel reduction projects.
Benefits (Losses Avoided):	Hazardous fuel reduction will enable local fire departments to more safely engage and suppress wild fires without the added concern of those fires impacting the wildland/urban interface.
Completion Date:	Ongoing

Desoto-1 Flood Control Projects	
Issue/Background:	The City of De Soto has several areas of the City that flood. The City of De Soto has developed and implemented a Flood Mitigation Plan adopted in 2003. The Flood Mitigation Plan has set goals, objectives and strategies to mitigate flood hazards.
Plan for Implementation and Administration:	The mitigation actions suggested are as follows: Stream Channel Maintenance, Buffering and Storm Water Management, Zoning and Permitting, Evaluation and Mitigation of Existing Streambed Structures, Flood-Proofing Existing Habitable Structures, Compliance with National Flood Insurance Program Specific Hazard Verification

	Property Buyout Program Storm Water Infrastructure
Lead Agency:	De Soto Engineering Division
Partners:	Johnson County
Funding Description:	City and County General Funds, HMGP Grants and Special Benefit Districts
Total Cost:	
Benefits (Losses Avoided):	Reduces risk of property and content damage. Reduces risk of street flooding. Improves property values. Continuing to educate residents about the floodplain and NFIP.
Completion Date:	2-4 Years

DeSoto-2 Back-up Generator for Fire Station and EOC	
Issue/Background:	During many severe weather and ice storms electrical power is lost to the Fire Stations and EOC.
Plan for Implementation and Administration:	Install generators at the Fire Station and City Hall (EOC). This would ensure the ability to continue normal operations during emergency and disaster incidents.
Lead Agency:	City of De Soto
Partners:	none
Funding Description:	City funds, Grants, Bonds, and CIP
Total Cost:	\$55,000
Benefits (Losses Avoided):	Protection of critical facilities
Completion Date:	2-4 Years

DeSoto-3 Fire Station Windstorm Damage Mitigation	
Issue/Background:	The northwest portion of Johnson County is vulnerable to severe weather conditions which produce damaging winds. Fire stations are susceptible to damage from these storms. The weakest points of the structures are apparatus bay doors and large surface area windows.
Plan for Implementation and Administration:	Retrofit the one fire station within the City Of De Soto with wind resistant/ energy efficient doors. All large surface area windows would be fitted with storm panels.
Lead Agency:	City of De Soto
Partners:	Fire Department
Funding Description:	Budget, Bonds or Mitigation Grant funds if available.
Total Cost:	\$65,000
Benefits (Losses Avoided):	Fire stations are part of the City of De Soto's critical infrastructure. The building houses personnel and emergency equipment vital to providing emergency services to the community. The installation of the wind resistant doors would increase the survivability of the fire stations during a severe weather event.
Completion Date:	2-4 Years

Edgerton-1 National Flood Insurance Program – Continue Compliance	
Issue/Background:	Edgerton has been participating in the NFIP since 1979 and plans to continue.
Plan for Implementation and Administration:	We would like to continue to educate residents about the floodplain and NFIP and serve as a resource for residents with questions.
Lead Agency:	City of Edgerton
Partners:	Kansas Division of Water Resources Office as a resource
Funding Description:	City Funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Increase residents' awareness of the floodplain and NFIP.
Completion Date:	Ongoing

Edgerton-2 Edgerton Storm Shelter	
Issue/Background:	The City had a partnership with Unified School District 231 for the use of the Edgerton Elementary School basement as the community's storm shelter. Due to liability issues, the School District and the City terminated this arrangement. As such, citizens in Edgerton that do not have basements or safe rooms in their homes do not have a place to take shelter during a severe storm. The Edgerton Manufactured Home Park is located two blocks southwest of the school. These citizens do not have a safe location during these storm events.
Plan for Implementation and Administration:	The City has identified the need for a community storm shelter to be built within the City limits near populated areas. This shelter could be implemented in conjunction with a new community building or an addition to an existing public facility. No engineering or site identification for this project has taken place.
Lead Agency:	City of Edgerton
Partners:	Johnson County Emergency Management
Funding Description:	HMGP
Total Cost:	Not determined.
Benefits (Losses Avoided):	Due to the number of citizens in Edgerton without access to a safe storm shelter, there is a threat of potential human loss during a severe storm that produces tornadic activity. If a storm shelter were constructed, the potential loss would be reduced by the number of citizens that sought shelter in the facility.
Completion Date:	It is anticipated that a storm shelter could be constructed within six months, however, a site location has not been identified nor engineering and design completed. Depending on the location and design a longer timeframe may be required.

Edgerton-3 Portable Electric Generators	
Issue/Background:	The City does not have electrical generation capacity at City Hall or a lift station located on W. 7 th Street. As such, during a power outage, these facilities cannot operate. If City Hall does not have electricity, the City cannot use the facility to manage storm-related events or to conduct normal business operations. If the lift station does not have power, eleven homes could potential suffer sewer system failures. These failures have the potential of costing citizens property damage and could also create a health hazard.
Plan for Implementation and Administration:	The City has identified the need for temporary electrical generation for both City Hall and the west 7 th Street Lift Station. This would be done by two trailer-mounted electrical generators that the City would use when needed.
Lead Agency:	City of Edgerton
Partners:	none

Funding Description:	The City has not identified funding sources for this equipment, although the City could potentially match grant opportunities with the City's capital reserve funds.
Total Cost:	\$14,400 to \$157,000 depending on size and electrical generation capacity.
Benefits (Losses Avoided):	As previously stated, this equipment would allow the City to temporarily continue its operations during a power outage. In the case of the lift station, eleven homes would maintain their ability to use the City's sewer system, which would prevent potential health hazards.
Completion Date:	We would be able to procure these items within a short amount of time based on our purchasing policy and the availability of generators.

Edgerton-4	Edgerton Storm Siren System Expansion
Issue/Background:	The City currently has two storm sirens; however, a proposed 585-home subdivision is located just outside the technical range of these units. As such, the City is required to have adequate outdoor warning systems in place in the event of severe weather.
Plan for Implementation and Administration:	The City has identified the need for at least one long-range outdoor storm siren to service the proposed 585-home Sunflower Ridge Subdivision. This proposed siren would be located in such a manner that other undeveloped areas would also be warned during a severe storm event. This would allow future development to also be served by this system.
Lead Agency:	City of Edgerton
Partners:	Johnson County Emergency Management
Funding Description:	The City has not identified funding sources for this equipment, although the City could potentially match grant opportunities with the City's capital reserve funds.
Total Cost:	The cost for a new storm siren is estimated to be \$21,000.
Benefits (Losses Avoided):	Due to the number of citizens that will eventually live in the Sunflower Ridge Subdivision, there is a threat of potential human loss during a severe storm that produces tornadic activity. If a long-range outdoor storm siren were constructed, the potential loss would be reduced by the number of citizens that sought shelter in their homes.
Completion Date:	We would be able to procure these items within a short amount of time based on our purchasing policy and the availability of storm siren equipment.

Edgerton-5	207 th Street Grade Separation
Issue/Background:	The rail line that runs north-south through Edgerton is a BNSF mainline, and is one of the busiest lines in the country. With the construction of the intermodal facility a mile northeast of Edgerton, it is projected that train traffic will increase along this line in the future. As such, the at-grade crossings near Edgerton will be blocked more frequently. Trains will approach the intermodal facility at slower speeds. It is estimated that trains will begin slowing down to enter the facility south of the Edgerton Road crossing, which

	<p>is about a half-mile southwest of Edgerton. By the time the trains reach the 207th Street and E. Nelson Street crossings, they will be traveling at a speed of around 30 to 45 miles per hour. It is estimated that an intermodal train will take approximately ten minutes to clear each crossing. Trains have already increased in length from eighty-two cars per train to over one hundred. We anticipate even longer trains as the intermodal becomes operational.</p> <p>The original town is situated on the west side of railroad tracks. In an emergency, first responders will respond out of the Johnson County Fire District No. 1 station located in downtown Edgerton. In the event the tracks are blocked by a train, the response will be delayed by a few minutes. As you know, even delaying a response a few minutes under critical circumstances could be fatal. Edgerton is anticipating a 585-home subdivision to be built in phases on the east side of the tracks during the next ten years. Once this subdivision is built, a population equal to the current population of Edgerton (1,788) will depend on clear railroad tracks during emergency calls. If the tracks are blocked, the next closest response would come from a station approximately nine miles to the northeast. At this time, the Fire District has no plans to locate a station on the east side of the tracks.</p>
Plan for Implementation and Administration:	The City has identified the need for the construction of a grade separation located at or near the intersection of 207 th Street and the BNSF mainline. This grade separation would allow vehicular traffic to move east-west while trains are allowed to move slowly or even stop below. During emergency calls where the Fire District would respond, there would be no problems due to blocked tracks to prevent timely response. This would allow for faster responses not only in the City limits, but also to Interstate 35.
Lead Agency:	This project's location is currently in Johnson County, but due to its location and affect on the City of Edgerton, the City has been leading the charge for this improvement. The County has partnered with the City to assist in addressing these issues.
Partners:	Johnson County
Funding Description:	Federal and State Highway Programs, Federal and State Rail Crossing Programs, and other sources not yet identified
Total Cost:	It is estimated that this project would cost between \$10 to \$15 million dollars, although an engineer's cost estimate has not been done to verify this estimate.
Benefits (Losses Avoided):	While it is difficult to state the exact losses that would be avoided if a grade separation were constructed, it is reasonable to assume that a faster emergency response could potentially save lives. As previously mentioned, the City is working with a developer to construct a 585-home subdivision. It is also anticipated that several large tracts of land with also begin to develop in this area in the near future. With the increase in residential and other structures, the probability of a high risk emergency call increases substantially. The grade separation would also allow for easier and timelier access to I-35 in the event of a vehicular accident on this major route. If a grade separation were constructed, it would also mitigate potential vehicle-to-train collisions. While these events are rare, the proposed location for this project has several complex traffic issues that may contribute to these potential events.
Completion Date:	This project has a completion timeline that is over one year. No work has been started regarding this project, which means that engineering and design, right-of-way acquisition, and construction phases would need to be completed.

Edgerton-6	Edgerton Marais des Cygnes Watershed Stormwater Infrastructure Improvements
Issue/Background:	In the Johnson County Marais des Cygnes Watershed Study conducted in February 2007, issues were identified that could potentially create hazards during a flood event. The study identified areas where improvements are recommended to decrease the probability of flood loss.
Plan for Implementation and Administration:	The study identified three major floodway projects that would reduce damage and loss due to a flood event. The three projects are: 1) replace culverts on both 1 st and 2 nd Street, 2) raise 2 nd Street by 1.2 feet for 200 feet, and 3) improve 1,700 feet of the flood channel.
Lead Agency:	City of Edgerton
Partners:	Johnson County Public Works, Johnson County SMAC, KDEM, and FEMA
Funding Description:	Johnson County SMAC, FEMA programs, and the City's capital reserve fund.
Total Cost:	The total cost of all projects is estimated to be \$679,200 as of February 2007.
Benefits (Losses Avoided):	Reduce flooding upstream and surrounding areas, prevent cresting of E. 2 nd Street during a flood event, reduction of potential damage and loss downstream.
Completion Date:	Unknown

Edgerton-7	Edgerton Dam Infrastructure Repair and Upgrade (Edgerton and South Lakes)
Issue/Background:	In the Johnson County Marais des Cygnes Watershed Study conducted in February 2007, issues were identified that could potentially create hazards during a flood event. One such issue the City has identified is a lack of ability to regulate stormwater that flows from the built community to the City's two lakes. The City has also identified a lack of water storage capacity in the lakes due to erosion and silting. As such, the lakes would not be able to hold as much water as believed, thus resulting in more damaging flood potential.
Plan for Implementation and Administration:	The City has identified the need for a floodgate to regulate the amount of water that is allowed to flow further downstream in the Big Bull Creek. The floodgates would allow the City to regulate the amount of water that flows into the creek, and thus provide the City with the ability to better control the flood waters during and after a flood event. The City also has identified the need for both lakes to be dredged to allow more storage capacity during a flood event.
Lead Agency:	City of Edgerton
Partners:	Kansas Wildlife and Parks
Funding Description:	The City has not identified funding sources for this equipment, although the City could potentially match grant opportunities with the City's capital reserve funds

Total Cost:	Unknown at this time.
Benefits (Losses Avoided):	By regulating the flow of flood waters, the City can provide variable release of waters which could reduce damage downstream.
Completion Date:	Unknown

Fairway-1	Public education of city businesses, home owners, and residents and all city staff in Fairway for disaster preparedness, mitigation and recovery.
Issue/Background:	Train citizens and businesses in transitioning from reactive to pro-active preparedness in surviving and recovering from disasters. Educating the public on measures to secure/reinforce homes and businesses before a disaster occurs in order to minimize potential loss of life and property damage. Goal is to facilitate a quicker rebound resulting in improved economic stability.
Plan for Implementation and Administration:	<p>Training programs providing information and education on:</p> <ol style="list-style-type: none"> 1) Disaster preparedness (safe rooms, life safety precautions, stockpiling, etc); 2) Disaster recovery and mitigation to lessen the economic and functional impact of a disruptive incident; 3) Resource and contact information; 4) Available City and County programs and assistance. <p>Community outreach through the web, mailings, media and other available avenues.</p>
Lead Agency:	Police Department
Partners:	Fairway Police Department, Consolidated Fire District #2 of Johnson County, Johnson County Emergency Management and Homeland Security
Funding Description:	FEMA/State Mitigation grants. The City of Fairway would provide matching funds.
Total Cost:	Approximately \$20,000. Anticipated expenses: evaluation of all current disaster related city education programs, production/printing of training materials and advertising, and actual training/dissemination of information.
Benefits (Losses Avoided):	Increase life safety during a disaster, lessen functional impact resulting in a quicker economic rebound
Completion Date:	6 months to a year to prepare materials and train personnel, additional 6 months to promote, schedule and begin training.

Fairway-2 NFIP- continue compliance	
Issue/Background:	<p>In 1971 the City of Fairway entered the National Flood Insurance Program (NFIP) and began regulating development and other activities within the FEMA regulated floodplain, in accordance with federal requirements. By participating in this program, properties within Fairway can obtain flood insurance; in fact properties within the floodplain must obtain flood insurance to qualify for federally insured loans.</p> <p>In addition, the City has worked with Johnson County to obtain more detailed and accurate flood studies throughout the City. In 2002 we adopted an updated flood study and the corresponding mapping for Rock Creek. In 2009 new studies and mapping will be adopted for the Rock Creek watershed.</p>
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	Codes Department, City of Fairway
Partners:	Johnson County Public Works, City of Fairway, and Kansas Department of Agriculture/Division of Water Resources
Funding Description:	City funds
Total Cost:	Unknown
Benefits	Increase residents' awareness of the floodplain and NFIP and flood risks are reduced.
(Losses Avoided):	
Completion Date:	Ongoing

Fairway-3 Flood control projects and storm sewer upgrades	
Issue/Background:	There are estimated to be 42 buildings within the City that are within the FEMA 100-year floodplain. There are an unknown number of additional structures that may flood due to localized conditions on smaller creeks and drainages. It is often feasible to improve storm drainage systems serving those areas.
Plan for Implementation and Administration:	Projects are designed by a consulting engineer and contracted through competitive bid. Whenever possible, we pursue cost-sharing opportunities with Johnson County SMAC. Projects are designed to protect buildings up to the 100-year storm, either through open channels and flood plain modifications (on large creeks) or through a combination of below-ground storm sewers and above ground swales (smaller watersheds). The City budgets for these projects as funds become available.
Lead Agency:	Fairway 3Public Works
Partners:	Johnson County Stormwater Management (SMAC), KDOT

Funding Description:	FEMA mitigation and repetitive loss grants. Johnson County Stormwater Management Program, CARS, Federal, State. City funding available from our Stormwater Utility Fund. Property owner contributions are often required via easement donation.
Total Cost:	Varies widely depending on size of project. In 2008 Fairway spent 5 million to replace the Mission Road Bridge, and 2 million to replace a culvert under Shawnee Mission Parkway.
Benefits (Losses Avoided):	Reduces risk of property and content damage. Reduces risk of street flooding. Improves property values. Remove properties from 100-year floodplain. Often times other general improvements (street condition, curb, sidewalk, lighting) are undertaken in conjunction with storm sewer projects.
Completion Date:	Individual projects are evaluated based on City knowledge and property owner request. It typically takes 2-4 years from initial identification to project completion.

Fairway-4	Trailer-mounted, portable generator
Issue/Background:	An electrical power outage to our Police Station would reduce our ability to provide public safety services to the public. This plan and equipment will provide a redundant back-up to our police station's electrical service.
Plan for Implementation and Administration:	The generator/trailer will be stored at the Police Station. Scheduled maintenance and operation will be performed and supervised by the Public Works Department. Upon electrical power failure the generator would be started, enabling all criminal justice computers and systems to continue to operate beyond their limited battery back-up supply. In the event the Police Station is damaged or destroyed the generator could be relocated to an alternate location, providing continuity of operations. Connection to the building would be made via a weather-proof service box to support essential functions inside the Police Station.
Lead Agency:	Police Department
Partners:	Police Department, Public Works, and City Administration Department
Funding Description:	Establish a cost-share line item from disaster contingency funds.
Total Cost:	\$40,000
Benefits (Losses Avoided):	A redundant power supply will insure continuity of public safety and other City service. <ul style="list-style-type: none"> - Avoid losses to data, phone and radio communications - Prevent damage to facilities due to frozen plumbing. - Interior illumination would be maintained for emergency operations
Completion Date:	To be announced

Gardner-1 Gardner Watershed Master Plan Study	
Issue/Background:	The City of Gardner is currently preparing a Watershed Master Plan. The Plan should be finalized in May 2009. Some of the tasks to be completed include re-evaluating existing stream buffer policies, detention requirements, grading plan requirements, and minimum development standards for stormwater, as well as modeling of streams within current and future City boundaries. The Plan also includes preparing a capital improvement project (CIP) list which identifies areas of potential flooding and stormwater concerns, recommended improvements, and estimated costs. The Plan also recommends evaluating the formation of a stormwater utility so that a dedicated funding stream for stormwater is available.
Plan for Implementation and Administration:	The recommendations provided in the Watershed Master Plan will be proposed to City Council for implementation by Staff over time.
Lead Agency:	Public Works, Engineering Division
Partners:	Johnson County Stormwater Management (SMAC)
Funding Description:	Some projects identified in the study may be partially funded through the SMAC. The General Fund is the current source of City funding. Options that will be presented as part of the study include the establishment of a Stormwater Utility fund and consideration of a property owner contribution through the establishment of benefit districts.
Total Cost:	The cost of the study is \$400,000. The City is funding 10% of the project cost from its General Fund. Johnson County is reimbursing the City for 90% of the study cost through its Stormwater Management Program.
Benefits (Losses Avoided):	The study will provide recommendations for revisions to the City's current policies and procedures that help prevent the propagation of future flooding problems as part of the development process.
Completion Date:	The study will be completed in Spring 2009.

Gardner-2 Flood Control Project – Doublegate Culvert Replacement Project	
Issue/Background:	In 2006, the City conducted a drainage study of the Doublegate and Stonebrooke Place subdivisions which identified eleven houses that would be within the 100-year ultimate conditions floodplain as determined by the Johnson County Kill Creek Watershed Study. The City study also identified an additional 20 houses that would be surrounded during that same 100-year ultimate conditions rainfall event. The City study determined that the replacement of the multi-cell drainage structure under Madison Street and expansion of the multi-cell drainage structure under 170 th Terrace would remove the eleven houses from the 100-year ultimate conditions floodplain and significantly reduce year flooding for the 20 houses.
Plan for Implementation and Administration:	The City requested and received funding for this project in 2008 through the Johnson County Stormwater Program. The project involved the replacement of an existing quadruple elliptical pipe drainage structure under Madison Street with a 4-10'x5' reinforced concrete box bridge and the addition of 3 additional cells to an existing

	9'x4.3 reinforced concrete box bridge under 170 th Terrace. The project was designed and constructed in 2008.
Lead Agency:	Public Works, Engineering Division
Partners:	Johnson County Stormwater Management
Funding Description:	FEMA mitigation repetitive loss grants, SMAC and City funds available from our Stormwater Utility Fund.
Total Cost:	The total cost of the project was \$741,800. The cost of construction was \$648,000 and engineering, both design and the drainage study, was \$93,800.
Benefits (Losses Avoided):	Eleven houses were removed from the 100-year floodplain, yard flooding was significantly reduced for 20 houses, and street overtopping predicted during the 100-year ultimate conditions was reduced to passable levels.
Completion Date:	Project is complete

Gardner-3	Generator Project
Issue/Background:	The City of Gardner has grown over the last several years and several critical facilities within the community could benefit from the installation of generators / back up power.
Plan for Implementation and Administration:	Work with state and federal partners to purchase generators.
Lead Agency:	Gardner Public Safety
Partners:	KDEM / FEMA
Funding Description:	state and federal agencies
Total Cost:	\$50,000 per generator with installation
Benefits (Losses Avoided):	Reduce the impact of power loss for critical facilities within the City of Gardner.
Completion Date:	Ongoing

Gardner-4	National Flood Insurance Program – continue compliance
Issue/Background:	<p>The City of Gardner participates in the National Flood Insurance Program and regulates development and other activities within the FEMA regulated floodplain in accordance with Federal requirements. By participating in this program, properties within Gardner can obtain flood insurance.</p> <p>Gardner has worked with Johnson County to obtain more detailed mapping and accurate flood studies within the City. Detailed flood studies have been completed for the Kill Creek, Cedar Creek, and Bull Creek watersheds within Gardner. FEMA will</p>

	adopt revisions to floodplain mapping for these watersheds in late Summer 2009.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within FEMA floodplains.
Lead Agency:	Public Works, Engineering Division
Partners:	Johnson County Stormwater Management (SMAC)
Funding Description:	
Total Cost:	
Benefits (Losses Avoided):	Flooding risks are reduced.
Completion Date:	Ongoing

Gardner-5 Expand Outdoor Warning System	
Issue/Background:	The city of Gardner has grown over the last several years and more outdoor warning sirens need to be installed to cover outdoor areas. In addition, some sirens need to be replaced due to age of sirens.
Plan for Implementation and Administration:	Purchase sirens.
Lead Agency:	Gardner Public Safety
Partners:	KDEM / FEMA
Funding Description:	state and federal agencies
Total Cost:	\$22,000 per siren
Benefits (Losses Avoided):	Increase the warning time for citizens during tornadic events.
Completion Date:	Ongoing

LQuivira-1 Emergency Evacuation Exit for gated residential community	
Issue/Background:	400 home residential community, with one mode of egress/ingress located adjacent to Burlington Northern Santa Fe (BNSF) Mainline Railway. Easement currently exists for such an exit on the West side of the community but was abandoned in the early 1980s due to security issues. So if there is a hazardous material spill on the BNSF near the community, it could potentially block the only evaluation route.
Plan for Implementation and Administration:	Planning has stalled for several years due to the City's involvement in unrelated land lawsuit. Preliminary ideas are for a reverse 911 system, automated solar power gate, initial road base of remanufactured asphalt mills with the intent of future improvement.

	Road base is required to support 40,000 lb vehicles with adequate turning radius for emergency vehicles.
Lead Agency:	Emergency Preparedness, Fire Chief
Partners:	Quiriva Inc.(homeowner's association)
Funding Description:	City of Lake Quivira, Quiriva Inc., FEMA
Total Cost:	Basic cost estimate @ %60,000 for initial exit construction, \$100,000 with road base update.
Benefits (Losses Avoided):	There is no alternative escape route for a population of 1100 should a hazardous materials incident occur on the BNSF railroad. A West Dam gate is available for routine usage but has the same exposure issues surrounding the main entrance facility.
Completion Date:	1-2 years to complete

LQuivira-2 Emergency Power Back-Up Generator for City Hall facility	
Issue/Background:	There is currently no power back-up system for City Hall that houses the Fire, Police and administration departments. Thus emergency lighting, communications equipments are door openers are all vulnerable during power outages. There are frequent power outages in the area because of Westar Energy's western substation.
Plan for Implementation and Administration:	Installation of a single property sized generator behind City Hall as a single unit could support all existing circuits.
Lead Agency:	City of Lake Quivira police Department
Partners:	None
Funding Description:	City of Lake Quivira, FEMA
Total Cost:	\$25,000 specific quote is pending
Benefits (Losses Avoided):	Complete back-up for all City administrative, fire, and police communication functions.
Completion Date:	1-2 years

Leawood-1 Continue Compliance with NFIP	
Issue/Background:	Future Flooding Issues
Plan for Implementation and Administration:	Continue participation in the National Flood Insurance Program (NFIP) and pursue membership in the Community Rating System (CRS).
Lead Agency:	Leawood Public Works

Partners:	Johnson County Public Works and Kansas Division of Water Resources for guidance
Funding Description:	City of Leawood
Total Cost:	Unknown
Benefits (Losses Avoided):	Increase residents' awareness of the floodplain and NFIP and reduce flood risks in the community.
Completion Date:	Ongoing

Leawood-2	Natural Resource Protection
Issue/Background:	This flooding problem is described in the Indian Creek Watershed Study completed in 2006. Heavy rains typically produce flooding along Indian Creek just west of State Line Road and south of 104 th Street. This includes the drainage waterway that runs through the business park, spilling into Indian Creek from the north, just west of State Line Road. This causes repetitive flooding at a commercial building park.
Plan for Implementation and Administration:	Conduct a feasibility study to determine an appropriate course of action which might include a stormwater project to address improvements to the creek, erosion control, and floodproofing of businesses, etc.
Lead Agency:	Leawood Public Works
Partners:	Johnson County Stormwater Management
Funding Description:	Annual Budget
Total Cost:	Unknown
Benefits (Losses Avoided):	Property Conservation
Completion Date:	0-12 months – Feasibility Study 12-36 months - Construction

Leawood-3 Natural Resource Protection of Tomahawk and Indian Creeks	
Issue/Background:	Flooding over the years has caused severe erosion to area of Tomahawk and Indian Creeks in Leawood. Areas adjacent to the creeks, including parks, trails, and natural habitats continue to be impacted.
Plan for Implementation and Administration:	Provide protection to creek banks and adjacent areas to prevent further damage. Natural Resource Protection – Stream Corridor Restoration, Erosion & Sediment Control, and Forest & Vegetation Management
Lead Agency:	Leawood Public Works
Partners:	Johnson County Stormwater Management
Funding Description:	Annual Budget
Total Cost:	\$1,000,000
Benefits (Losses Avoided):	Property Conservation
Completion Date:	0-12 months – Engineering 12-36 months - Construction

Leawood-4 Emergency Services – Protection of Utilities at a Critical Facility	
Issue/Background:	Due to the number of above ground electrical distribution components in the north end of Leawood, Fire Station #1 frequently loses electricity during severe weather. The current generator has exceeded its useful life and has become unreliable. In addition, it does not have the capacity to provide electricity to the entire building and all essential components.
Plan for Implementation and Administration:	Remove the existing generator and replace with a generator that will provide electricity for the entire building.
Lead Agency:	Leawood Fire Department
Partners:	n/a
Funding Description:	Annual Budget
Total Cost:	\$50,000
Benefits (Losses Avoided):	Avoid extended power outages at a critical facility in order to ensure the ability to receive and respond to calls for service during severe weather.
Completion Date:	0-12 months –purchase and install generator Completed by December 2009

Leawood-5 Installation of additional warning system sirens and computer monitoring system	
Issue/Background:	There are currently two (2) areas in the City of Leawood that lack adequate coverage from existing emergency warning sirens. In addition, all sirens must be monitored monthly during the monthly test. This not only takes emergency responders away from other assigned tasks but leaves wide gaps between when a siren may become non-operational and when that defect is discovered.
Plan for Implementation and Administration:	Purchase and install two (2) additional emergency warning sirens along with a computer based digital monitoring system so that defects or maintenance issues will be reported immediately as they occur.
Lead Agency:	Leawood Fire Department
Partners:	n/a
Funding Description:	Annual Budget
Total Cost:	\$134,00 0
Benefits (Losses Avoided):	Provide for Life Safety by improving coverage of outdoor warning system and ensuring that maintenance issues will be reported as they occur.
Completion Date:	April 2010

Leawood-6 Emergency Services – Warning Systems: Weather Radios	
Issue/Background:	NOAA Weather Radios continue to provide the “best” source of communications with home and business owners before, during, and after any man-made or natural disaster. However, it is the planning assumption that less than 20% of homes and businesses in Leawood currently have weather radios.
Plan for Implementation and Administration:	Considering there are approximately 12, 500 homes and 575 businesses in Leawood for a total of 13075 less 20%, leaves 10460. Purchase 10460 weather radios at \$30 and ensure that a weather radio is programmed and installed in every home and business in Leawood. Leawood Fire Department personnel will provide promotion, programming, and distribution.
Lead Agency:	Leawood Fire Department
Partners:	City of Leawood, Leawood Chamber of Commerce
Funding Description:	Annual Budget
Total Cost:	Weather radios = \$313,800, Flyers = \$1200 Total Project = \$315,000
Benefits (Losses Avoided):	Improved communications before, during, and after a man-made or natural disaster which will greatly enhance life safety.
Completion Date:	December 2010

Lenexa-1		Continue NFIP participation
Issue/Background:	In 1977 the City of Lenexa entered the National Flood Insurance Program (NFIP) and began regulating development and other activities within the FEMA regulated floodplain, in accordance with federal requirements. By participating in this program, properties within Overland Park can obtain flood insurance; in fact properties within the floodplain must obtain flood insurance to qualify for federally insured loans.	
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.	
Lead Agency:	City of Lenexa Public Works	
Partners:	KDA, Division of Water Resources as a resource	
Funding Description:	n/a	
Total Cost:	n/a	
Benefits (Losses Avoided):	Flood Risks are reduced.	
Completion Date:	Ongoing	

Lenexa-2		Construction of Public Safe Rooms
Issue/Background:	There are no safe rooms in public buildings in Lenexa. The large outdoor festivals have no shelter areas and this is an area of dense multi-family housing that does not have shelter areas.	
Plan for Implementation and Administration:	Lenexa will review all future building plans and review the ability to add a safe room for citizens and employees in buildings such as libraries, public safety buildings, general use buildings and other buildings as appropriate. They will seek federal funding to assist with the building of the safe room.	
Lead Agency:	City of Lenexa Public Works	
Partners:	Federal government, Kansas Division of Emergency Management	
Funding Description:	City funding, federal as identified.	
Total Cost:	Unknown	
Benefits (Losses Avoided):	Building safe rooms in public buildings where we have many citizens and employees that gather on a regular basis will save lives.	
Completion Date:	Ongoing	

Lenexa-3 Purchase Back-up Generators for Critical Facilities	
Issue/Background:	Fire Station #2 does not have an emergency power generator
Plan for Implementation and Administration:	The City has identified this location as a critical facility in need of back-up generator for electrical power.
Lead Agency:	City of Lenexa Fire Department
Partners:	n/a
Funding Description:	City of Lenexa, State and Federal funds
Total Cost:	\$60,000
Benefits (Losses Avoided):	Avoid extended power outages at a critical facility in order to ensure the ability to receive and respond to calls for service during severe weather.
Completion Date:	Unknown

Merriam-1 National Flood Insurance Program – Continued Compliance	
Issue/Background:	As the City of Merriam has areas of the City that flood, we have been and continue to be compliant with the NFIP. We also have structures that have suffered repetitive losses.
Plan for Implementation and Administration:	We would like to investigate/complete: Working on acquiring repetitive loss structures (when appropriate/or when the opportunity arises), continue to educate residents about the floodplain and NFIP, and serve as a resource for residents with questions about the floodplain and NFIP.
Lead Agency:	City of Merriam
Partners:	KDA, Division of Water Resources as a resource
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Increase residents' awareness of the floodplain and NFIP, and reduce the number of repetitive loss structures within the City.
Completion Date:	Ongoing

Mission-1 National Flood Insurance Program – Continue Compliance	
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Mission
Partners:	Kansas Department of Agriculture, DWR as a resource.
Funding Description:	City Funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Increase residents' awareness of the floodplain and NFIP within the City.
Completion Date:	Ongoing

Mission-2 Sylvester Powell Jr Community Center Disaster Preparedness Project	
Issue/Background:	The community center currently does not have disaster "hardened" rooms for its patrons and employees.
Plan for Implementation and Administration:	Conduct a feasibility study to identify appropriate rooms that could be hardened.
Lead Agency:	Emergency Preparedness
Partners:	Local partners
Funding Description:	City, County, and FEMA
Total Cost:	Unknown
Benefits (Losses Avoided):	Casualties can be avoided.
Completion Date:	Unknown

Mission-3 Additional Generator for Public Works Facility	
Issue/Background:	The public works facility could serve as an evacuation site in the event of a disaster. The facility needs generators to provide electricity and HVAC in the event of power failure.
Plan for Implementation and Administration:	Currently, the building has only enough generator capacity to run offices and basic electrical needs. An upgraded generator would need to be provided.
Lead Agency:	Emergency Preparedness
Partners:	n/a
Funding Description:	Mission General Fund/ Federal funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Provide safety to citizens of the Mission Community
Completion Date:	Open

MHills-1 National Flood Insurance Program – Continued Compliance	
Issue/Background:	As the City of Mission Hills has several areas of the City that flood, we have been and continue to be compliant with the NFIP. We also have several structures that have suffered repetitive losses.
Plan for Implementation and Administration:	We would like to investigate/complete: <ol style="list-style-type: none"> 1. Working on acquiring repetitive loss structures (when appropriate/or when the opportunity arises) 2. Continuing to educate residents about the floodplain and NFIP 3. Serving as a resource for residents with questions about the floodplain and NFIP.
Lead Agency:	City of Mission Hills
Partners:	None at this time. Use the State of Kansas NFIP office as a resource.
Funding Description:	City Funds
Total Cost:	Depends on the number of houses acquired – could be anywhere from \$1 to \$3 million.
Benefits (Losses Avoided):	Increase residents' awareness of the floodplain and NFIP, and reduce the number of repetitive loss structures within the City.
Completion Date:	Education – Continuous Acquiring Structures – As opportunities arise.

MHills-2		Mission Drive Channel	
Issue/Background:	The creek channel that runs from State Line Road to 63 rd Street abuts property that is in the floodplain (including a church and the Mission Hills City Hall building). The flooding also affects two bridges and three public roads. This is and has been a public safety concern.		
Plan for Implementation and Administration:	Make improvements to the channel to reduce the affects of and frequency of flooding.		
Lead Agency:	City of Mission Hills		
Partners:	Johnson County Stormwater Management Advisory Council		
Funding Description:	City Funds and Johnson County Stormwater Management Advisory Council		
Total Cost:	\$2,600,000		
Benefits (Losses Avoided):	Reduce flooding of the two public facilities, the bridges and the roadways.		
Completion Date:	2014		

MHills-3		Flood Warning System – Phases II and III	
Issue/Background:	The City has implemented Phase I of its Flood Warning System which includes sensors in the creek that set off flashing lights in areas where the roadway is typically overtopped during high rain events. The City would like to move forward with Phases II and III of the FWS. This is and has been a public safety concern.		
Plan for Implementation and Administration:	<p>Phase II Hiring a firm to forecast flood events and then use the City's Code Red (reverse 911) system to notify that are most likely to be affected – giving them to take precautions/evacuate the area. It makes sense to wait on the implementation of this phase until Johnson County has a countywide forecasting system.</p> <p>Phase III Installing automatic bollards that come out of the roadway to block traffic when the creek sensors indicate that the roadway will be overtopped with water.</p>		
Lead Agency:	City of Mission Hills		
Partners:	Johnson County Stormwater Management Advisory Council		
Funding Description:	City Funds Johnson County Stormwater Management Advisory Council		
Total Cost:	Phase II - \$400,000 Phase III - \$1,000,000		
Benefits (Losses Avoided):	Increase the notification time for those affected by flood events and reduce the number of vehicles in the roadways when they are overtopped with water.		
Completion Date:	Phase II – within the next 5 years Phase III – within the next 10 years		

MHills-4 Realign Brush Creek in Hiawassee Park	
Issue/Background:	The public road (Wenonga Road) that abuts one of the City's parks, Hiawassee Park, historically, is overtopped with water when we have a significant rain event. This is and has been a public safety concern.
Plan for Implementation and Administration:	Realign (move) the creek and a small bridge in the Park.
Lead Agency:	City of Mission Hills
Partners:	None at this time.
Funding Description:	City Funds
Total Cost:	\$100,000
Benefits (Losses Avoided):	Wenonga Road will flood less frequently, increase access to the rest of the park, and reduce erosion and improve stability of stream channel.
Completion Date:	In the next 6-10 years.

MHills-5 Peetwood Park Improvements	
Issue/Background:	The public road and bridge that abuts one of the City's parks, Peetwood Park, is Indian Lane. Historically, the roadway is overtopped with water when we have a significant rain event. In the past, several vehicles have been swept away in the high water.
Plan for Implementation and Administration:	Rebuild Indian Lane bridge, make improvements to the Peetwood Park stream channel.
Lead Agency:	City of Mission Hills
Partners:	Stream Channel Project - State of Kansas, Johnson County SMAC Bridge Project - None
Funding Description:	Stream Channel Project – State of Kansas KDHE Grant, Johnson County SMAC Funds Bridge Project - None
Total Cost:	Stream Channel Project - \$426,000 (2008/2009 Project) Bridge Project - \$600,000 (2009 Project)
Benefits (Losses Avoided):	Stream Channel Project – Reduce erosion, improve stability of stream channel Bridge Project – Small reduction in water on roadway
Completion Date:	Stream Channel Project – 2008 through 2009 Bridge Project – 2008 (Engineering) and 2009 (Construction)

MWoods-1 Join National Flood Insurance Program	
Issue/Background:	The City has not been participating in NFIP in the past, but the City Attorney has submitted a draft ordinance to KDA/Division of Water Resources to be in the program.
Plan for Implementation and Administration:	The City will need to work with KDA/ Division of Water Resources to complete the necessary program application and resolution of intent to join.
Lead Agency:	City of Mission Woods
Partners:	None

Funding Description:	No Cost to Join NFIP
Total Cost:	No Cost
Benefits (Losses Avoided):	By joining the NFIP, it would reduce the premium rate of National Flood Insurance policy holders that live in the City.
Completion Date:	Unknown

Olathe-1	Cedar Creek Wastewater Treatment Plant (CCWWTP) flood wall
Issue/Background:	The Cedar Creek Wastewater Treatment Plan (CCWWTP) has been flooded several times. The operating permit for the plant requires flood protection to withstand 500 year flood events. Twice in the past 10 years OMS has received grants for flood protection at the plant. However, every time there is a new flood plain study the height of a 500 year flood event has ratcheted upward. Once again, the latest study indicates that CCWWTP needs higher flood protection walls.
Plan for Implementation and Administration:	OMS has a major plant expansion for CCWWTP planned for 2010. As part of that project, the flood walls will be moved and raised to provide protection for the larger footprint of the expanded plant. If mitigation funds are available it would be a great assistance to OMS as this expansion is a very expensive project.
Lead Agency:	OMS Technical Support and Wastewater Treatment divisions
Partners:	
Funding Description:	Revenue bonds, grants
Total Cost:	\$800,000 - 1 million
Benefits (Losses Avoided):	Required to continue operating the plant. There is no other option for treatment. S – Definitely Yes T – Maybe Yes (if the current flood level study is accurate then definitely Yes) A – Definitely Yes P – Definitely Yes L – Definitely Yes E – Maybe Yes E – Maybe Yes
Completion Date:	2010-2011

Olathe-2	Flood Home Buy-Out for up to five structures
Issue/Background:	The targeted, single family structures are identified in the updated flood plain maps. Repetitive losses have occurred in the past. Future updates to the flood maps have the potential to buy-out homes within the Olathe City Limits.
Plan for Implementation and Administration:	When the cost/benefit analysis indicates the buy-out program is more beneficial than costs related to upgrading the streams, this will be the best action for the City and the residents.
Lead Agency:	Olathe Municipal Services
Partners:	Emergency Management, Stormwater Management Advisory Council

Funding Description:	Stormwater Management Advisory Council, (SMAC) Funding
Total Cost:	Five structures @ \$150,000.00 each \$750,000.00 Total
Benefits (Losses Avoided):	Eliminate future repetitive FIPS claims Significantly reduce the risk of first responder safety in potential swift water rescue situations to the targeted structures
Completion Date:	To be announced

Olathe-3 Safe room in future public building	
Issue/Background:	Future public buildings in the City of Olathe may be required to provide a safe room for the building occupants. This worksheet provides the need for potential requests of this nature.
Plan for Implementation and Administration:	Include in future building plans for labor and material cost to construct a room within the building to prevent deaths and/or injuries due to tornado strikes or high-wind weather events.
Lead Agency:	Olathe, KS - Chief building official
Partners:	Olathe, Building Codes Department, Emergency Management
Funding Description:	Municipal Finances, Bonds and potential grant sources
Total Cost:	To be announced
Benefits (Losses Avoided):	Increased life safety for tornado and high-wind events to occupants of City-owned buildings.
Completion Date:	To be announced

Olathe-4 Trailer-mounted, portable generator	
Issue/Background:	An electrical power outage to a fire station, the DOC or EOC would reduce our ability to provide public safety and Emergency Management services to the public. This plan and equipment will provide a redundant back-up to our electrical service.
Plan for Implementation and Administration:	The generator/trailer will be stored at the Fire Administration Building. Scheduled maintenance and operation will be supervised by the Operations Chief and performed by the City Service Center. Upon electrical power failure and the building stand-by generator failure, the trailer would be dispatched to the point of need. Connection to the building would be made via a weather-proof service box to support essential functions inside the fire station building.
Lead Agency:	Olathe Fire Department
Partners:	Police Department Emergency Management Olathe Municipal Services
Funding Description:	Establish a cost-share line item from disaster contingency funds.
Total Cost:	
Benefits (Losses Avoided):	A redundant power supply will insure continuity of public safety and other City services in the EOC, DOC or a fire station. - Avoid losses to data, phone and radio communications - Prevent damage to facilities due to frozen plumbing and fire sprinkler piping ect.

	- Interior illumination would be maintained for emergency operations
Completion Date:	To be announced

Olathe-5 Community Emergency Response Team (CERT) training program	
Issue/Background:	The goal of the Olathe, KS CERT program is to train 10% of the city population. As of 2008, 1,100 participants have been certified as CERT responders.
Plan for Implementation and Administration:	<p>The continued success of the CERT program is dependent upon securing funds from grant sources such as the Kansas Mitigation Grant Fund.</p> <p>Utilize Fire Department and Emergency Management staff when possible to develop a partnership between emergency services staff and the community.</p> <p>Utilizing volunteer instructors have also contributed to the success as well.</p>
Lead Agency:	<p>The continued success of the CERT program is dependent upon securing funds from grant sources such as the Kansas Mitigation Grant Fund.</p> <p>Utilize Fire Department and Emergency Management staff when possible to develop a partnership between emergency services staff and the community.</p> <p>Utilizing volunteer instructors have also contributed to the success as well.</p>
Partners:	Olathe Fire Department/Operations Division, Johnson County Emergency Management/Homeland Security, Johnson County Citizen's Corps Council and Regional Homeland Security Coordinating Council.
Funding Description:	@ \$2000 from 2009 budget; possibly Citizen Corps and UASI grant support, but unknown amount.
Total Cost:	\$22,000.00
Benefits (Losses Avoided):	<p>Increased life safety during major disaster events within the City.</p> <p>The ability to provide staffing assistance when mutual aid requests are received from outside the City of Olathe.</p>
Completion Date:	At least 6 courses and 3-4 review classes are normally taught between January and November of each year.

Olathe-6 Storm drainage culvert expansion at 147/Brougham Dr.	
Issue/Background:	The existing culvert has been determined to be under-sized according to the undated flood maps of 2008. Previous improvements to the down-stream areas are now capable of the flow of the stream.
Plan for Implementation and Administration:	Increase the reinforced concrete culvert under Brougham Dr. at 147 Street by 100% to reduce the current flow restriction.
Lead Agency:	Olathe Storm Water Planning Division
Partners:	Olathe, Kansas Johnson County, Kansas Storm Water Management Advisory Council
Funding Description:	Potential funding in part via Johnson County Storm Water Management Advisory Council
Total Cost:	\$200,000.00
Benefits (Losses Avoided):	Increasing the size of the culvert will eliminate the restriction of the stream flow the resulting water back-up to the up-stream side of Brougham Drive. Reduce future residential flooding due to the water backing up on the up-stream side of the creek.
Completion Date:	To be announced

Olathe-7 All-Hazard Citizen Education	
Issue/Background:	1) Preparing citizens for their role in all-hazard preparedness is paramount to the City's capability to respond to and recover from the hazards we face. Educating Olathe citizens about firework safety, regulations, and alternative activities/events is another safety issue we face each year.
Plan for Implementation and Administration:	1) Continue to produce and distribute the Olathe Safe Neighborhoods Workbook . These are used in Community Emergency Response Team (CERT) training as well as distributed to groups, neighbourhood associations, and the public in general. Help continue to produce mailers for the July 4 th safety campaign as well as do firework safety demonstrations.
Lead Agency:	Olathe Fire Department 1) Emergency Management Division 2) Community Services
Partners:	Olathe Emergency Management, Fire Department Community Risk Division, Police Department, and Municipal Services Department.
Funding Description:	Emergency Management Division's 2009 printing line item is \$1750 regarding the Workbook. Community Service has taken monies out of the Administration division's budget for the campaign. No specific line item in place.
Total Cost:	1) Last cost was \$2,114.01 for 1000 workbooks. We would like to produce 10,000 for distribution at an estimated cost of \$21,140. Last campaign total was \$2,091.74 for distribution to 53,248 citizens.
Benefits (Losses Avoided):	Having more citizens to be prepared for hazardous events
Completion Date:	Olathe FY 2009 from January to December

Olathe-8 Expansion of Olathe Outdoor Warning System	
Issue/Background:	The City of Olathe continues to grow not only in land mass, but in population. The City currently has 34 sirens for our Outdoor Warning System. We have at least six annexation areas that still need to be covered. We, however, have no budget at least in 2008 and at least 2009 to put up any more sirens.
Plan for Implementation and Administration:	Work toward either getting grant dollars to assist with the project or wait and see if 2010 and later budget years will offer any chance for money to expand the Warning System.
Lead Agency:	Olathe Fire Department/Emergency Management Division
Partners:	We cooperate with Johnson County Emergency Management regarding the sounding of the sirens. The County sound the sirens in the appropriate manner (either all or zoned) when National Weather Service issued warnings. The cities are responsible for maintenance and adding sirens for coverage.
Funding Description:	1) Grant, 2) possibly through budget years 1020 or after, and 3) trying to get developers to pay for siren installation. We have tried item 3 to no avail so far through the Planning Department or City Council.
Total Cost:	Approximate estimate \$23,000 per siren for purchase of equipment and installation charges from the vendors and power company. Total cost for six (6) sirens estimated at \$138,000.
Benefits (Losses Avoided):	Protection of lives of people when severe weather producing tornadoes is an imminent threat.
Completion Date:	Prefer to catch up at one time with the 6 areas still needing Outdoor Warning System coverage; otherwise, we will address one area at a time as money becomes available for this project.

Olathe-9 Upgrade computers for the Olathe EOC and DOC.	
Issue/Background:	The City of Olathe houses a free standing facility for the traffic operations center, (TOC). The City Emergency Operations Plan designates the Fire Department Operations Center as the alternate site for the TOC. The program is also utilized in the City Emergency Operations Center as an observation tool for all events. The computer programs that support and operate the video capability in the traffic system exceed the current capability of the main computers in the DOC and the EOC.
Plan for Implementation and Administration:	Purchase and install upgraded computers that are capable of supporting the traffic operations from the EOC and DOC. The City purchasing division oversees compliance of acquisition according to the specified RFP. The I.T. department provides the resources for the installation of the new equipment.
Lead Agency:	City of Olathe I.T. Department
Partners:	Olathe Street Department, Emergency Management, Fire, Police and IT.
Funding Description:	Kansas State Mitigation Grant City of Olathe line item budget
Total Cost:	\$7,000.00
Benefits (Losses Avoided):	Eliminate the risk of complete failure of the existing system. Ensure current response times of emergency equipment during disaster events. Provide the ability to observe weather conditions from multiple sites throughout the City.
Completion Date:	ASAP

Olathe-10 Water Plant 2 chlorine gas retrofit	
Issue/Background:	Water Plant 2 uses chlorine gas to treat our potable water supply. The gas is stored in cylinders (with a capacity of a ton) and is a potential danger to the surrounding area should it rupture. OMS would need to evacuate approximately 600 people in the event of a cylinder rupture. Another means to treat the water exists in sodium hypochlorite, but Plant 2 feed equipment would need to be retrofitted to enable use of this chemical.
Plan for Implementation and Administration:	OMS is in the process of studying the risk from the chlorine gas tanks. One of the outcomes of that study would be ways to mitigate the risks, including switching to sodium hypochlorite. It is estimated that retrofitting the plant would cost around \$250,000.
Lead Agency:	OMS Technical Support and Water Production divisions
Partners:	
Funding Description:	Revenue bonds, grants
Total Cost:	\$250,000
Benefits (Losses Avoided):	Avoids risk of a disaster involving the potential rupture of chlorine gas tanks. The city would have to evacuate residents in the event of a rupture. S – Definitely Yes T – Definitely Yes A – Definitely Yes P – Definitely Yes L – Definitely Yes E – Probably NO E – Maybe Yes
Completion Date:	2010-2011

Olathe-11 New construction of safe rooms for Home Town Santa Barbra Mobile Home Park	
Issue/Background:	The Home Town Santa Barbara sub-division is a mobile home park with a total land area of 82.57 acres. The total number of housing units on the site is 487 with 100% of the units built at grade. The average census/populating in the complex is 1600 people. The original construction date is 1972 and offers no protection from high-wind and tornado events. This mobile home complex has no existing structures on the property for residents to seek shelter and safety from tornado or high wind events.
Plan for Implementation and Administration:	Seek grant funding to construct two free-standing community shelter areas within the sub-division with capacity of 800 people each. Optional implementation ideas: Complete this project in two phases over a two-year period. The result will increase the life safety to the residents by 50% over a two-year period.
Lead Agency:	To be determined
Partners:	None
Funding Description:	KS State Mitigation grant funds only
Total Cost:	\$800,000.00
Benefits (Losses Avoided):	1 – Increase the life safety to the residents from high wind and tornado events. 2 – Reduce the vulnerability of loss of life situations due to high wind and tornado

	events.
Completion Date:	Complete the initial structure 2010

Olathe-12 National Flood Insurance Program	
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Olathe
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City Funds
Total Cost:	n/a
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

OP-1 National Flood Insurance Program	
Issue/Background:	<p>In 1977 the City of Overland Park entered the National Flood Insurance Program (NFIP) and began regulating development and other activities within the FEMA regulated floodplain, in accordance with federal requirements. By participating in this program, properties within Overland Park can obtain flood insurance; in fact properties within the floodplain must obtain flood insurance to qualify for federally insured loans. Chapter 18.360 of the Overland Park Municipal Code (attached) establishes the legal authority for this program. To enhance the City's flood insurance program, in 2008 the City submitted an application to enter the Community Rating System (CRS), which provides flood insurance discounts for all Overland Park citizens. We anticipate entering the program in 2009 or 2010 as a Class 8, thus obtaining a 10% discount in flood insurance premiums for structures within Overland Park.</p> <p>In addition, the City has worked with Johnson County to obtain more detailed and accurate flood studies throughout the City. In 2002 we adopted an updated flood study and the corresponding mapping for Tomahawk Creek. In 2009 new studies and mapping will be adopted for Indian Creek, Turkey Creek, Brush Creek and the Blue River watersheds.</p>
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	Planning and Development Services, City of Overland Park
Partners:	Public Works Departments for Johnson County and the City of Overland Park. Department of Agriculture for the State of Kansas.
Funding Description:	n/a
Total Cost:	n/a
Benefits (Losses Avoided):	Flood risks are reduced.

Completion Date:	Ongoing
-------------------------	---------

OP-2 Acquisition of structures with repetitive flood losses.	
Issue/Background:	There are estimated to be over 400 buildings within the City that are within the FEMA 100-year floodplain. There are an unknown number of additional structures that may flood due to more localized conditions on smaller creeks and drainages. In some cases, provision of an enhanced drainage system is not feasible, due to the costs, environmental concerns, or degree of flood reduction needed. If structures in this situation are at high risk of repetitive flood losses, the most practical alternative may be to acquire the property and demolish or relocate the flood-prone structure. This is a mitigation method that FEMA has promoted and for which designated funding sources often exist. The City's most recent experience with acquisition was in 2001, when 2 structures in the vicinity of 76th and Hayes and one structure at 78th and Kessler were acquired using FEMA HMGP funds.
Plan for Implementation and Administration:	When repetitive loss structures are identified and preliminary engineering shows that traditional flood control options are infeasible, the structures may be considered for buyout. For FEMA mitigation funding, a benefit/cost (b/c) analysis is typically required. If structures were found to meet the b/c ratio, the City may consider submitting them for potential funding. FEMA grant programs typically fund voluntary acquisitions only. Pursuit of individual buyout locations would be initiated by property owners, typically in response to a flooding event. Possible locations for buyout would also be coordinated with the Johnson County Stormwater Management Program, which provides additional funding and technical assistance to communities on flood control projects. In some cases, homes that do not meet the b/c ratio for buyout might be protected from some flood damages through flood-proofing techniques or elevation of structures. Where full acquisition is not cost effective, the City might consider these approaches as alternatives if mitigation funds were available for this purpose.
Lead Agency:	Public Works, Engineering Division
Partners:	Johnson County Stormwater Management (SMAC).
Funding Description:	FEMA mitigation and repetitive loss grants. Johnson County Stormwater Management Program. City funding available from our Stormwater Utility Fund.
Total Cost:	Varies depending on value of property and number of homes. The average single-family residential home price in Overland Park is approximately \$250,000 (land and improvements). Recent experience suggests that demolition and site restoration costs vary between \$15,000 and \$30,000 per home.
Benefits (Losses Avoided):	Eliminates property and content damages for the buildings acquired. Removes people from living or working in and around the flood-prone properties.
Completion Date:	Individual buyout requests would be considered as property owners voluntarily petition, and often in response to individual flooding events. It may take between 6 months and two years for a full buyout project to be completed.

OP-3 Public education of city businesses, home owners and residents and all city staff in Overland Park for disaster preparedness, mitigation and recovery.	
Issue/Background:	Train citizens and businesses in moving away from reactionary to pro-active preparedness in surviving and recovering from disasters. Educating the public on measures to secure/reinforce homes and businesses before a disaster occurs to minimize damages, loss of life and enable a quick economic stability rebound.
Plan for Implementation and Administration:	training programs providing information and education on: 1) Disaster preparedness (safe rooms, life safety precautions, etc) 2) Disaster recovery and mitigation to lessen the economic and functional impact of a disruptive disaster incident 3) Resource and contact information 4) Available City and County programs and assistance Community outreach through the web, mailings, media and other available avenues.

Lead Agency:	Building Safety Division
Partners:	Overland Park Police and Fire Departments, Johnson County Emergency Management and Homeland Security
Funding Description:	FEMA/State Mitigation grants. The City of Overland Park would provide matching funds.
Total Cost:	Approximated \$100,000 – anticipated expenses: evaluation of all current disaster related city education programs - production/printing of training materials and advertising
Benefits (Losses Avoided):	Increase life safety during a disaster, lessen functional impact resulting in a quicker economic rebound
Completion Date:	6 months to a year to prepare materials and train personnel, additional 6 months to promote, schedule and begin training.

OP-4 Flood control projects and storm sewer upgrades.	
Issue/Background:	There are estimated to be over 400 buildings within the City that are within the FEMA 100-year floodplain. There are an unknown number of additional structures that may flood due to localized conditions on smaller creeks and drainages. It is often feasible to improve storm drainage systems serving those areas. The City's policy for considering flood control enhancements is set forth in Resolution #3326. Property owner participation is required, either in the creation of a benefit district or in the donation of easements.
Plan for Implementation and Administration:	The City has standing policies for evaluating and implementing these types of projects. Projects are managed in-house, but typically designed by a consulting engineer and contracted through competitive bid. Whenever possible, we pursue cost-sharing opportunities with Johnson County SMAC. Projects are designed to protect buildings up to the 100-year storm, either through open channels and flood plain modifications (on large creeks) or through a combination of below-ground storm sewers and above ground swales (smaller watersheds). The City budgets approximately \$2.0 to \$3.0 million annually for a combination of these types of projects and major system-maintenance efforts.
Lead Agency:	Public Works, Engineering Division.
Partners:	Johnson County Stormwater Management (SMAC).
Funding Description:	FEMA mitigation and repetitive loss grants. Johnson County Stormwater Management Program. City funding available from our Stormwater Utility Fund. Property owner contributions are often required via benefit districts.
Total Cost:	FEMA mitigation and repetitive loss grants. Johnson County Stormwater Management Program. City funding available from our Stormwater Utility Fund. Property owner contributions are often required via benefit districts.
Benefits (Losses Avoided):	Reduces risk of property and content damage. Reduces risk of street flooding. Improves property values. Often times other general improvements (street condition, curb, sidewalk, lighting) are undertaken in conjunction with storm sewer projects.
Completion Date:	Individual projects are evaluated based on City knowledge and property owner request. It typically takes 2-4 years from initial identification to project completion.

OP-5 Evaluation of critical city facilities for compliance with FEMA 361 (<i>Design and Construction Guidance for Community Shelters</i>) along with nationally recognized design and construction standards for storm shelters, safe rooms and their ability for use as a post-disaster shelter.	
Issue/Background:	The City of Overland Park has listed several critical facilities on our emergency operations plans which need to be evaluated per contemporary standards for use and compliance as community shelters, storm shelters and safe rooms. Once evaluation is completed, upgrade facilities as needed. In addition to FEMA 361, there is a national

	standard published by the International Code Council for design and construction of these facilities.
Plan for Implementation and Administration:	An evaluation team would need to inspect all facilities for compliance with the standard and recognized design practices while ensuring all aspects of life safety and functionality as a shelter is met. The team would submit their report for action by the governing body and if approved, find a funding source. Once funding is secured; upgrades will begin, a design team would be hired, plans submitted, permit issued, construction and then final approval.
Lead Agency:	Public Works Department City Engineer; Facilities Management; Building Safety Division.
Partners:	Potential collaboration with adjacent communities and County emergency management offices.
Funding Description:	FEMA/State mitigation funding. Funds from the City's Capitol Improvement Program.
Total Cost:	\$5,000,000 plus cost to upgrade buildings for shelters.
Benefits (Losses Avoided):	Bringing critical facilities up to FEMA and national standards would greatly enhance Overland Park's ability to assist disaster victims by strengthening these facilities to be disaster resistant and by providing essential shelters.
Completion Date:	5 years

OP-6 Fire Station Safe Room	
Issue/Background:	The KC Metro area is vulnerable to tornados and severe storms that produce damaging wind conditions. Fire station number three does not have a basement or safe refuge area for personnel during a fast moving severe storm.
Plan for Implementation and Administration:	Fire Station number three would be retrofitted with a safe room capable of protecting up to 50 people. The room would be capable of protecting the on-duty crew as well as up to 45 additional people.
Lead Agency:	Fire Department
Partners:	n/a
Funding Description:	City Capital Improvement Project fund. Mitigation Grant funds if available.
Total Cost:	\$150,000
Benefits (Losses Avoided):	Fast moving storms do not allow for relocation of personnel in a timely manner. In-house refuge would provide a safe haven for emergency responders during a severe weather event. The additional capacity allows for protection of civilians caught in a storm and in close proximity to the fire station.
Completion Date:	Unknown

OP-7 Generator Project	
Issue/Background:	The KC Metro area is vulnerable to tornados and severe storms that produce damaging wind conditions. During many of these weather events power is disrupted at critical facilities. The fire administration office and station five do not currently have generators capable of providing backup power for critical functions.
Plan for Implementation and Administration:	The fire administration office and station number five would have generators installed that would be capable of providing power to all critical functions within the building. The generators would have a fuel reservoir capable of 48-72 hours of operating time.
Lead Agency:	Fire Department

Partners:	n/a
Funding Description:	City Capital Improvement Project fund. Mitigation Grant funds if available.
Total Cost:	\$75,000
Benefits (Losses Avoided):	Critical facilities such as a fire station and administration office need to have auxiliary power during severe weather events and disaster situations. Computer and communication systems are an integral part of emergency services that require consistent power sources to be effective.
Completion Date:	Unknown

OP-8 Electronic Plan Review and Recording	
Issue/Background:	Technology is rapidly changing related to building designs particularly with the movement toward Business Information Modeling (BIM) Technology by professional design groups such as AIA, BOMA, ICC, NIBS etc. This type of technology would enhance the enforcement agencies ability to provide more efficient oversight of building construction related to safety codes and the ability to maintain the buildings particularly in disaster prone areas. Also it would provide more efficient record data related to the sustainable life of the building. This in turn would provide emergency responders faster and more accurate information related to building designs and layouts.
Plan for Implementation and Administration:	Contact one of the major software companies that specialize in electronic data systems. Present an overview demonstration to the critical agencies such as Building Safety, Police, Fire, Planning, County Agencies, etc. Develop a needs and preference list. Work with software company to develop program as needed. Find sources of funding. Develop dateline for acquisition and implementation.
Lead Agency:	Building Safety Division
Partners:	Police, Fire, Public Works and Planning
Funding Description:	Police, Fire, Public Works and Planning
Total Cost:	\$500,000
Benefits (Losses Avoided):	More efficient and high quality of reviews and maintenance of building designs. Enhances quality of construction related to disaster resistance. Community would experience less damage and therefore less relief needed if disaster occurred.
Completion Date:	3 years

OP-9 Fire Station Windstorm Damage Mitigation	
Issue/Background:	The Kansas City Metro area is vulnerable to severe weather conditions which produce damaging winds. Fire stations are susceptible to damage from these storms. The weakest points of the structures are apparatus bay doors and large surface area windows.
Plan for Implementation and Administration:	Retrofit four of the five fire stations in Overland Park with wind resistant / energy efficient doors. All large surface area windows would be fitted with storm panels or shutters. Fire station number five is scheduled for replacement in the near future, and would include wind resistant doors as part of the design specifications.
Lead Agency:	Overland Park Fire Department
Partners:	n/a

Funding Description:	City Capital Improvement Project fund. Mitigation Grant funds if available.
Total Cost:	\$350,000
Benefits (Losses Avoided):	Fire stations are part of the City of Overland Park's critical infrastructure. The buildings house personnel and emergency equipment vital to providing emergency services to the community. The installation of the wind resistant doors would increase the survivability of the fire stations during a severe weather event.
Completion Date:	Unknown

PV-1 Underground Utility Cables	
Issue/Background:	In the event of high winds or winter storms the city's aged power lines are susceptible to frequent falling limbs or being pulled from the poles from the weight of ice build-up.
Plan for Implementation and Administration:	Bury utility cables in prioritized locations (Mission Road b/t 63 rd and 83 rd , 75 th Street between State Line and Lamar)
Lead Agency:	Prairie Village's Department of Public Works
Partners:	City of Prairie Village, KCPL, AT&T, Time-Warner
Funding Description:	General Fund, grants
Total Cost:	\$5 Million
Benefits (Losses Avoided):	Utility disruption mitigated
Completion Date:	Planning (15 months) Implementation (6 months)

PV-2 National Flood Insurance Program	
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	Prairie Village
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

Roeland_Pk-1 Back-up generators for City Hall/police Department and city community center	
Issue/Background:	The critical facilities, city Hall/police Department & City Community Center do not have back-up power during emergencies. Both facilities are used for emergency response.
Plan for Implementation and Administration:	Install emergency generators during remodel of City Hall.

Lead Agency:	Roeland Park Police Department
Partners:	Johnson County (operator of community center)
Funding Description:	New Construction Bonds
Total Cost:	\$80,000.00
Benefits (Losses Avoided):	Community center is used as a short term shelter & cooling center. The City Hall is used as an emergency command center.
Completion Date:	Within 4 Years

Roeland_Pk-2	National Flood Insurance Program
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Roeland Park
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

Roeland_Pk-3	Habitable building buyout
Issue/Background:	Habitable buildings are located in the floodplain and/or are subject to flooding.
Plan for Implementation and Administration:	Identify habitable buildings in the floodplain and/or are subject to flooding, prioritize locations, and purchase buildings as funding becomes available.
Lead Agency:	Roeland Park Public Works
Partners:	Johnson County Stormwater Management
Funding Description:	Stormwater Management Program, state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize potential for people to be stranded in flooding buildings and minimize property damage and loss.
Completion Date:	Ongoing

Shawnee-1 Floodplain Management & NFIP	
Issue/Background:	Current minimum federal requirements allow fill in the floodplain and rising of the water surface elevation. The City would also like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	Restrict/eliminate development in the existing and future conditions floodplains and acquire land if necessary.
Lead Agency:	Shawnee Public Works
Partners:	Johnson County Public Works, Kansas DWR
Funding Description:	state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize potential for the creation of future flooding problems, improve water quality, and improve the environment.
Completion Date:	Ongoing

Shawnee-2 Active building code enforcement	
Issue/Background:	Shawnee believes in active code enforcement and follows national standards regarding all building codes. In the past we have adopted, within a reasonable time, all code enhancements as deemed applicable and useful in the City.
Plan for Implementation and Administration:	Shawnee will review all enhancements to building codes on the national level and consider adopting those as appropriate.
Lead Agency:	Public Works
Partners:	Federal government, Kansas Division of Emergency Management
Funding Description:	County funding, federal as identified.
Total Cost:	Unknown
Benefits (Losses Avoided):	Enhanced building codes can mitigate disasters by strengthening buildings and communities so that they can resist the impact of disasters.
Completion Date:	Ongoing

The City of Shawnee will consider the inclusion of tornado safe rooms in all future buildings built by the county or its entities.	
Shawnee-3	
Issue/Background:	Kansas was the highest rated state for tornadoes in 2008 at 168. In addition, the area is often battered by high wind events that cause extensive damage. The City has the ability to review the concept of adding a tornado refuge built to FEMA standards in all new construction because of this issue.
Plan for Implementation and Administration:	The City of Shawnee will review all future building plans and review the ability to add a safe room for citizens and employees in buildings such as libraries, public safety buildings, general use buildings and other buildings as appropriate. Federal funding to assist with the building of the safe room may be sought.
Lead Agency:	Public Works
Partners:	Federal government, Kansas Division of Emergency Management

Funding Description:	County funding, federal as identified.
Total Cost:	Unknown
Benefits (Losses Avoided):	Building safe rooms in public buildings where we have many citizens and employees that gather on a regular basis will save lives.
Completion Date:	Ongoing

Habitable building buyout	
Shawnee-4	
Issue/Background:	Some habitable buildings may be located in the floodplain and/or are subject to flooding.
Plan for Implementation and Administration:	Identify habitable buildings in the floodplain and/or are subject to flooding, prioritize locations, and purchase buildings as funding becomes available.
Lead Agency:	Public Works
Partners:	Johnson County Stormwater Management
Funding Description:	Stormwater Management Program, state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize potential for people to be stranded in flooding buildings and minimize property damage and loss.
Completion Date:	Ongoing

Improve flood hazard areas through the use of conveyance system structural improvement.	
Shawnee-5	
Issue/Background:	Conveyance system structural improvements can be an effective means for flood damage reduction.
Plan for Implementation and Administration:	Prioritize locations where flood damages have/may occur and design/construct improvements as funding becomes available.
Lead Agency:	Public Works
Partners:	County and regional jurisdictions
Funding Description:	Stormwater Management Program, state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize/reduce the potential for loss of life and property damage.
Completion Date:	Ongoing

Shawnee will work mitigate the impacts of a winter storms.	
Shawnee-6	
Issue/Background:	Johnson County experiences many winter storm events each year. These can lead to power outages which impact all levels of our citizenry.
Plan for Implementation and Administration:	The City of Shawnee will work with Johnson County, citizens and businesses to prepare for winter storm impacts including power outages. This will be accomplished

	via web based education campaigns, presentations to citizens, civic groups, businesses, etc., and participation with regional partners on education campaigns.
Lead Agency:	Fire Department
Partners:	Emergency Management, Johnson County agencies, regional partners and & private sector
Funding Description:	State of Kansas, federal sources
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize/reduce the financial and physical impacts of a winter storms.
Completion Date:	Ongoing

Floodwarning System Implementation	
Shawnee-7	
Issue/Background:	Provide the ability to warn residents and the traveling public about potential/actual flooding that threatens people, property and travel.
Plan for Implementation and Administration:	Work with other jurisdictions to build infrastructure for floodwarning system components
Lead Agency:	Public Works
Partners:	All regional cities/counties for site-specific system component design/construction.
Funding Description:	Stormwater Management Program, state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize potential for residents to be stranded in their homes and the potential for the traveling public to drive in to water that is too deep.
Completion Date:	Ongoing

Floodproof buildings	
Shawnee-8	
Issue/Background:	Many buildings are located in the floodplain and/or are subject to flooding. If buyout is not an option, installing/completing floodproofing techniques can minimize the potential for loss of life and property damage.
Plan for Implementation and Administration:	Identify habitable buildings in the floodplain and/or are subject to flooding, prioritize locations, install/complete floodproofing techniques for buildings as funding becomes available if buyout is not an option.
Lead Agency:	Shawnee Public Works
Partners:	Johnson County Public Works
Funding Description:	state and federal agencies
Total Cost:	Unknown
Benefits (Losses Avoided):	Minimize potential for property damage and loss.
Completion Date:	Ongoing

SpringH-1	
Tornado safe rooms in all future city buildings.	
Issue/Background:	Kansas was the highest rated state for tornadoes in 2008 at 168. In addition, the area is often battered by high wind events that cause extensive damage. The city has plans to review the concept of adding a tornado refuge built to FEMA standards in all new construction because of this issue.
Plan for Implementation and Administration:	The City of Spring Hill will review all future building plans and review the ability to add a safe room for citizens and employees in buildings such as libraries, public safety buildings, general use buildings and other buildings as appropriate. They will seek federal funding to assist with the building of the safe room.
Lead Agency:	Spring Hill Planning & Development
Partners:	Federal government, Kansas Division of Emergency Management
Funding Description:	City funding, federal as identified.
Total Cost:	Unknown
Benefits (Losses Avoided):	Building safe rooms in public buildings where we have many citizens and employees that gather on a regular basis will save lives.
Completion Date:	Unknown

SpringH-2	
Continue compliance with NFIP	
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Spring Hill
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

SpringH-3	
Public information distribution after a disaster	
Issue/Background:	Experience has taught city officials that accurate information to the public is vital during and after a disaster event. Understanding that telephone, television and internet services are not always available in many events, establishing a central location for information such as shelters, food banks, waste removal locations, etc. will aid the public and ensure accurate information is distributed. A secondary location would be established in the event the primary location is unavailable.
Plan for Implementation and Administration:	The City of Spring Hill will establish a primary and secondary location to serve as a distribution point for public information. City staff will work to provide as much information as possible on topics specific to the event and have this information readily available in a paper format.

Lead Agency:	Spring Hill Planning Department
Partners:	Various firms such as FEMA, KDEM, food banks, etc. could utilize the information distribution location, depending on the type and magnitude of the event.
Funding Description:	Local funding
Total Cost:	Unknown
Benefits (Losses Avoided):	Accurate and dependable information for the public is vital in an emergency situation. This central information distribution point will also serve to reduce unnecessary contact with city staff and officials who are occupied with many other duties.
Completion Date:	Implemented as needed.

SpringH-4	
Portable generator for City Hall	
Issue/Background:	An electrical power outage to City Hall would reduce our ability to provide public safety and Emergency Management services to the public. Currently City Hall has no source of emergency power and this would provide a back-up to conventional electrical service to the building. As an alternative solution, the installation of a permanent generator would be more desirable, however we currently are in the early planning stages of planning a new facility for City Hall. Should a new building be approved, the need for a permanent generator will be shifted to the new facility.
Plan for Implementation and Administration:	The generator/trailer will be stored at the Public Works Building. Scheduled maintenance and operation will be supervised by the Public Works Director and performed by the city staff. Upon electrical power failure and the building stand-by generator failure, the trailer would be dispatched to the point of need. Connection to the building would be made via a weather-proof service box to support essential functions inside the City Hall building. If a decision is made for a permanent generator then appropriate switch boxes and conversion equipment will be installed.
Lead Agency:	Public Works
Partners:	City Administration
Funding Description:	FEMA, State of Kansas, local capitol improvement budgeting.
Total Cost:	Undetermined
Benefits (Losses Avoided):	A redundant power supply will insure continuity of public services coordinated from City Hall. <ul style="list-style-type: none"> - Avoid losses to data, phone and radio communications - Prevent damage to facilities due to frozen plumbing and fire sprinkler piping etc. - Interior illumination would be maintained for emergency operations
Completion Date:	To be announced

Westwood-1	
Back-up generators for critical facilities	
Issue/Background:	City Hall/Police Dept has no back-up power nor does public works building.
Plan for Implementation and Administration:	Install generators in currently owned buildings – community center located in City Hall Building.
Lead Agency:	Police Department or Public Works
Partners:	None

Funding Description:	State and federal agencies
Total Cost:	\$75,000 - \$100,000
Benefits (Losses Avoided):	The benefit is that City Hall & Police Dept and Public Works can have continued service during disaster events. Otherwise, service to the public is interrupted.
Completion Date:	1-2 years

Westwood-2	Continue Compliance with NFIP
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Westwood
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

Westwood_Hills-1	Continue Compliance with NFIP
Issue/Background:	The City would like to continue to be compliant with the NFIP.
Plan for Implementation and Administration:	This program has been implemented and requires regulation of all construction within the FEMA regulated floodplain.
Lead Agency:	City of Westwood Hills
Partners:	Public Works Departments for Johnson County and the Kansas Department of Agriculture, DWR.
Funding Description:	City funds
Total Cost:	Unknown
Benefits (Losses Avoided):	Flood risks are reduced.
Completion Date:	Ongoing

USD229-1	Blue Valley Schools Safe Rooms
Issue/Background:	Shelter for staff and students during wind storms.
Plan for Implementation and Administration:	Build safe rooms/"hardened" room in school facilities in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters".
Lead Agency:	Blue Valley Safety & Security
Partners:	Johnson County Emergency Management

Funding Description:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Lower risk of loss of life.
Completion Date:	Ongoing as funding becomes available

USD230-1	Spring Hill Schools Safe Rooms
Issue/Background:	Shelter for staff and students during wind storms.
Plan for Implementation and Administration:	Build safe rooms/"hardened" room in school facilities in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters".
Lead Agency:	Spring Hill USD
Partners:	Johnson County Emergency Management, KDEM, FEMA, and school architects
Funding Description:	Bond issues and HMGP
Total Cost:	\$70,000 to \$100,000 per building \$350,000 - \$500,000 total
Benefits (Losses Avoided):	Lower risk of loss of life.
Completion Date:	2014

USD231-1	Severe Weather Refuge Area Improvements Study
Issue/Background:	There are differing levels of space available for refuge areas in each of the nine attendance centers.
Plan for Implementation and Administration:	<ol style="list-style-type: none"> 1. Staff survey of each building's refuge areas 2. Employ design consultants to assist with each site survey 3. Implement list of desired improvements ranked by level of need.
Lead Agency:	USD 231 Director of Operations
Partners:	Johnson County Emergency Management, City of Gardner, and City of Edgerton
Funding Description:	FEMA grants, existing capital revenue, and future school bond revenue
Total Cost:	\$36,000 for thorough study
Benefits (Losses Avoided):	Decrease potential for injury & loss of life due to severe storm damage.
Completion Date:	In progress – complete by 2010

USD231-2	USD 231, will consider the incorporation of tornado safe rooms when designing new school buildings and/or when adding on or remodeling existing buildings.
Issue/Background:	Johnson County averages at least 1 tornado every 2 years. Not all the schools have a "hardened area" for severe weather sheltering.
Plan for Implementation and Administration:	Work with district architects for the safe room to be constructed in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters"

	for new schools, additions to schools, and school renovation projects.
Lead Agency:	School district administration
Partners:	School District's architects & engineers, Johnson County and the municipalities served by USD 231
Funding Description:	75% HMGP and 25% local school district money
Total Cost:	Unknown
Benefits (Losses Avoided):	Immeasurable cost benefit since purpose is to provide a safe shelter for students & staff.
Completion Date:	Unknown

USD232-1	USD 232, De Soto School District will consider the incorporation of tornado safe rooms when designing new school buildings and/or when adding on or remodeling existing buildings.
Issue/Background:	USD 232 is among the cooperating school districts now undertaking a study of tornado safety shelters for KSDE. This action plan shows intent to follow up on this study to provide safe rooms where current shelter areas are lacking.
Plan for Implementation and Administration:	Work with district architects to plan for wind-resistant doors and reinforced shelters in new construction.
Lead Agency:	Crisis Plan Coordinator, Facility Department
Partners:	Johnson County and the municipalities served by USD 232
Funding Description:	HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Lower risk of loss of life.
Completion Date:	Unknown

USD232-2	USD 232, De Soto School District will educate students and/or stakeholders about hazards in the community and opportunities to mitigate those hazards"
Issue/Background:	USD 232 seeks to provide lifelong learning opportunities for all of its patrons and works to make the school a central depository of information. USD 232 has an involved crisis/safety plan that includes educating its students, staff and patrons of possible hazards and steps they can take to protect themselves.
Plan for Implementation and Administration:	Use community school resources to disseminate news and information to students, staff and patrons.
Lead Agency:	Use community school resources to disseminate news and information to students, staff and patrons.
Partners:	Johnson County and the municipalities served by USD 232
Funding Description:	USD 232

Total Cost:	Unknown
Benefits (Losses Avoided):	Decrease potential for injury & loss of life due to severe storm damage.
Completion Date:	Ongoing

USD233-1	USD 233, Olathe School District will consider the incorporation of tornado safe rooms when designing new school buildings and/or when adding on or remodeling existing buildings.
Issue/Background:	Johnson County averages at least 1 tornado every 2 years. None of the Olathe schools have a "hardened area" for severe weather sheltering.
Plan for Implementation and Administration:	Work with district architects for the safe room to be constructed in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters" for new schools, additions to schools, and school renovation projects.
Lead Agency:	School district administration
Partners:	School District's architects & engineers, Johnson County and the municipalities served by USD 233
Funding Description:	75% HMGP and 25% local school district money
Total Cost:	Unknown
Benefits (Losses Avoided):	Immeasurable cost benefit since purpose is to provide a safe shelter for students & staff.
Completion Date:	One to five years

USD233-2	Back-up generators for food production center, central office, and designated jr high for community shelter
Issue/Background:	These three designated facilities are critical to communities' disaster response plans.
Plan for Implementation and Administration:	As new additions and remodeling occurs, new back-up generators should be purchased for these three facilities.
Lead Agency:	School district administration
Partners:	School district architects
Funding Description:	Unknown
Total Cost:	Unknown
Benefits (Losses Avoided):	The benefit would be to maintain critical services to the community during a hazard event.
Completion Date:	One to Five Years

USD512-1	USD 512, Shawnee Mission School District will consider the incorporation of tornado safe rooms when designing new school buildings and/or when adding on or remodeling existing buildings.
Issue/Background:	USD 512 is among the cooperating school districts now undertaking a study of tornado safety shelters for KSDE. This action plan shows intent to follow up on this study to provide safe rooms where current shelter areas are lacking.
Plan for Implementation and Administration:	Work with district architects for the safe room to be constructed in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters".
Lead Agency:	Shawnee Mission Operations & Maintenance Department
Partners:	Johnson County and the municipalities served by USD 512
Funding Description:	Bond and/or capital funds, HMGP
Total Cost:	Unknown
Benefits (Losses Avoided):	Lower risk of loss of life.
Completion Date:	Unknown

KSDeaf-1	All-Hazard Staff & Students Evacuation Plan/Education
Issue/Background:	1. Preparing staff & students for their role in all-hazard preparedness is paramount to the schools capability to respond to and recover from the potential hazards. 2. Educating KSD staff & students about safety, regulations, and alternative work site is another safety issue we could potentially face.
Plan for Implementation and Administration:	1. Continue to produce, update annually and distribute the KSD Crisis Management Handbook. This is used in relation to Olathe emergency response teams training as well as distributed to deaf groups and school associations. 2. Help continue to produce update inserts for the August 1 st start of school all staff in-service.
Lead Agency:	KSD Crisis Management Team and Emergency Management Department
Partners:	Olathe Emergency Management, Olathe Fire Department, Olathe Police Department.
Funding Description:	Crisis Management Team update of annual handbook is \$185 from instructional operational funding. No specific line item in place.
Total Cost:	Last cost was \$185 for 20 handbooks.
Benefits (Losses Avoided):	Having more staff and students better prepared for emergency evacuation due to hazardous events
Completion Date:	KSD FY 2010 from June 2009 to Jul7 2010

JCCC-1	Upgrade new Library & other new buildings with safe rooms
Issue/Background:	Johnson County Community College Campus does not currently have any safe rooms.
Plan for Implementation and Administration:	During the planning, programming, and design of the new Library addition, the architects and engineers will make cost estimates for providing community safe rooms to protect the peak building population. This will be completed in accordance with FEMA publication #361, "Design and Construction Guidance for Community Shelters".

Lead Agency:	Johnson County Community College Police Department and Emergency Preparedness Manager.
Partners:	
Funding Description:	Bonds, Grants, College Budget, Donations
Total Cost:	\$30 million for the new library with a safe room
Benefits (Losses Avoided):	Prevent loss of life and critical infrastructure.
Completion Date:	2008-2012

KUEdwards-1 Update Emergency Management Plan	
Issue/Background:	The current plan needs to be updated.
Plan for Implementation and Administration:	
Lead Agency:	University of Kansas Edwards Campus
Partners:	Johnson County Emergency Management
Funding Description:	Unknown
Total Cost:	Unknown
Benefits (Losses Avoided):	The benefit would be preparedness of the students, staff, and faculty.
Completion Date:	January 2010

KUEdwards-2 Public Education	
Issue/Background:	To provide educational preparedness material to students, staff, and faculty.
Plan for Implementation and Administration:	
Lead Agency:	University of Kansas – Edwards Campus
Partners:	Johnson County Emergency Management
Funding Description:	Unknown
Total Cost:	Unknown
Benefits (Losses Avoided):	The benefit would be preparedness of the students, staff, and faculty.
Completion Date:	January 2010

KUEdwards-3 Future Design of Buildings – Include Safe Room Design	
Issue/Background:	The University of Kansas Edwards Campus does not currently have any safe rooms.
Plan for Implementation and Administration:	All future buildings constructed, will be designed to include safe rooms constructed in accordance with FEMA publication #361, "Design and Construction Guidance for

	Community Shelters”.
Lead Agency:	University of Kansas – Edwards Campus
Partners:	Johnson County Emergency Management
Funding Description:	KDEM, FEMA
Total Cost:	Unknown
Benefits (Losses Avoided):	Lower risk of loss of life.
Completion Date:	Unknown

KUEdwards-4		Mutual Aid Agreement	
Issue/Background:	The University of Kansas Edwards Campus does not currently have any mutual aid agreement with outside response agencies.		
Plan for Implementation and Administration:	Develop mutual aid agreements with nearby response agencies.		
Lead Agency:	University of Kansas – Edwards Campus		
Partners:	Johnson County Emergency Management		
Funding Description:	n/a		
Total Cost:	n/a		
Benefits (Losses Avoided):	To foster a good working relationship with response agencies in the community thus allowing all parties to be better prepared for a hazard that needs assistance on the KC Edwards Campus facility.		
Completion Date:	January 2010		

ConsFD2-1		Replacement of doors at emergency fire protection facility	
Issue/Background:	The existing apparatus bay doors at Consolidated Fire District #2 are slow opening and hazardous to operate particularly during inclement weather.		
Plan for Implementation and Administration:	The plan is to retrofit or replace the existing apparatus bay doors with wind storm resistant, quick opening bi-fold doors.		
Lead Agency:	Consolidated Fire District # 2		
Partners:	None		
Funding Description:	Unknown		
Total Cost:	\$80,000 - \$20,000 (already budgeted) = \$60,000 Needed		
Benefits (Losses Avoided):	The benefit would be a reduction in time delay of emergency fire apparatus during inclement weather.		
Completion Date:	18 months		

FD1-1 Fire Station Windstorm Damage Mitigation	
Issue/Background:	The South West portion of Johnson County is vulnerable to severe weather conditions which produce damaging winds. Fire stations are susceptible to damage from these storms. The weakest points of the structures are apparatus bay doors and large surface area windows.
Plan for Implementation and Administration:	Retrofit the three fire stations within the Fire District with wind resistant / energy efficient doors. All large surface area windows would be fitted with storm panels.
Lead Agency:	Fire District #1 Johnson County
Partners:	
Funding Description:	Budget, Bonds or Mitigation Grant funds if available.
Total Cost:	\$250,000
Benefits (Losses Avoided):	Fire stations are part of a community's critical infrastructure. The buildings house personnel and emergency equipment vital to providing emergency services to the community. The installation of the wind resistant doors would increase the survivability of the fire stations during a severe weather event.
Completion Date:	

FD2-1 Fire Station Windstorm Damage Mitigation	
Issue/Background:	Johnson County is vulnerable to severe weather conditions which produce damaging winds. Fire stations are susceptible to damage from these storms. The weakest points of the structures are apparatus bay doors and large surface area windows.
Plan for Implementation and Administration:	Retrofit the fire stations within the Fire District with wind resistant / energy efficient doors. All large surface area windows would be fitted with storm panels.
Lead Agency:	Fire District #2 Johnson County
Partners:	
Funding Description:	Budget, Bonds or Mitigation Grant funds if available.
Total Cost:	\$250,000
Benefits (Losses Avoided):	Fire stations are part of a community's critical infrastructure. The buildings house personnel and emergency equipment vital to providing emergency services to the community. The installation of the wind resistant doors would increase the survivability of the fire stations during a severe weather event.
Completion Date:	

FD2-2 Purchase Back-up generators	
Issue/Background:	During many severe thunderstorms and ice storms electrical power is lost. This causes a delay of response that may be needed.
Plan for Implementation and Administration:	The plan is to obtain cost share funding from FEMA to purchase two generators for fire station #2 and #3.
Lead Agency:	Johnson County Fire District #2

Partners:	
Funding Description:	Mitigation Grants, capital improvement, and bonds
Total Cost:	Unknown
Benefits (Losses Avoided):	Protection of critical facilities and reduction in response time.
Completion Date:	Unknown

FD3-1	Back-up generators for fire stations
Issue/Background:	During many severe thunderstorms and ice storms electrical power is lost. This causes a delay of response that may be needed.
Plan for Implementation and Administration:	The plan is to obtain cost share funding from FEMA to purchase two or three generators for the fire stations.
Lead Agency:	Johnson County Fire District #3
Partners:	De Soto Fire Department
Funding Description:	Grants, capital improvement, and bonds
Total Cost:	Unknown
Benefits (Losses Avoided):	Protection of critical facilities and reduction in response time.
Completion Date:	2009