

Proposal for

Papio-Missouri River Natural Resources District Multi-Jurisdictional Multi-Hazard Mitigation Plan Update

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Submitted to Papio-Missouri River Natural Resources District

Prepared by

AMEC Environment & Infrastructure, Inc.



Multi-jurisdictional Hazard Mitigation Plan (Update) Scope of Services Proposal for Papio-Missouri River Natural Resources District

Contents

Contents	1
Identification Information	2
Basic Qualifications/Experience	
Summary of Services	
Planning Process Approach	
Proposed Schedule and Timeline	18
Products Delivered and Services (Deliverables)	
Project Team and Qualifications	21
References	



AMEC Environment & Infrastructure Inc. (**AMEC**) is pleased to present our qualifications to the Papio-Missouri River Natural Resources District for consideration to prepare the *Papio-Missouri River Natural Resources District Multi-jurisdictional Hazard Mitigation Plan* (Update) in accordance with the Disaster Mitigation Act (DMA) of 2000.

Identification Information

Office Location

The proposed project will be managed out of our Topeka, Kansas office. Ms. Susan Belt will act as the Project Manager and as the direct point of contact with Papio-Missouri River Natural Resources District officials and the Ad Hoc Subcommittee of the District's Board of Directors

Contact information for the proposed Project Manager is listed below:

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Corporate Structure

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AMEC Environment & Infrastructure Inc., is a fully-owned subsidiary of AMEC plc, a large corporation, traded on the London Stock Exchange where the company is listed in the Support Services sector (LSE: AMEC.L).

AMEC is one of the largest environmental, engineering and construction program management services firms in the world. AMEC employs over 27,000 staff in 30 countries and realizes over \$4.7B in annual revenue. As part of our services tradition, AMEC is unequaled in terms of responsiveness to our clients. AMEC has an established track record with over 50 years of experience. AMEC operations offer full environmental consulting services to clients in North America and internationally. AMEC has 221 locations in North America with over 13,000 personnel. AMEC is a leading provider in the U.S. of flood-hazard identification and mapping, multi-hazard mitigation, and post disaster recovery services to state and local governments and Federal Emergency Management Agency (FEMA). In addition to FEMA Region VII, AMEC also provides FEMA map modernization services for cooperating technical state partners in Iowa, Alabama, Indiana, Kansas, Kentucky, Missouri, North Carolina, North Dakota, South Dakota and Utah.

AMEC Earth & Environmental, Inc. was established as a formal business entity in 2000. The AMEC name was introduced in 1982, at the time of the merger of Fairclough Construction and William Press groups, when over 30 separate operating companies were combined to create an international engineering, construction and development group; this collective company has over 45 years experience within these arenas.



In 2000, AMEC merged with Ogden Environmental & Energy Services, Inc. (est. 1953), and AGRA Inc. in North America. It is noted that AMEC's experience with the NGB, dating back to 1994, came to AMEC from Ogden Environmental & Energy Services, Inc. AMEC's current Army, ARNG, and ANG Program Managers were all prior Ogden employees responsible for the successful management of this important AMEC client over this time through the present.

AMEC's Topeka, Kansas office was opened in 2004 to specifically serve the State of Kansas Division of Water Resources upon our award of the previous On-Call Floodplain Mapping Contract. This office has experienced accelerated growth since opening, growing from one person in 2004 to twenty presently, including engineers, mitigation planners, and GIS mapping professionals.

In 2012, the AMEC Earth & Environmental, Inc. name changed to AMEC Environment & Infrastructure, Inc. to more closely reflect our core business. AMEC Environment & Infrastructure, Inc. is registered to do business in all 50 U.S. States, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands and the Northern Marinas Islands.

The principal of the firm is Thomas J Logan, PE, President AMEC Environment & Infrastructure Americas. Mr. Logan is registered as a Professional Civil Engineer in California and Florida, and as a Professional Geotechnical Engineer in California. The Engineering Section Manager in the Topeka Kansas Office, Larry Sample (E-11949) and Topeka Office Water Resources Engineer Joe File (E-12740) are both maintain Professional Engineer registrations in Nebraska among other states.

The map below depicts AMEC's geographic reach in the U.S.





Basic Qualifications/Experience

AMEC has unsurpassed qualifications and capabilities to complete FEMA-approved mitigation plans and plan updates. AMEC has successfully completed many Hazard Mitigation Plans in the past in Region VII and across the country. AMEC staff closely monitors changes in requirements and guidance to ensure that our processes are updated as needed. FEMA Region VII, on occasion is asked for a copy of a "good" plan. Frequently the plan supplied is one completed with planning services provided by AMEC.

AMEC's Topeka staff has had extensive experience applying the requirements of the DMA 2000 implementing regulations and guidance documents. The basic requirements for a local mitigation plan and any updates are described in 44 CFR 201.6 as well as supplemental FEMA guidance, including the March 2013 Local Hazard Mitigation Planning Handbook and the March 2012 Local Mitigation Plan Review Guide and companion Local Mitigation Plan Review Tool.

AMEC personnel are flexible and available as needed for you. If it is best for the Hazard Mitigation Planning Committee (HMPC) to meet in the evenings or on weekends, AMEC will be available to facilitate the meetings. AMEC staff is available to you via in person, phone, email, and webcam.

The following is a selection of state and local hazard mitigation plans in progress and completed by the AMEC Topeka office for clients specifically located in FEMA Region VII states.

Project	Number of Participating Jurisdictions	Primary Hazards, Unique Services	Status
Papio-Missouri River Natural Resources District, Omaha, NE in cooperation with Olsson Associates	Approx.35	AMEC developed Risk Assessment Includes 6 Planning Counties (Douglas, Sarpy, Washington, Burt, Thurston, & Dakota, NE) Natural & human-caused hazards	FEMA Approved
State of Missouri	1	Flood, earthquake, tornadoHAZUS flood runs for every countyEnhanced planPlan update	FEMA Approved in 2007
State of Missouri – 3 Year Update of Enhanced Plan	1	Plan Update Enhanced plan	FEMA Approved in 2010
State of Kansas	1	Natural and human-caused hazardsTornado, flood, winter stormPlan update	FEMA Approved in 2007
State of Kansas	1	Plan update Includes new analysis of State owned & operated facilities Includes enhanced roll-up of local plans	FEMA Approved in 2013
Madison County, IA	12	Plan update Natural and human-caused hazards	In Progress



Project	Number of Participating Jurisdictions	Primary Hazards, Unique Services	Status
Cedar County, IA	15	Plan update Natural and some man-made hazards	In Progress
Dallas County, IA	26	Natural hazards	FEMA Approved
Story County, IA	23	Plan Update Natural and man-made hazards	FEMA Approved
Polk County, IA	26	Plan UpdateNatural and man-made hazards	FEMA Approved
Allen County, KS	10	Natural hazards	FEMA Approved
Chautauqua County, KS	8	Natural hazards	FEMA Approved
Crawford County, KS	39	Natural hazards	FEMA Approved
Dickinson County, KS	15	Natural hazards	FEMA Approved
Douglas County, KS	17	Natural hazards	FEMA Approved
Elk County, KS	9	Natural hazardsRural Electric Cooperatives included in Mitigation Strategy	FEMA Approved
Harper County, KS	11	Natural hazards	FEMA Approved
Johnson County, KS	34	 Natural and human-caused hazards Most populated County in the State and included in Kansas City metropolitan area. 	FEMA Approved
Kickapoo Tribe, KS	1	Tribal mitigation planComplied with Federal Tribal Regulations	FEMA Approved
Kingman County, KS	8	Natural hazards	FEMA Approved
Kiowa County, KS	6	· 2007 Greensburg tornado	FEMA Approved
Labette County, KS	13	 Natural hazards Affected by 2007 floods Rural Electric Cooperatives included in Mitigation Strategy 	FEMA Approved
Montgomery County, KS	24	Natural hazards Affected by 2007 floods Rural Electric Cooperatives included in Mitigation Strategy	FEMA Approved
Neosho County, KS	10	 Natural hazards Affected by 2007 floods Rural Electric Cooperatives included in Mitigation Strategy 	FEMA Approved
Osage County, KS	16	Natural hazards	FEMA Approved
Osborne County, KS	9	Natural hazards	FEMA Approved



Project	Number of Participating Jurisdictions	Primary Hazards, Unique Services	Status
Reno County, KS	22	Natural and human-caused hazards	FEMA Approved
Rush County, KS	12	Natural hazards	FEMA Approved
Stanton County, KS	6	Natural hazards	FEMA Approved
Sumner County, KS	14	Natural hazards	FEMA Approved
Wichita County, KS	3	Natural hazards	FEMA Approved
Wilson County, KS	6	Natural hazards	FEMA Approved
Woodson County, KS	10	Natural hazards	FEMA Approved
Wyandotte County, KS	24	Natural & human-caused hazards Included in Kansas City metropolitan area	FEMA Approved

Nebraska Specific Experience:

In particular, AMEC's Topeka office was involved in the preparation of the current Papio-Missouri River Natural Resources District plan. AMEC staff members, the same staff members currently designated to assist with this project, completed the Risk Assessment portion of the plan as part of a partnership with Olsson Associates. AMEC staff also assisted Olsson staff with completion of some Benefit Cost Analyses and provided support and technical assistance with FEMA crosswalk elements.

In addition to the Papio-Missouri River Natural Resources District Hazard Mitigation Plan Risk Assessment, AMEC has provided services for the following in Nebraska:

- 2012 Nebraska Energy Assurance Plan, Nebraska Energy Office
- Observers with Nebraska Energy Office at the TERREX 2010 Functional Exercise of the State Energy Assurance Plan in cooperation with Nebraska Emergency Management Agency
- Saline County Digital Flood Insurance Rate Map, FEMA
- Coordinated Needs Management Strategy, Papio-Missouri River Natural Resources District

Below is a chart listing the number of times that submitted plans were returned by FEMA as needing additional information to be "approved pending adoption". Please note that all of the plans listed below were completed by Topeka Office Staff. Although it is generally considered unusual to have plans passed on initial submission to FEMA, it is routine for AMEC plans. Of those returned, most revisions were completed in less than one week's time, with FEMA approval provided shortly thereafter.



	Number of Times Returned by	
Project	State	Number of Times Returned by FEMA
Papio- Missouri River NRD Risk Assessment – Nebraska	0	Passed on initial submission
State of Kansas Standard State Mitigation Plan 2013 Update	0	Passed on initial submission
State of Missouri Enhanced State Mitigation Plan 2010 Update	0	Passed on initial submission
Polk County Iowa	0	Passed on initial submission
Dallas County Iowa	0	Passed on initial submission
Story County Iowa	0	1-add structure types for repetitive loss structures and specific responsible department for 5 actions
Chautauqua County Kansas	0	1 – add'l information regarding areas protected by high hazard dams
Elk County Kansas	0	Passed on initial submission
Johnson County Kansas	0	Passed on initial submission
Kickapoo Tribal Plan	0	1 – planning area definition for tribal owned landmass
Labette County Kansas	0	Passed on initial submission
Montgomery County Kansas	0	1 –add'l info regarding levee protected areas
Neosho County Kansas	0	Passed on initial submission
Osage County Kansas	0	Passed on initial submission
Osborne County Kansas	0	Passed on initial submission
Reno County Kansas	0	Passed on initial submission
Rush County Kansas	0	Passed on initial submission
Woodson County Kansas	0	Passed on initial submission
Wyandotte County Kansas	0	Passed on initial submission

Summary of Services

AMEC will complete a Multi-jurisdictional Hazard Mitigation Plan Update for Papio-Missouri River Natural Resources District that is in accordance with DMA 2000. This includes meeting all the required elements as described in FEMA's Review Tool and approval by the State of Nebraska and FEMA Region VII. It is clearly understood that the completed plan must meet all DMA 2000 requirements in order to be an "approved" plan. It is further understood that the scope of work for this plan update must be complete, by July 2016 to include sufficient time for plan adoption, on or before the existing plan's expiration date.

AMEC will complete a thorough review of all chapters of the current *Papio-Missouri River Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan* and FEMA's comments provided on the crosswalk review tool concerning that plan. These will serve as a basis of information to build upon for the Plan Update.

AMEC's role will be to assist Papio-Missouri River Natural Resources District with:



- Establishing the Hazard Mitigation Planning Committee (HMPC) as defined by DMA 2000 implementing regulations and guidance. AMEC will provide recommendations as to the makeup of the committee as well as the requirements of plan participation.
- Facilitation of the on-site planning meetings (up to 10 total).
- Assisting the HMPC participants with completing the data collection guides to meet the
 regulatory requirements concerning the jurisdiction's vulnerability to the hazards and their
 jurisdiction's capabilities.
- Collecting and responding to public input. AMEC has devised many methods and template forms for collecting public input, successful examples include: on-line surveys, websites, paper survey forms, public meetings, etc.
- Producing the draft and final plan documents. AMEC will provide drafts of the plan update to the HMPC at intervals throughout the process, and final documents in formats requested by Papio-Missouri River Natural Resources District, state and federal officials.
- Assisting HMPC participants with the update to the plan's mitigation strategy, including status
 of previous actions, and implementation details and prioritization for new and continuing
 actions.
- Ensuring the developed plan meets the DMA requirements as established by federal regulations and following FEMA's planning guidance. AMEC will coordinate with the State of Nebraska and FEMA reviews. AMEC will coordinate submittal of the plan document along with a completed Local Mitigation Plan Review Tool detailing the location of elements required to assure an "approved pending adoption" status from FEMA.
- Providing template documents related to local adoption of the completed plan.

Planning Process Approach

AMEC's approach to the planning process is structured around FEMA's four-phase guidance for developing a hazard mitigation plan: 1) organize resources, 2) assess hazards and risks, 3) develop a mitigation plan, and 4) evaluate the plan. AMEC integrates the 9 Planning Tasks identified in FEMA's March 2013 Local Mitigation Planning Handbook into these four phases. The planning tasks are also consistent with FEMA's Flood Mitigation Assistance (FMA) and Community Rating System (CRS) planning process, and thus positions communities undertaking mitigation planning to take advantage of these other programs sometime in the future.

AMEC recognizes the importance of assuring that jurisdictional representatives are in attendance at meetings and of public information distribution as it relates to the 2013 Community Rating System Coordinator's Manual and makes every effort to assure that our processes allow communities to take advantage of the point system and planning practices.

AMEC proposes to complete the four phases of the Hazard Mitigation Planning process utilizing three on-site meetings with the HMPC in each of three locations within the district for a total of 9 planning meetings. An on-site Initial Client Meeting with AMEC is also suggested between AMEC and Papio-Missouri River Natural Resources District officials to discuss the framework and additional details at the beginning of the process. The proposed approach has been very successful in the past to efficiently use planning committee member's time as well as accomplish all of the required elements of the plan update process. The condensed number of meetings allows a larger



number of persons from each jurisdiction to attend the entire series of meetings. This provides continuity to the process and facilitates a comprehensive multi-jurisdictional approach to develop the plan update.

Specific agendas will be individually tailored to the specifics of the *Papio-Missouri River Natural Resources District Multi-jurisdictional Hazard Mitigation Plan* Update and would be modified to discuss any important issues related to either the data being collected or the mitigation plan itself. Sample agendas for the optional Initial Client Meeting and the HMPC meetings are included below.

Initial Client Meeting

Planning Process
Risk Assessment/Format
Flood Risk Assessment Method
Public Notification Strategy
Politics/Sensitive Issues
Contract
Final Plan Document Delivery

Meeting #1

Introductions
Hazard Mitigation Planning Purpose
Grant Programs Linked to Approved Plan
Hazard Mitigation Planning Requirements
Public Involvement
Data Collection Guides
Discussion/Prioritization of Hazards
Next Steps in the Planning Process

Meeting #2

Introductions

Review Planning Participation Requirements / Status

Review / Validate Critical Facilities

Results of District-wide Risk Assessment including Discuss Comments, Corrections, Questions

Determine Mitigation Goals

Discuss Mitigation Actions

Public Opinion Questionnaires

Next Steps in the Planning Process

Meeting #3

Review Purpose /Requirements
Status of Draft Plan
Review Plan Goals
Develop Mitigation Actions /Discuss Prioritization of Mitigation Actions
Hazard Mitigation Grant Assistance
Plan Maintenance Strategy
Next Steps



The remainder of this section outlines AMEC's detailed proposed approach within the FEMA 4-phase, 9-task planning process. Information regarding completion of the Benefit Cost Analysis Studies for no more than 15 planning projects is included at the end of this section.

Phase I: Organize Resources

Tasks 1 & 2: Determine the Planning Area and Resources and Build the Planning Team:

AMEC will provide recommendations as to the make-up of the HMPC to develop the plan as defined by the DMA. The HMPC will be comprised of representatives from each "official plan jurisdiction" as well as supporting stakeholder representatives. "Official plan jurisdictions" will include, but not be limited to the following: (1) Papio-Missouri River Natural Resources District, (2) Incorporated cities in the District, (3) Villages, (4) Public school districts and (5) Universities.

If they elect to participate, the "official plan jurisdictions" must:

- Designate a representative to serve on the Papio-Missouri River Natural Resources District Hazard Mitigation Planning Committee, which will meet three times during the planning process,
- Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact their jurisdiction,
- Provide data to describe current capabilities,
- Develop/update mitigation actions (at least one) specific to their jurisdiction,
- Provide comments on plan drafts as requested,
- Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan, and
- Formally adopt the mitigation plan.

Other representatives, including state and federal agencies, will be asked to join the HMPC as necessary or will be included in stakeholder interviews. Likely federal candidates include FEMA, the National Weather Service, the U.S. Army Corps of Engineers, the Natural Resources Conservation Service, and the U.S. Department of Agriculture. State agency candidates include the State of Nebraska Emergency Management Agency, Nebraska Department of Natural Resources, Nebraska State Climate Office, Departments of Commerce, Economic Development, Health, Transportation, Agriculture, and Public Service Commission. Other stakeholders such as representatives from adjacent jurisdictions, business partners and private non-profit representatives will also be contacted.

AMEC will conduct an onsite project kickoff meeting and facilitate the formation of this HMPC for Papio-Missouri River Natural Resources District. Elected officials and public representatives will also be invited to participate. Once the nucleus of the HMPC first meets, it may be determined that additional representatives should be invited.



AMEC will facilitate the first meeting of the HMPC and present information on DMA requirements, participation requirements of HMPC members, and the proposed project work plan and schedule. A plan for public involvement (Task 3) and coordination with other agencies and departments will also be discussed at this initial meeting, especially regarding external agencies, such as state and federal agencies that may have significant interests (property, critical assets and infrastructure) in Papio-Missouri River Natural Resources District or that have information to help support the planning process.

AMEC will also collect relevant background documents, such as Papio-Missouri River RND, county and city GIS data, Comprehensive and Long-Range Planning Plans, Emergency Operations Plans, Flood Insurance Studies and Dam Emergency Action Plans, early on in the process to assess the best existing data sources and community capabilities. These documents will also be used throughout the planning process to conduct the risk assessment and to assess existing hazard mitigation capabilities.

Task 3: Create an Outreach Strategy

Prior to the beginning of the planning process, AMEC will coordinate with Papio-Missouri River Natural Resources District officials to assure that the public is invited to participate in the planning process. The general public will be notified of planning committee meetings and invited to attend or provide input throughout the planning process. Distribution of the agenda of the planning committee meetings will be coordinated with Papio-Missouri River Natural Resources District officials so that agendas and other materials can be posted in conspicuous places, such as City Halls, Public Libraries, Schools, etc., prior to meetings. Agendas will also be placed on websites as appropriate. AMEC will complete and distribute meeting minutes that will be distributed to members of the HMPC. These minutes will also be made available to the public via websites and local community postings. Surrounding communities will be notified and invited to participate on the planning committee and to provide input throughout the planning process.

As part of the kickoff meeting for the plan update, the HMPC will discuss and determine how to meet the DMA planning requirements for public involvement during the plan update process. The regulations require two opportunities for the public to have an opportunity to comment during the planning process:

- 1) During the drafting stage;
- 2) Prior to plan approval.

Based on the HMPC discussion, AMEC will draft a public outreach strategy outlining the involvement of a wide range of federal, state, and local stakeholders and neighboring communities. The outreach strategy will describe how different stakeholders will be involved in the planning process, including the general public.

Public Opportunity for Comment during the Drafting Stage

The public comment during the drafting stage can be accomplished utilizing various methods such as public meetings, plan information at public events such as festivals or fairs, or public surveys. Previous experience has shown that public meetings to discuss hazard mitigation planning are generally not well attended. The most effective means that has historically resulted in the largest public response is an online survey. This typically consists of a press release in media outlets



providing the online survey link as well as hard copy surveys in public locations such as libraries and city halls. AMEC will develop any online surveys and press releases necessary to accomplish the notification to the public. AMEC maintains a subscription to SurveyMonkey online survey development and collection tool. If this is chosen as part of the public outreach strategy, there will be no additional cost to the Papio-Missouri River Natural Resources District for the online subscription fee. Participating jurisdictions will be encouraged to publish the press release in all media outlets available to them, such as newsletters, local websites, mass mailings such as utility bill stuffers, etc. All methods used will be documented in the planning process chapter.

Public Opportunity for Comment Prior to Plan Approval

The public comment opportunity prior to plan approval generally consists of providing the final draft of the entire plan document for public review and comment. The comment period should be open for at least 1 week and is typically set for 2 weeks. Similar to the comment period during the drafting stage, AMEC will draft a press release to be provided to local media outlets providing the location of the final draft document for public review. If possible, AMEC recommends the Natural Resources District post PDFs of the plan chapters on their website. If this is not possible, AMEC will provide a link to a box.com site for the public to access the plan document. Hard copies of the plan will also be made available for at least two locations for those members of the public that do not utilize the internet.

Task 4: Review Community Capabilities

At the Kickoff Meeting, AMEC will provide a customized data collection guide to each of the HMPC members to assist the team in collection of required updated data. This unique AMEC tool facilitates the collection of data, documents participation, and serves as a reference document during the planning process. There will be two customized guides distributed - one for municipalities and one for school districts and universities. AMEC believes that using two unique data collection guides allows for more concise information to be collected by the participating jurisdiction.

By collecting information about existing government programs, policies, regulations, ordinances, and emergency plans, the HMPC can assess those activities and measures already in place that mitigate risk to disasters. Examples of common capabilities include:

- County comprehensive plan and local ordinances addressing natural hazards,
- Flood insurance policies,
- Warning systems,
- Local building codes,
- Stormwater management and sediment/erosion control regulations,
- Emergency response plans and mutual aid agreements,
- Dam safety and levee inspection/maintenance programs,
- Public education and awareness programs, and
- Other county plans related to infrastructure and land use that provide opportunities for multiobjective planning.

The Capability Assessment data will be presented in the plan along with community profile information for each jurisdiction. The community profile data will include:



- Population statistics and trends
- Housing statistics and trends
- Economic Development and trends
- Geography
- Topography
- Climate

The <u>Planning Process</u> Chapter of the plan will describe all of the required elements necessary for the plan to receive FEMA approval for this element. All planning process documentation such as sign-in sheets, meeting minutes, public notices, etc. will be complied by AMEC in an appendix to the plan.

Phase II: Assess Hazards and Risk

Task 5: Conduct a Risk Assessment

AMEC will assist the HMPC in collecting and updating information about past hazard events in the planning area. This proposal includes analysis of all natural and man-made hazards included in the current Nebraska State Hazard Mitigation Plan (2014). The hazards could include the following natural and man-made hazards in the 2014 Nebraska State Hazard Mitigation Plan and other hazards identified by the committee:

- Agricultural Incidents Animal
- Agricultural Incidents Plants / Crops
- Chemical Transportation
- Dam/Levee Failure
- Drought
- Earthquake
- Flood / Flash Flood
- Power Failure

- Severe Winter Storm / Ice Storm
- Terrorism
- Thunderstorm/Lightning/Hail/High Winds
- Tornado
- Wildfires

The Hazard Identification section of the plan will present data describing the following:

- FEMA Presidential disaster declarations that included jurisdictions within the Papio-Missouri River Natural Resources District;
- USDA Presidential & Secretarial disaster declarations that included jurisdictions within the Papio-Missouri River Natural Resources District;
- Hazards to which Papio-Missouri River Natural Resources District and jurisdictions are at risk;
 and
- Any of the above hazards to which Papio-Missouri River Natural Resources District and participating jurisdictions are not at risk, including an explanation.



Data collection will take place on and off-site and include internet and library research and a review of existing GIS data layers. In some cases, HMPC members may have access to additional data through their jobs. Data collection efforts will be limited to existing data only, as described in the DMA regulations. The AMEC GIS Analyst will coordinate with GIS staff from jurisdictions to obtain best available GIS layers to create maps using existing data and will assist in locating and manipulating data that Papio-Missouri River RND, the Counties and jurisdictions do not already have.

The Hazard Profile and Vulnerability sections of the plan will include data describing the following:

- Hazard description, including a general definition and descriptive information about each hazard, including typical warning time (speed of onset) and duration.
- Geographic locations of each hazard across the planning area (including where the hazard varies among participating jurisdictions),
- Previous occurrences of the hazard and the impacts to participating jurisdictions,
- Probability of future occurrences, including hazard frequency and recurrence intervals,
- Vulnerability Overview including the potential magnitude and severity of hazard events,
- Potential losses to existing and future development including the maximum threat extent and severity of impact, and
- Planning Significance Rating for each hazard, for each jurisdiction utilizing the State's rating scale methodology, which applies a weighted scoring system to the following elements: potential magnitude, frequency of occurrence, areas most likely to be affected, and potential speed of onset.

For this multi-jurisdictional plan, the risks would be assessed for each jurisdiction where they deviate from the risks facing the entire planning area. The geographic areas of occurrence for weather-related hazards do not vary greatly across the planning area for most hazards. Weather-related hazards, such as drought, severe winter storms/ice storms, thunderstorms, and tornadoes, occur similarly in the entire planning area. Therefore, the impact areas for these hazards do not differ across the planning area. The more urbanized areas within the planning area have more assets that are vulnerable to these hazards and varied development trends impact the future vulnerability. These differences are discussed in greater detail in the vulnerability sections of each hazard.

Following the Hazard Identification, AMEC and the HMPC will collect updated information to describe the likely impacts of future hazard events on the participating jurisdictions.

AMEC is set apart from other hazard mitigation planning consultants by our in-house expertise to utilize HAZUS, FEMA's recommended loss estimation software, as well as other data available in Geographic Information System (GIS) format such as Digital Flood Insurance Rate Maps and local parcel data to provide detailed vulnerability analysis and loss estimates for geographic hazards such as flooding, dam failure, levee failure, and earthquake. For those hazards that do not occur in specific geographic locations, AMEC has developed and refined scenario-based loss-estimation methods as well as statistical modeling methods based on exposure and historical occurrences data.



AMEC will work with the Papio-Missouri River Natural Resources District and local jurisdictions to determine the best available data and approach to determine assets at risk and conduct vulnerability assessments and loss estimates.

Vulnerability Assessment / Buildings in Hazard Areas

The Vulnerability Assessment will include the evaluation of the following information:

- Number, types, occupancy and values of buildings in hazard areas,
- National Flood Insurance Program (NFIP) participation, claims paid, including NFIP repetitive loss properties and severe repetitive loss properties,
- Critical facilities and infrastructure at risk,
- Economic impact of potential losses,
- Locations of vulnerable or special needs populations,
- Natural, cultural, and historic resources at risk,
- Development trends and/or constraints in hazard areas, and
- Estimate of average annual losses, per hazard and in the aggregate.

While the vulnerability assessment is one of the most time and work intensive tasks asked of the HMPC participants, it provides immeasurable benefits in understanding each participating community's vulnerability to disaster and in creating ownership of the plan. The information collected "paints a picture" of the probable disaster impacts that could occur in Papio-Missouri River Natural Resources District and provides an initial estimate of the values required to conduct benefit-cost analyses of proposed mitigation actions in the plan.

The identification of critical facilities will be completed using best available data. This may include the database of critical facilities and infrastructure available in FEMA's HAZUS software and/or critical facility layers available from participating jurisdictions. From the critical facility inventory, AMEC will generate an analysis of critical facilities within geographically defined hazard areas such as the floodplain and any other geographically defined hazard areas.

The results of the Hazard Identification and Risk Assessment including vulnerabilities will be presented during Meeting #2.

The <u>Hazard Identification and Risk Assessment</u> Chapter of the plan will include all of the required elements necessary for FEMA approval for this element.

Phase III: Update the Mitigation Plan

Task 6: Develop a Mitigation Strategy

Mitigation Goals—Based upon the results of the Risk Assessment, as well as past disaster damages and other planned community projects, AMEC will facilitate a group process for reaffirming the goals of the mitigation strategy as well as establishing any additional goals. This will take place during the second half of HMPC Meeting #2.



Mitigation Actions—AMEC will facilitate a third HMPC meeting that will focus on development of the mitigation strategy portion of the plan. During this meeting, participating jurisdictions with the existing mitigation plan will provide status updates to the mitigation actions contained in the current plan and identify additional potential mitigation alternatives and actions based upon the updated risk assessment and the identified goals. For those participating jurisdictions that do not have an existing mitigation plan, AMEC will facilitate development of new mitigation actions. In developing mitigation alternatives to address all of the hazards within the planning area, AMEC will adhere to the model of mitigation activities promoted by DMA and CRS, which categorizes mitigation measures into the following six categories: Prevention, Property Protection, Emergency Services, Structural Projects, Natural Resource Protection, and Public Information Programs.

Committee members will be asked to also create new mitigation actions they wish to include in the mitigation strategy of the plan for their jurisdiction and/or develop additional actions that might surface as they discussed the process with others in their jurisdiction.

AMEC will work with the HMPC to develop a set of criteria for prioritizing potential mitigation projects as well as document required action implementation details. Each recommended action will include a description of the risk reduction goals addressed, implementation strategy, discussion of benefits, possible funding sources, timeline for project completion, and responsible entity.

The <u>Mitigation Strategy</u> Chapter of the plan will include all of the required elements necessary for the plan to receive FEMA approval for this element.

Draft the Plan Update—Based on information collected during each of the tasks above, AMEC will prepare a complete first draft of the update to the plan. Copies of the first draft will be provided to HMPC members for review. The comments of the HMPC will be incorporated into a second draft, which will be provided to the HMPC for distribution and public review.

AMEC will distribute public comments to the HMPC and work with the committee to address and reconcile comments received and any issues identified. AMEC will then develop a third draft in digital and hard copy to submit to the State of Nebraska, subsequently, FEMA for their review and approval. This submittal will include a completed FEMA Plan Review Tool that details how the plan meets the requirements of the Disaster Mitigation Act.

If the State or FEMA review results in any required revisions, AMEC will address all required revisions ensuring the plan is "approved pending adoption" by FEMA Region VII.

Upon incorporation of any final revisions, AMEC will develop a Final Multi-jurisdiction Hazard Mitigation Plan in MS-WORD and Adobe .pdf for distribution and adoption by the Papio-Missouri River Natural Resources District Commissioners, and the governing bodies of all other jurisdictions that met the requirements of official plan participants.

Phase IV: Evaluate the Plan

Task 7: Keep the Plan Current

The HMPC will discuss at planning meeting #3 the best method for reviewing and keeping the hazard mitigation plan up-to-date. AMEC recommends that it be done on an annual basis and after each local disaster.



The participating jurisdictions and agencies will be encouraged to:

- Determine the best forum to act as the agent responsible for hazard mitigation issues and upkeep of the plan, this might be the Local Emergency Planning Committee or other already established committee;
- Disseminate hazard mitigation ideas and activities to all participants and the public;
- Pursue the implementation of high priority, low- or no-cost recommended actions;
- Maintain vigilant monitoring of multi-objective, cost-share, and other funding opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in implementation and update of this plan;
- Keep the concept of mitigation in the forefront of community decision making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters;
- Report on plan progress and recommended changes to the governing bodies of participating jurisdictions; and
- Inform and solicit input from the public.

The DMA 2000 requires that this plan be updated once every five years, at a minimum. In each plan update, Papio-Missouri River Natural Resources District should then document how risk and vulnerability have changed over the past 5 years, including describing which recommended actions have taken place, whether or not they had their desired effect, and how this has changed the need or priority for newer or longer term projects.

The <u>Plan Review, Evaluation, and Implementation</u> Chapter (Plan Maintenance) will include all of the required elements necessary for the plan to receive FEMA approval for this element.

Task 8: Review and Adopt the Plan

AMEC will provide a digital template adoption form to all the participating jurisdictional representatives for their use. This will allow each participating jurisdiction to easily get the updated plan adopted by their city council and/or board. Although AMEC cannot guarantee that each jurisdiction will complete the adoption process, we will provide technical assistance and tools to jurisdictions in order to make the process easier.

Materials and assistance provided by AMEC will ensure jurisdictions have the understanding and tools necessary to complete the <u>Plan Adoption</u> to secure FEMA approval for this element.

Task 9: Create a Safe and Resilient Community

At Meeting #3, AMEC will provide the planning committee with information on various mitigation grant programs, including FEMA's Hazard Mitigation Assistance grants. Information will include the process to apply for grants as well as State contacts and websites for additional information. AMEC will also provide a compilation of other mitigation-related funding sources that may be helpful in providing funds for actions identified in the mitigation strategy. Upon adoption, the HMPC will then be responsible for implementing portions of the plan, including applying for grants and managing the projects.



Benefit Cost Analysis Studies

As part of this scope, AMEC will assist the Papio-Missouri River Natural Resources District in selecting up to 15 priority projects. Once selected, AMEC will provide the potential applicant with a document listing all the information requirements for project. When the information is received, AMEC will conduct a review of the information and complete a Benefit Cost Analysis Study. The results of the study will be delivered in both hard copy and electronic formats to the jurisdiction supporting the project and the Papio-Missouri River Natural Resources District. AMEC has significant experiences completing this type of study and is experienced with the FEMA application process. AMEC is currently assisting the State of Colorado with Hazard Mitigation Grant Program (HMGP) application development for DR-4145.

Proposed Schedule and Timeline

AMEC has the ability and dedication to meet our client's schedule and timelines. Please contact the references listed in this proposal to discuss AMEC's ability to deliver quality products on-time and on budget. AMEC is prepared to begin work on this project within two weeks of receiving the client's written Notice to Proceed or upon completion of a mutually acceptable signed contract. The following adjustable schedule assumes a start date of January 1, 2014. Based on the proposed schedule below, the planning effort can be completed with approval pending adoption by February 1, 2016 and final approval after the first adoption before the current plan expires in 2016. By regulation, each plan review process with the State FEMA can take up to 45 days each. Local adoptions after FEMA approval pending adoption, can take another 30 or more days. The timeline provided below can be modified to suit the needs of the Papio-Missouri River Natural Resources District and/or the jurisdictions within the district.



Task/Months from Signed Contract	Jar	1	Fe	b	Ма	ar	Apı	r	May	Jui	n	Jul	4	lug	Sep	t	Oct	No۱	/	Dec	;	Jan	T	Feb	\Box
Phase 1 - Organize Resources																									
Initial Client Meeting																									
Task 1: Determine Planning Area & Resources																									
Task 2: Build the Planning Team																									
Task 3: Create an Outreach Strategy																						Ш			
Task 4: Review Community Capabilities																						Ш			
Meeting #1 (3 locations)																						Ш			
Phase 2 – Identify Hazards & Assess Risks																									
Task 5: Conduct a Risk Assessment																									
Phase 3 – Update the Mitigation Plan																									
Meeting #2 (3 locations)																									
Risk Assessment Draft for Committee Review																						Ш			
Task 6: Develop a Mitigation Strategy																						Ш			
Meeting #3 (3 locations)																						Ш			
Task 7: Keep the Plan Current-update maintenance strategy																						Ш			
Draft for Committee Review																									
Incorporate Committee Comments																						Ш			
Draft for Public Review																						Ш			
Submit to State/FEMA																						Ш			
State and FEMA Review and Comments																						Ш			
Final Plan - Incorporate State/FEMA Comments																									
Phase 4 – Adopt and Implement the Plan																									
Task 8: Review and Adopt the Plan																									
Task 9: Create a Safe and Resilient Community																									
Benefit Cost Analysis Studies																									
Gather materials regarding projects																									
Complete Benefit Cost Analysis Studies																									

Note: indicates meetings



Products Delivered and Services (Deliverables)

The following are the planned deliverables divided by the four planning phases.

Phase I Organize Resources Deliverables include:

- Development and delivery of kickoff meeting invite text
- On-site facilitation of project kickoff meeting HMPC Meeting #1
- Assembly of HMPC
- Preparation and distribution of data collection guide
- Distribution of kickoff meeting minutes
- Draft of public involvement strategy
- Text for survey, websites, press releases, newsletters, billing "stuffers," etc.
- Preparation of materials and facilitation of outreach strategy
- Invitations to appropriate federal, state, and regional agencies and follow-up coordination through telecommunications

Phase II Assess Hazards and Risks Deliverables:

- Draft of the Hazard Identification and Profile section of the plan
- Development and delivery of meeting #2 invite text
- On-site presentation of Risk Assessment data at HMPC Meeting #2
- Vulnerability assessment inventories and data collected from communities
- Maps/tables showing facilities, resources, population, etc., located in hazard areas
- Draft of Vulnerability Assessment section of the plan
- Draft of Capability Assessment section of the plan
- Distribution of meeting #2 minutes

Phase III Develop a Mitigation Plan Deliverables:

- Development and delivery of meeting #3 invite text
- On-site facilitation of HMPC Meeting #3 Identification and prioritization of mitigation actions
- Compilation of Mitigation Action Worksheets and action prioritization completed by the HMPC
- Distribution of meeting #3 minutes
- Draft of the updated plan for review by HMPC members
- Draft of the updated plan for public review
- Written summary of public comments
- Draft of the updated plan for State of Nebraska and FEMA submittal
- Final Draft of updated plan for adoption
- Final Draft plan and FEMA crosswalk completed for submittal to State of Nebraska and FEMA

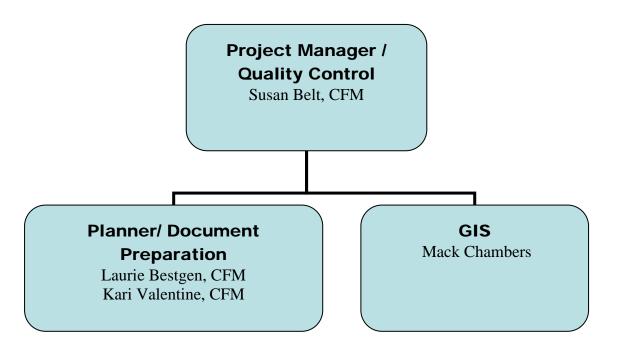
Phase IV Evaluate the Plan Deliverables:

- Provide plan summary for use during adoption process
- Outreach Strategy for continued public involvement
- Information on FEMA Hazard Mitigation Assistance Grants provided to officially participating jurisdictions



Project Team and Qualifications

The AMEC Team that has been assembled is fully qualified and prepared to work with the Papio-Missouri River Natural Resources District and all the jurisdictions as required. Our workload is such that we have the appropriate staff, identified herein, available for this project immediately. The proposed project team is prepared to begin within two weeks of receiving the client's written Notice to Proceed or upon completion of a mutually acceptable signed contract. A summary of the expertise of key personnel and support services is provided below to illustrate AMEC's qualifications.



Brief resumes of key personnel are presented on the following pages. If additional information is needed regarding key staff, please do not hesitate to contact our office directly for full resumes.



Susan Belt, MT (ASCP), CFM Homeland Security and Emergency Management Section Manager

Ms. Susan Belt will serve as project manager. Ms. Belt has extensive experience managing emergency response programs, as well as grant writing and management for homeland security and other federal grants, and in the enforcement/interpretation of federal regulatory requirements. Ms. Belt has been responsible for the successful approval of many local hazard mitigation plans in FEMA Region VII. Ms. Belt has also served as technical expert in the development of local and regional homeland security exercise programs. Ms. Belt served on the Continuity of Operations Planning committee while working for KDHE. She has received and provided numerous DHS sponsored courses, including but not limited to the HSEEP program and Continuity of Operations Planning. Ms Belt has extensive training and exercise development experience as Director of the Evaluation, Training & Exercise Development program for the Kansas Center for Public Health and Preparedness, Kansas Department of Health and Environment. Ms. Belt served as Training Coordinator for the Kansas Highway Patrol- the State Administrative Agency for Homeland Security Funds in Kansas. She also served as Assistant Director of the

Education

BA, Biology Medical Technology, Pittsburg State University, 1985

Years of Experience 27 Years with AMEC: 6

Certifications:

AMEC Certified Project Manager

MT(ASCP) 163126

Clinical Laboratory Scientist (NCA)

Certified Floodplain Manager, KS RSDE 2010

HSEEP Trainer 2007

ICS 100, 200, 300, 400, 700, 800

Kansas Bioterrorism Program, Kansas Department of Health and Environment; and as Program Manager and- Director of Quality Improvement with the Kansas Bureau of Health Facility Regulation.



Laurie Bestgen, CFM Hazard Mitigation Planner

Ms. Laurie Bestgen has over 17 years of experience in hazard mitigation and emergency management. Ms. Bestgen has contributed to the development of over 20 FEMA-approved Disaster Mitigation Act compliant Hazard Mitigation Plans, including one Standard/Enhanced state plan. She has also utilized her technical writing expertise in the development of two State Energy Assurance Plans. Ms. Bestgen has also served as a Benefit Cost Review Analyst under the FEMA Hazard Mitigation Technical Assistance Program contract and routinely reviews mitigation project applications in accordance with FEMA's Benefit Cost Analysis requirements. Ms. Bestgen has prior experience working for the Federal Emergency Management Agency (Region VII) as well as experience working for a State Emergency Management Agency (Kansas Division of Emergency Management). She has experience writing and reviewing

Education

BA, Biology, University of Missouri, Kansas City, 1993

Mitigation Planning Workshop for Local Governments, November, 2009

FEMA Risk Assessment for Mitigation Planning Workshop, March 2011

Homeland Security Exercise & Evaluation Program (HSEEP) Class, June 2011.

ICS 100, 200, 700, 800 IS 120, 909, 634

Years of Experience: 17 Years with AMEC: 6

Certifications:

Certified Floodplain Manager

technical documents, interpreting federal regulations, guidance and precedent, and facilitating mitigation project development. She has assisted in development of post-disaster mitigation projects at the federal and state level for Presidentially-declared disasters in the states of Missouri, Iowa, Kansas, Nebraska, Georgia, and Nevada. Ms. Bestgen's responsibilities have included project eligibility determinations, benefit-costs analysis, oversight management, and closeout review of Hazard Mitigation Grant Program Projects. Ms. Bestgen has meeting facilitation experience, including: hazard mitigation planning meetings, presentation of mitigation program requirements to state and local officials as well as public and private entities, pre-disaster mitigation planning workshops, post-disaster mitigation planning workshops, and facilitation of Emergency Management/Homeland Security Exercises. Ms Bestgen is a Certified Floodplain Manager with working knowledge of the federal regulations governing the National Flood Insurance Program, working knowledge of Flood Insurance Studies and Flood Insurance Rate Maps and post-disaster surveys to determine substantial damage.



Kari Valentine, CFM Hazard Mitigation Planner

Ms. Kari Valentine has over eleven years of experience reviewing technical documents, interpreting federal regulations, guidance and precedent, and assisting in all phases of mitigation project development. Specifically she has contributed to the development of over 10 FEMA-approved Disaster Mitigation Act compliant Hazard Mitigation Plans, including one Standard/Enhanced state plan. She has also developed two State Energy Assurance Plans as a technical writer and planning meeting facilitator. Ms. Valentine has also served as an Eligibility Reviewer under the FEMA Hazard Mitigation Technical Assistance Program contract and routinely reviews mitigation project applications in accordance with FEMA's eligibility requirements. Ms. Valentine has prior experience working for the Federal Emergency Management Agency (Region VII). She has assisted with the eligibility, implementation, fiscal management, and close-out of post-disaster hazard mitigation grant projects at federal and state level for Presidentially-declared disasters in the states of Kansas, Nebraska,

Education/Relevant Training

BA, Business and International Business, Baker University 1993

FEMA Risk Assessment for Mitigation Planning Workshop, March 2011.

Homeland Security Exercise & Evaluation Program (HSEEP) class, October 2011.

ICS 100, 200, 700, 800 IS 120

Years of Experience: 11 Years with AMEC: 6

Certifications:

Certified Floodplain Manager US-10-04848

ICS 100, 120, 130, 200, 700,

Iowa and Missouri starting with the Great Midwest Flood of 1993. Specifically projects to address the buyout of flood-prone property in the floodplain and return the land to open space. Ms. Valentine has facilitated public meetings such as presentation of mitigation program requirements to state and local officials as well as public and private entities, post-disaster mitigation planning workshops, and Interagency Hazard Mitigation Team meetings. Ms. Valentine is a Certified Floodplain Manager and has the working knowledge of floodplain management to include the federal regulations governing the National Flood Insurance Program, the Flood Insurance Studies and Flood Insurance Rate maps and Post-disaster surveys to determine substantial damage.



Mack Chambers GIS Analyst

Mr. Mack Chambers has ten years of experience working in the GIS field digitizing, updating, and maintaining digital layers using MapInfo and ArcGIS products. Mack has worked on many projects that include DFIRM, Stormwater Utilities, and Hazard Mitigation Projects. For Hazard Mitigation Plans, he has performed GIS analysis on critical facilities with natural hazards

Education

B.S., Social Work, Western Carolina University, Cullowhee, NC

Years of Experience: 10 Years with AMEC: 9

Professional Affiliations

Member, Association of State Flood Plain Managers

such as Fire and Flood to support Mitigation Plans for Boulder and Teller Counties in Colorado; Calaveras, Kings, Fresno and Sutter Counties in California; and Allen, Harper, Harvey, Labette, Montgomery, Neosho, Osage, Reno, and Sumner Counties in Kansas. Mr. Chambers has created maps to show relationships of Critical Facilities to Dam Inundation, Dams of Concern, Earthquake Shaking, Wildfire, WUI Fire Threat, FEMA Flood Zones, Potential Fire, Susceptible Soils, and Seismic Hazards, as well as maps with ArcMap from template guidelines representing Loss Ratio and Total Economic structural cost in the event of an Earthquake from the New Madrid Fault. Also created fault zone maps showing the effected counties in Mississippi and their severity. Mr. Chambers has run HAZUS MH-MR3 on multiple counties in Mississippi and other projects in California, Colorado, Iowa and Kansas for Hazard Mitigation Plans for flooding based on DEM's.

Outside Assistance

AMEC has numerous offices with employees that have hazard mitigation planning and risk assessment experience. AMEC does not anticipate the need for outside assistance and/or subcontractors for this project.



References

Please feel free to contact the individuals listed below for information on AMEC's quality services:

Firm / Description of Services	Contact
Dallas County, Iowa Emergency Management	Barry Halling
121 North 9 th Street	Dallas County Emergency Management
Adel, IA 50003	Coordinator
	Office (515) 993-2134
Dallas County Multi-jurisdictional Hazard	Fax (515) 993-6864
Mitigation Plan	barry.halling@co.dallas.ia.us
Story County, Iowa Emergency Management	Keith Morgan
900 6 th Street	Story County Emergency Management
Nevada, Iowa 50201	Coordinator
	Office: (515) 382-7315
Story County Multi-jurisdictional Hazard	Fax: (515) 382-7328
Mitigation Plan	kmorgan@storycounty.net
Kansas Division of Emergency Management	Jacob Gray
2800 SW Topeka Blvd.	State Hazard Mitigation Officer
Topeka, KS 66611	Office (785) 274-1973
	Fax: (785) 274-1426
Kansas Hazard Mitigation Plan (EMAP	Jacob.s.gray.nfg@mail.mil
accredited)	

Cost Proposal

AMEC will perform the proposed Scope of Work described above for a total fixed fee of \$ 148,800. This amount includes all professional services and related direct and overhead expenses. AMEC will assure that the *Papio-Missouri River Natural Resources District Multi-jurisdictional Hazard Mitigation Plan* Update is FEMA Approved Pending Adoption. It will be the responsibility of Papio-Missouri River Natural Resources District to assure that appropriate local adoptions of the plan are forwarded to FEMA in timely manner.