

XVI. Mitigation Strategy

How the Goals and Mitigation Actions Were Developed

The goals in this plan were structured to make the plan easier for the local jurisdictions to identify their projects, encourage ownership, and improve implementation. Each jurisdiction has one goal with projects under that goal addressing the hazards that to which that jurisdiction is vulnerable.

Projects in this plan were identified from:

- the history of hazards in the county,
- the probability of future occurrences,
- the vulnerability of key systems and facilities,
- review of other related plans,
- meetings with the elected bodies of each of the incorporated communities and the board of county commissioners, and
- input from the public, and
- input from the LEPC.

While each of the sources in the above list was used, the mitigation actions (projects) under the goals were developed primarily from three sources.

- 1) The consultant and/or county emergency manager met with the elected bodies or each of the jurisdictions to explain the benefits of the plan and the types of projects that were appropriate to incorporate in the plan. Project ideas were generated at these meetings and during follow-up.
- 2) The LEPC and county emergency manager identified projects.
- 3) Projects were identified during the public meeting held in Sundance on February 11, 2013.

Hazards of Most Concern

Based upon the potential for \$184 million in property losses, wildland fire could cause a very expensive natural disaster in the county. Flooding occurs with high frequency and while the incorporated communities currently participate in the National Flood Insurance Program (NFIP), Crook County does not. Drought is a recurring and cyclical hazard in the county. The county also experiences severe summer and winter storms. Hazmat spills occur regularly, but to date have not been significant. Crook County has the potential for a complex, significant hazmat incident in the future. Earth movement is a persistent problem in Crook County with respect to the transportation infrastructure. Other hazards occur less frequently and/or are less likely to produce costly losses or cause loss of life.

Project Costs

Costs for mitigation actions will fall within three ranges low, medium, or high.

Low Cost Projects: from \$0 to \$5000

Medium Cost Projects: from \$5001 to \$50,000

High Cost Projects: Over \$50,000

Project Priorities

Priority rankings of High, Medium, or Low were also assigned. Generally, the jurisdictions will initiate and depending on the complexity, try to accomplish the High priority projects within two years, the time frame for Medium priority projects will be three to four years, and Low priority projects will be accomplished by the five-year anniversary of this plan if feasible. All projects were initially ranked by the coordinator and contractor based on the following criteria. The LEPC then validated the rankings.

- Perceived cost effectiveness and feasibility of obtaining funding,
- Level of risk to life and property posed by hazard which project addresses,
- Reasonableness of project and extent to which it provides a long-term solution, Potential consequences of not implementing,
- Support from the public and elected officials, and
- Compatibility with other plans and policies.

Project Types

A range of types of mitigation actions or projects were identified by the participants in the planning process.

Table 16.1 Project Types

Goal	Project Types
Goal One—Hulett	Preparation, Structural
Goal Two—Moorcroft	Emergency Services, Preparation, Prevention, Natural Resource
Goal Three—Pine Haven	Preparation, Prevention, Emergency Services
Goal Four—Sundance	Prevention, Natural Resources, Structural
Goal Five—Crook County	Education, Emergency Services, Preparation, Prevention, Natural Resources, Structural

Each goal statement below is part of a table giving information about the specific mitigation actions or projects. The first column identifies the hazard or hazards that the project will address. The project tables also identify project priority, cost range, sources for funding, and responsible agencies.

GOAL ONE: Mitigate natural hazards to reduce the potential for property loss or damage, injury and loss of life in the town of Hulett.						
Hazards	Proposed Mitigation Project	Mitigation Project Rank	Responsible Agency for Implementation	Estimated Project Cost	Source of Funding	Benefit/Comments
All	Obtain generator for community building/shelter	High	CCEM	Low	Hulett, CCEM	Prepared to shelter citizens during all types of emergencies. Able to continue with government operations.
All	Improve capability for all-hazard response through airport improvements	Medium	Hulett Airport Board, CCEM	Medium	CCEM, HMP Grant	Ensure town is able to receive supplies and resources during disasters.
Flood	Construct an all-weather bridge to access the wastewater treatment plant	Low	Town of Hulett, CCEM	Medium	HMP Grant, FEMA	Ensure continued operation of critical infrastructure during flooding.



Hulett Town Council



Moorcroft City Council

GOAL TWO: Mitigate natural hazards to reduce the potential for property loss or damage, injury and loss of life in the town of Moorcroft.						
Hazards	Proposed Mitigation Project	Mitigation Project Rank	Responsible Agency for Implementation	Estimated Project Cost	Source of Funding	Benefit/Comments
All	Add siren coverage to include Texas Trails area of town	High	Moorcroft, CCEM	Low	Moorcroft, CCEM	Citizens can be warned during tornadoes and other weather events. Prevent loss of life.
All	Establish an emergency shelter	Medium	CCEM, Red Cross	Medium	Moorcroft, CCEM	Prepare to shelter citizens and visitors during all types of disasters.
HazMat	Conduct a planning exercise for a RR hazmat incident in town	High	CCEM, LEPC	Low	CCEM	Be prepared for railroad hazmat incident. Exercise county HazMat Response Plan.
HazMat	Prepare an evacuation plan for the town	Medium	Moorcroft, CCEM	Medium	Moorcroft, CCEM	Be prepared for railroad hazmat incident. Prevent loss of life.
Flood	Address stormwater system capacity issues	Medium	Moorcroft	High	Moorcroft, HMP Grant	Protect critical infrastructure and private property during flooding.
Tornado/All	Re-purpose old school into a tornado and evacuation shelter	Medium	Moorcroft, CCEM	Medium	Moorcroft, CCEM	Prepare to shelter citizens and visitors during all types of disasters.

GOAL THREE: Mitigate natural hazards to reduce the potential for property loss or damage, injury and loss of life in the town of Pine Haven.

Hazards	Proposed Mitigation Project	Mitigation Project Rank (High, Medium, Low)	Responsible Agency for Implementation	Estimated Project Cost	Source of Funding	Benefit/Comments
Wildland Fire, Flood, Winter Storm	Work with town to obtain easements for second ingress/egress route to the community	High	Pine Haven, CCEM	Medium	CCEM HMP Grant	Provide egress for citizens and ingress for fire apparatus. Save lives, save property.



Pine Haven Town Council

GOAL FOUR: Mitigate natural hazards to reduce the potential for property loss or damage, injury and loss of life in the city of Sundance.

Hazards	Proposed Mitigation Project	Mitigation Project Rank	Responsible Agency for Implementation	Estimated Project Cost	Source of Funding	Benefit/Comments
Flood	Design and build new dam on Sundance Pond/Reservoir	High	Sundance, CCEM	High	HMP Grant	Address existing known hazard. Protect life and property in Sundance from flooding.

GOAL FIVE: Mitigate natural hazards to reduce the potential for property loss or damage, injury and loss of life in Crook County.

Hazards	Proposed Mitigation Project	Mitigation Project Rank	Responsible Agency for Implementation	Estimated Project Cost	Source of Funding	Benefit/Comments
All	Develop notification system for rural areas.	High	CCEM	High	CCEM	Prevent loss of life in rural areas of the county by warning residents.
All	Determine the number of people potentially needing shelter from an event. Obtain supplies.	Medium	CCEM, LEPC	Low	CCEM, LEPC	Be prepared to effectively shelter citizens.
All	Identify and prepare one or more facilities to shelter pets.	Medium	CCEM, LEPC	Medium	CCEM	Be prepared to shelter domestic pets, reduce stress on citizens in shelters.
All	Educate citizens on preparing to put pets in shelter.	Low	CCEM, LEPC	Low	CCEM	Be prepared to shelter domestic pets, reduce stress on citizens in shelters.
All	Increase awareness of accessing information during a disaster through social media	Medium	CCEM, LEPC	Low	CCEM	Better prepare citizens for what to do during a disaster. Prevent injury and loss of life.
Flood	Replace Arizona style creek crossings at Spring, Arch Creek and the Little Missouri River.	Medium	CC Road and Bridge	High	HMP Grant FEMA	Provide egress and ingress to families who use these crossings for access. Reduce potential for loss of life. Reduce risk exposure for county.
Flood	Enroll the county in the National Flood Insurance Program (NFIP)	High	CCEM, County Commissioners	Low	CCEM	Provide opportunity for citizens in county to purchase flood insurance. Protect property and lives from flooding.

Flood	Install a stream flow gauge on the Belle Fourche River above Hulett	Medium	CCEM, NRCS	Low	CCEM, NRCS	Provide mechanism to monitor and warn town of Hulett during flooding of the Belle Fourche River.
Hazmat	Conduct annual table top exercise as per Hazard Materials Response Plan	Medium	CCEM, LEPC	Low	CCEM, LEPC	Responders and others are familiar with requirements of an effective response and contents of county plan.
Hazmat	Construct fire station at Oshoto to specialize in hazardous material response	Medium	CC Fire	High	CCEM CC Fire	Be prepared to quickly contain a spill or release from uranium incident with extremely hazardous materials. Prevent injury and loss of life.
Hazmat	Conduct a Hazardous Materials Commodity Flow Study for the county	Medium	CCEM	Medium	CCEM HMP Grant	Gather information to train for situations with actual hazmat substances present in county. Prevent injury and loss of life.
Hazmat	Work with public health to put on training session on radiological and bioterrorism response	Low	CCEM, CC Public Health	Low	CCEM, LEPC	Be prepared to respond to a radiological or bioterrorism. Prevent injury and loss of life.
Hazmat	Educate first responders about air quality hazards from mine activities.	Low	LEPC, Mines	Low	CCEM	Prevent injury and loss of life.
Tornado	Retrofit Alladin community building as tornado shelter	Medium	CCEM	Low	CCEM	Be prepared to shelter citizens during all types of natural disasters.
Wildland Fire	Continue cooperation with WYDF and FS to treat mountain pine beetle stands	High	CCEM CC Fire	Medium	Wyoming State Forestry	Reduce wildland fire hazard to property and lives. Obtain economic benefits from timber harvest.
Wildland Fire	Offer workshops to rural landowners on protecting property from wildland fire	High	CC Fire	Medium	WYD Forestry Grant	Reduce wildland fire hazard to property and lives.



February 2013 LEPC Meeting Participants

Reducing Effects of Hazards on Existing Buildings and Infrastructure

Each of the jurisdictions has one or more projects that will potentially reduce the effects of hazards on existing buildings and infrastructure. These projects include an all-weather bridge (Hulett), addressing stormwater system capacity and flooding (Moorcroft), easements and a ingress/egress (Pine Haven), replacing the existing dam (Sundance), replacing three Arizona style river crossings (County), enrolling Crook County in the NFIP (County), constructing a new specialized hazmant fire station (County), supporting forest treatment of mountain pine beetle (County), and offering workshops on fire protection to rural land owners (County.)

Reducing Effects of Hazards on New Buildings and Infrastructure

The majority of the above mentioned projects will also reduce the potential for effects of hazards on new buildings and infrastructure. There are no specific projects to address only new construction.

Project Selection and Implementation

Some of the projects identified above are already underway and on-going. The jurisdictions will need to revisit and determine the priority of the identified mitigation actions for their jurisdictions on an annual basis in light of the available resources

Each spring beginning in 2014 prior to the annual budget setting, the Crook County Emergency Manager will contact the mayors of Hulett, Moorcroft, and Pine Haven, and the chair of the Board of County Commissioners by letter or appearance at a regularly-scheduled meeting. The purpose of the contacts will be to update the elected officials on projects in the plan, request the local jurisdictions' project priorities for the coming year, and determine any support needed from Crook County Emergency Management. The county can assist in applying for grant funds, and obtaining information, training, and technical expertise. Projects will be undertaken and accomplished as resources are available. Resources include such things as funding, staff time, and technical expertise.

Use of Cost-Benefit Analysis

The county can also make available information regarding the STAPLEE method for evaluating and prioritizing mitigation actions. The method looks at social, technical, administrative, political, legal, economic, and environmental aspects of projects to weigh pros and cons of implementing specific projects. Information on this analysis method can be found in FEMA's *Developing the Mitigation Plan* (FEMA 386-3). The jurisdictions will need to consider compatibility with goals and objectives in the state's plan, compatibility with goals in this plan, impacts of the project on other jurisdictions, costs and benefits, funding priorities, and compatibility with other plans and programs when selecting projects to implement.