Mineral County and Walker River Paiute Tribe Multijurisdictional Hazard Mitigation Plan

November 2016

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BLM	United States Bureau of Land Management
PW	Public Works
CIA	Central Intelligence Agency
CDC	Center for Disease Control
cfs	cubic feet per second
CFR	Code of Federal Regulations
County	Mineral county
DHS	Department of Homeland Security
DMA 2000	Disaster Mitigation Act of 2000
DOJ	Department of Justice
DOT	United States Department of Transportation
EHS	Extremely Hazardous Substance
EMPG	Emergency Management Planning Grant
EOC	Emergency Operation Center
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
FEMA	Federal Emergency Management Agency
FBI	Federal Bureau of Investigation
GIS	Geographic Information System
HAZUS-MH	(abbreviation for **HAZ**ards **U**nited **S**tates) is a geographic information system-based natural hazard loss estimation software package developed and freely distributed by the Federal Emergency Management Agency
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
InSAR	Interferometric Synthetic Aperture Radar
JAVMA	Journal of the Federal coordinator for Meterology
LEPC	Local Emergency Planning Committee
M	Magnitude
MMI	Modified Mercalli Intensity
mph	miles per hour
NDEM	Nevada Division of Emergency Management
NDEP	Nevada Division of Environmental Protection
NDF	Nevada Division of Forestry
NDOT	Nevada Department of Transportation
NERMP	Nevada Earthquake Risk Mitigation Plan
NFIP	National Flood Insurance Program

NBMG	Nevada Bureau of Mines & Geology
NPS	National Park Service
NRC	National Response Center
NWS	National Weather Service
OFCM	Office of the Federal Coordinator for Meteorology
PDM	Pre-Disaster Mitigation
POC	Point of Contact
SERC	State Emergency Response Commission
SFHA	Special Flood Hazard Area
SHMO	State Hazard Mitigation Officer
SPWB	State Public Works Board
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
State	State of Nevada
SR	State Route
UBC	Uniform Building Code
UNR	University of Nevada Reno
URM	Unreinforced Masonry Buildings
URS	URS Corporation
USC	United States Code
USDA	US Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USGS	United States Geological Survey
WMD	Weapons of Mass Destruction

Across the United States, natural and human-caused disasters have led to increasing levels of death, injury, property damage, and interruption of business and government services. The toll on families and individuals can be immense and damaged businesses cannot contribute to the economy. The time, money and effort to respond to and recover from these emergencies or disasters divert public resources and attention from other important programs and problems. With five Federal declarations in the last fifteen years, Mineral County, Nevada, recognizes the consequences of disasters and the need to reduce the impacts of natural and human-caused hazards.

The elected and appointed officials of the County also know that with careful selection, mitigation actions in the form of projects and programs can become long-term, cost effective means for reducing the impact of natural and human-caused hazards. Applying this knowledge, the Mineral County Hazard Mitigation Planning Task Force prepared the *Mineral County, Nevada, Multijurisdictional Hazard Mitigation Plan*. With the support of various County officials, the Walker River Paiute Tribe, the State of Nevada, and the United State Department of Homeland Security/Federal Emergency Management Agency (FEMA), this plan is the result of several months' worth of work to create a hazard mitigation plan that will guide the County and the Walker River Paiute Tribe toward greater disaster resistance in full harmony with the character and needs of the community and region.

People and property in the County are at risk from a variety of hazards that have the potential for causing widespread loss of life and damage to property, infrastructure, and the environment. The purpose of hazard mitigation is to implement actions that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation encourages long-term reduction of hazard vulnerability. The goal of mitigation is to save lives and reduce property damage. Mitigation can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities, reduce exposure to liability and minimize community disruption. Preparedness, response, and recovery measures support the concept of mitigation and may directly support identified mitigation actions.

The *Mineral County, Nevada Multijurisdictional Hazard Mitigation Plan* has been updated in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Sec. 104 the Disaster Mitigation Act of 2000 (DMA 2000), Public Law 106-390 of October 30, 2000. Since the first plan was adopted in 2005, 18 mitigation actions have been completed, most of which are ongoing actions. This updated plan identifies on-going and new hazard mitigation actions intended to eliminate or reduce the effects of future disasters throughout the County.

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This section provides an overview of the Disaster Mitigation Act of 2000 (DMA 2000; Public Law 106-390), the adoption of the *Mineral County, Nevada, Multijurisdictional Hazard Mitigation Plan* (HMP) by the local governing body, and supporting documentation for the adoption.

1.1 DISASTER MITIGATION ACT OF 2000

The DMA 2000 was passed by Congress to emphasize the need for mitigation planning to reduce vulnerability to natural and human-caused hazards. The DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act; 42 United States Code [USC] 5121-5206 [2008]) by repealing the act's previous Mitigation Planning section (409) and replacing it with a new Mitigation Planning section (322). In addition, Section 322 provides the legal basis for the Federal Emergency Management Agency's (FEMA's) mitigation plan requirements for mitigation grant assistance.

To implement the DMA 2000 planning requirements, the Federal Emergency Management Agency (FEMA) published an Interim Final Rule in the *Federal Register* on February 26, 2002. This rule (44 Code of Federal Regulations [CFR] Part 201) established the mitigation planning requirements for states, tribes, and local communities. The planning requirements are described in detail in Section 2 and identified in their appropriate sections throughout this Plan. In addition, a crosswalk documenting compliance with 44 CFR is included as Appendix E.

1.2 ADOPTION BY THE LOCAL GOVERNING BODY AND SUPPORTING DOCUMENT

The requirements for the adoption of an HMP by the local governing body, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PREREQUISITES

Adoption by the Local Governing Body

Requirement §201.6(c)(5): [The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

Element

Has the local governing body adopted the plan?

Is supporting documentation, such as a resolution, included?

Source: FEMA, March 2008.

Mineral County, to be referred to as Mineral County or the County throughout this plan, and the Walker River Paiute Tribe (WRPT) are the jurisdictions represented in this Multijurisdictional HMP. There are no other political subdivisions within Mineral County. The Mineral County HMP meets the requirements of Section 409 of the Stafford Act and Section 322 of the DMA 2000.

The local governing body of Mineral County (Mineral County Commissioners) has adopted this HMP. The signed resolution is provided in Appendix A. Although the WRPT actively participated in the update to this plan, due to data limitations, they will not be adopting the plan

separately. Annex A – Walker River Paiute Tribe will serve as the template for future updates so that the Tribe will be able to adopt the plan separately in the future.

This section provides an overview of the County's HMP. This includes a review of the purpose and authority of the HMP and a description of the document.

2.1 PLAN PURPOSE AND AUTHORITY

The DMA 2000, also referred to as the 2000 Stafford Act amendments, was approved by Congress on October 10, 2000. On October 30, 2000, the President signed the bill into law, creating Public Law 106-390. The purposes of the DMA 2000 are to amend the Stafford Act, establish a national program for pre-disaster mitigation, and streamline administration of disaster relief.

The Mineral County HMP meets the requirements of the DMA 2000, which calls for all communities to prepare hazard mitigation plans. By preparing this HMP, the County and the WRPT are eligible to receive Federal mitigation funding after disasters and to apply for mitigation grants before disasters strike. This HMP starts an ongoing process to evaluate the risks different types of hazards pose to the County, and to engage the County and the community in dialogue to identify the steps that are most important in reducing these risks. This constant focus on planning for disasters will make the County and the WRPT, including their residents, property, infrastructure, and the environment, much safer.

The local hazard mitigation planning requirements encourage agencies at all levels, local residents, businesses, and the non-profit sector to participate in the mitigation planning and implementation process. This broad public participation enables the development of mitigation actions that are supported by these various stakeholders and reflect the needs of the entire community.

States are required to coordinate with local governments in the formation of hazard mitigation strategies, and the local strategies combined with initiatives at the state level form the basis for the State Mitigation Plan. The information contained in HMPs helps states to identify technical assistance needs and prioritize project funding. Furthermore, as communities prepare their plans, states can continually improve the level of detail and comprehensiveness of statewide risk assessments.

FEMA's Hazard Mitigation Assistance (HMA) grant programs provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages including the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA). A local jurisdiction must have an approved LHMP to be eligible for these programs and for FEMA disaster assistance under Public Assistance (PA) grants C through G.

Adoption by the local governing body demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in the HMP. Adoption legitimizes the updated HMP and authorizes responsible agencies to execute their responsibilities. The resolutions adopting this HMP are included in Appendix A.

2.2 STAFFORD ACT GRANT PROGRAMS

The following grant programs require a State, tribe, or local entity to have a FEMA-approved State or Local Mitigation Plan.

Hazard Mitigation Grant Program (HMGP): HMGP provides grants to State, tribes, and local entities to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property as a result of natural disasters and to enable mitigation measures to be implemented during the immediate recovery from disaster. Projects must provide a long-term solution to a problem: for example, elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood. In addition, a project's potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. The amount of funding available for the HMGP under a particular disaster declaration is limited. The program may provide a State or tribe with up to 20 percent of the total disaster grants awarded by FEMA. The cost-share for this grant is 75/25 percent (Federal/non-Federal).

Pre-Disaster Mitigation (PDM) Program: PDM provides funds to State, tribes, and local entities, including universities, for hazard-mitigation planning and the implementation of mitigation projects before a disaster event. PDM grants are awarded on a nationally competitive basis. Like HMGP funding, a PDM project's potential savings must be more than the cost of implementing the project. In addition, funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. Congress appropriates the total amount of PDM funding available on an annual basis. The cost-share for this grant is 75/25 percent (Federal/non-Federal).

Flood Mitigation Assistance (FMA): The FMA program provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program (NFIP). FMA provides up to 75% Federal funding for a mitigation activity grant and/or up to 90% Federal funding for a mitigation activity grant containing a repetitive loss strategy.

Repetitive Flood Claims (RFC): The RFC program provides funds on an annual basis to reduce the risk of flood damage to individual properties insured under the NFIP that have had one or more claim payments for flood damages. RFC provides up to 100% Federal funding for eligible projects in communities that qualify for the program.

Severe Repetitive Loss (SRL): The SRL program provides funds on an annual basis to reduce the risk of flood damage to residential structures insured under the NFIP that have had one or more claim payments for flood damages. SRL provides up to 75% Federal funding for eligible projects in communities that qualify for the program.

2.3 PLAN ORGANIZATION

The remainder of this HMP consists of the following sections.

- ***Section 3 - Community Description***

Section 3 provides a general history and background of the County and the WRPT, and historical trends for population, demographic and economic conditions that have shaped the area. Trends in land use and development are also discussed.

- ***Section 4 - Planning Process***

Section 4 describes the planning process, identifies Planning Committee members, and the key stakeholders within the community and surrounding region. In addition, this section documents public outreach activities and the review and incorporation of relevant plans, reports, and other appropriate information.

- ***Section 5 - Risk Assessment***

Section 5 describes the process through which the Planning Committee identified and compiled relevant data on all potential natural hazards that threaten the County and the immediately surrounding area. Information collected includes historical data on natural hazard events that have occurred in and around the County and how these events impacted residents and their property.

The descriptions of natural hazards that could affect the County are based on historical occurrences and best available data from agencies such as FEMA, the U.S. Geological Survey (USGS), and the National Weather Service (NWS). Detailed hazard profiles include information on the frequency, magnitude, location, and impact of each hazard as well as probabilities for future hazard events.

- ***Section 6 – Vulnerability Analysis***

Section 6 identifies potentially vulnerable assets such as people, housing units, critical facilities, infrastructure and lifelines, hazardous materials facilities, and commercial facilities. These data were compiled by assessing the potential impacts from each hazard using GIS and FEMA's natural hazards loss estimation model, HAZUS-MH. The resulting information identifies the full range of hazards that the County could face and potential social impacts, damages, and economic losses.

- ***Section 7 - Capability Assessment***

Although not required by the DMA 2000, Section 7 provides an overview of the County's and WRPT's resources in the following areas for addressing hazard mitigation activities:

  - Legal and regulatory resources
  - Administrative and technical: The staff, personnel, and department resources available to expedite the actions identified in the mitigation strategy
  - Fiscal: The financial resources to implement the mitigation strategy

- ***Section 8- Goals, Objectives & Actions - Mitigation Strategy***

As Section 8 describes, the Planning Committee developed a list of mitigation goals, objectives, and actions based upon the findings of the risk assessment and the capability assessment. Based upon these goals and objectives, the Planning Committee reviewed and prioritized a comprehensive range of appropriate mitigation actions to address the risks facing the community. Such measures include preventive actions, property protection techniques, natural resource protection strategies, structural projects, emergency services, and public information and awareness activities.

- ***Section 9 - Plan Maintenance Process***

Section 9 describes the Planning Committee's formal plan maintenance process to ensure that the HMP remains an active and applicable document. The process includes monitoring, evaluating, and updating the HMP; implementation through existing planning mechanisms; and continued public involvement.

- ***Section 10 - References***

Section 10 lists the reference materials used to prepare this HMP.

- ***Appendices***

The appendices include the Adoption Resolution, Maps, Planning Committee Meetings, and Public Involvement process.

This section describes the history, location, and geography of the County as well as its government, demographic information, and current land use and development trends.

3.1 MINERAL COUNTY

3.1.1 History, Location, and Geography

Mineral County, Nevada was created in 1911 and is located in West-Central Nevada with the rugged Wassuk Range serving as a boundary dividing Mineral County from Mono County, California and Lyon County, Nevada. The Wassuk Range averages 9,000 feet elevation with Mt. Grant extending up to 11,245 feet.

Mineral County is generally mountainous, with canyons and large arid plateaus rising upward from the Walker Lake Basin. According to the US Census Bureau, the county has a total area of 3,813 square miles, of which 3,756 square miles is land and 57 square miles is water. Appendix B, Figure B-1 Project Location and Figure B-2 Surface Management are attached. This equates to 1.4 persons per square mile.

Average annual snowfall is less than 3" and average annual rainfall is 4.46". Temperatures range from average summer high of 91 degrees to average winter low of 45 degrees during the day. Appendix B, Figure B-1 Project Location and Figure B-2 Surface Management are attached.

Mineral County's primary industry is the U. S. Ammunition Depot which is the world's largest facility of its kind.

Tourism plays an important part in the county's economy as the outdoor enthusiast can find adventure in hiking, horseback riding, motorcycling, fishing, hunting, swimming, water skiing, rock, bottle and artifact hunting, and ghost town exploring.

Mineral County's unique combination of modern industry, deserted mining towns, abundant recreation and western hospitality make it an area in the State of Nevada for the visitor to enjoy.

Mineral County has five major townships (Aurora, Hawthorne, Luning, Mina, Schurz and Walker Lake) with the majority of the population based in Hawthorne and Schurz.

Hawthorne
Hawthorne is the county seat and an unincorporated township located in west central Nevada. 132 miles southeast of Reno/Sparks and 311 miles northwest of Las Vegas at the intersection of U.S. Highway 95 and State Highway 359. At an elevation of 4,255 feet, Hawthorne is situated in the high desert, approximately five miles southeast of Walker Lake. The township is 1.5 square miles bordering the Hawthorne Army Depot which is the primary economic base of the town.

3.1.2 Government

The local governing body is composed of a three-member elected representation called the Board of Commissioners (BOC). The Commissioners are elected by and accountable to the voters. All of the members of the Board serve 4-year terms.

The Board of Commissioners acts as County Manager and is responsible for the general direction, supervision, administration, and coordination of all affairs for the County. Below please see Mineral County departments and key divisions.

Key Officials

Commissioner 1	Assessor	Library Director
Commissioner 2	Building Inspector	Museum Director and/or Coordinator
Commissioner 3	Clerk Treasurer	
	Community Health Nurse	Park & Recreation Director and/or Coordinator
	Consolidated Agency for Human Services Director[1]	Public Guardian
	Cooperative Extension Director	Recorder/Auditor
	District Attorney	Public Works/Roads Director
	Fire Chief Emergency Manager	Senior Center Director
	Justice of the Peace	Sheriff
		Utility Director

County Departments/Divisions

Assessor/GIS	Justice Court	Public Works/Roads
Building	Library	Recorder/Auditor
Community Health	Museum	Senior Services
Consolidated Agency for Human Services (Non Profit)[1]	Parks and Recreation	Sheriff/Search and Rescue
District Attorney	Public Administrator	Clerk/Treasurer
Fire/EMS	Public Guardian	
Hawthorne Facilities		

[1]Non Profit – Serves as critical social services non-profit.

3.1.3 Demographics

According to the Nevada State Demographer, the County's population is estimated at 4,584 in 2015. This was near the 2010 population estimate of 4,471 and a four percent decrease of the 2015 US Census Quick facts population of 4,478. The population density is 1 person per square mile. The Nevada State Demographer estimates the county population will decrease at a rate of 1.3 % annually over the next 5 years. Approximately 19.6 percent of the total population was under 18 years, 55.4 percent was between 18 and 64 years, and 25 percent was 65+ years and over.

The County's civilian labor force is 53.4% of the population and unemployment is at the high rate of 19.0%. This is an almost 4% change from 2010. The economic base of the County primarily consists of government (Hawthorne Army Depot and county employment), trade, and service. See below for the largest employers in the County. The median household income is $38,664 and the median value of owner-occupied housing unit is $84,400 according to the US Census Bureau.

Mineral County's Largest Employers are as follows:

Table 3-1: County Employers

Employer	Town	Industry	Number of Employees
Day & Zimmerman	Hawthorne	Facilities Support Services	400 - 499
US Army Depot	Hawthorne	Government	100-199
Mineral County School District	Hawthorne	Elementary & Secondary Schools	100-199
Mineral County	Hawthorne	Executive & Legislative Offices Combined	100-199
Mount Grant General Hospital	Hawthorne	General Medical & Surgical Hospitals	Up to 100

3.1.4 Land Use and Development Trends

With the declining population of the county future development plans within the county are very limited. Recreation income has been declining for the county and Walker Lake water levels (the main recreation area in the County) are very low. The Hawthorne Army Depot will continue to be a major economic force but no increase in base activity is expected. Mining within the county may start in the future as exploration has increased in the past two years. The County is divided into land ownership of 5% private and 95% owned by the federal government: US Forest, BLM, Bureau of Indian Affairs (Walker River Paiute Tribe), and Department of Defense (Hawthorne Army Depot). See Figure B-2, Appendix B.

The County has recently acquired land from the Bureau of Land Management adjacent to the town of Hawthorne and the Master Plan 2010 addresses land use. The County will be selling this land for private ownership with the area near the airport and Hwy 95 slated for commercial/industrial use. Additionally, Mineral County acquired land from Army southwest of highway near Safeway for an industrial park.

However, with the population and economic decline no development is expected in the next 7 years. The next update to the Hazard Mitigation Plan should review the county growth and development trends.

3.2 WALKER RIVER PAIUTE TRIBE

3.2.1 History, Location, and Geography

The Walker River Paiute Reservation is located within three counties in rural Midwestern Nevada about 100 miles southeast of Reno, Nevada with the population of approximately 720 residing within the boundaries of the Walker River Paiute Tribe. The land base consists of about 325,000 acres in a river valley, mostly used for grazing and some ranching. The present Reservation encompasses a high desert land base and is surrounded by mountains, desert lakes, and marshland/wetlands. The current Reservation was a traditional wintering grounds for the Walker River Paiute Numu (people) due to the mild winters. The Numu (people) then migrated back to the Sierras for summer camps. The riparian areas of the Reservation have mostly been converted to farm land with alfalfa being the major crop. The only town on the Reservation is Schurz, Nevada where the intersection of U.S. Highway 95 and 95-A (major routes running north and south) meet. Fallon, Nevada is 39 miles North, Yerington, Nevada is 25 miles West and Hawthorne, Nevada is 33 miles to the South.

The Tribe is organized under the provisions of the Indian Reorganization Act of June 18, 1934, exercising rights of home rule and responsibility for the general welfare of its membership. The Walker River Paiute Council, a seven-member body, serves as the local authority for purposes of authorizing any planning program for the Tribe's future. The town of Schurz, Nevada, is considered the hub of the reservation land, with tribal administration offices and community services located there.

3.2.1 Government

Organization

The WRPT Tribal Government is a federally-recognized tribe and, as such, is associated with the U.S. Bureau of Indian Affairs. The WRPT government is a seven-member tribal council that functions under tribal sovereignty where land use decisions associated with the reservation must be coordinated through the tribal council and in concert with U.S. federal and state governments.

The WRPT government provides public services to its residents similar to those that local governments provide for their residents. Services include, but are not limited to, housing, education, cultural resources, environmental services, and general Native American services.

Walker River Paiute Tribe – Key Officials

Chairman	Member	Development Coordinator
Vice-Chairman	Environmental Director	Resident Services Coordinator
Treasurer	Housing Executive Director	Fisheries Director
Secretary	Economic Development Coordinator	Education Director
Member	Health Director	Roads Project Manager
Member	Human Resources Manager	TERO Director

Walker River Paiute Tribe Departments

Civil Court	Fire Department	Roads Department
Cultural Department	Fisheries Program	Taxation Department
Economic Development	Housing	TERO Program
Education Department	Human Resources	Health Clinic
Environmental	Police Department	

3.2.2 Demographics

The overall tribal population approaches 3,540 individual members with approximately 720 tribal and non-tribal members residing on the reservation.

3.2.3 Land Use and Development Trends

Due to the economic downturn, development in the last 5 years has been minimal. There have been over 25 new houses constructed.

The WRPT has a new police facility planned and new housing planned for the next 10 years.

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This section provides an overview of the planning process; identifies Planning Committee members, and key stakeholders; documents public outreach efforts; and summarizes the review and incorporation of existing plans, studies, and reports used in the development of this HMP. Additional information regarding the Planning Committee and public outreach efforts is provided in Appendices C and D.

The requirements for the planning process, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Planning Process

Documentation of the Planning Process

Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

1. An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
2. An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and nonprofit interests to be involved in the planning process; and
3. Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Requirement §201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Element

- Does the new or updated plan provide a narrative description of the process followed to prepare the plan?
- Does the new or updated plan indicate who was involved in the planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan Committee, provided information, reviewed drafts, etc.?)
- Does the new or updated plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)
- Does the new or updated plan indicate that an opportunity was given for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?
- Does the updated plan document how the planning team reviewed and analyzed each section of the plan?
- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?
- Does the updated plan indicate for each section whether or not it was revised as part of the update process?

Source: FEMA, March 2008.

4.1 OVERVIEW OF PLANNING PROCESS

The first step in the planning update process was to reestablish the Planning Committee composed of existing Mineral agencies. T.C. Knight, Fire Chief and Patrick Hughes, Emergency Manager, both of Mineral County Emergency Management, served as the primary Points of Contact (POC) for the County and the public.

The Planning Committee membership was drawn from the Mineral County Local Emergency Planning Commission (LEPC) which regularly addresses current emergency management activities. The LEPC publicized the activities of the Planning Committee to the public and applicable State and Federal agencies. To finalize the Planning Committee, a request was made by the LEPC to county departments, including the Fire Department, Building Department, Health Nurse, Public Works, and the Sheriff's Office, involved with mitigation planning, implementation, and future mitigation projects to participate in this planning process. The

County was assisted by the State of Nevada, Division of Emergency Management for the development of this HMP.

For the Walker River Paiute Tribe, Cynthia Oceguera, provided information on the hazard profiles and the Walker River Paiute Tribe Annex. She met with Tribal Directors and Tribal Fire Chief Galen Costillo to review elements of the plan. Additionally, representatives from the Walker River Paiute Tribe reported back to their local departments and worked within their local government structures to collect data, identify mitigation actions and implementation strategies, and review and provide data on plan drafts. Several meetings with Tribal personnel were held. DEM coordinated with Ms. Oceguera via phone and email, in addition to the Planning Committee meetings, in order to prepare the Annex.

While there was no other formal plan maintenance during the 5 years since the previous plan was adopted, the Nevada Division of Emergency Management held a table top exercise in September of 2014 to discuss the status of the plan and mitigation strategies. Additionally, the Nevada Hazard Mitigation Planning Committee held their quarterly meeting in Mineral County on February 23, 2016, to kick off the plan update process. Dr. Craig dePolo, Geologist, Bureau of Mines & Geology, briefed the committee on the Mineral County earthquake history and vulnerability. T.C. Knight & Mineral County Flood Plain Manager Mike Fontaine briefed the committee on area hazards. All information on mitigation action accomplishments and new public input was derived during the planning process. The Planning Committee reviewed the plan maintenance section methods in order to incorporate annual maintenance of the plan.

Once the Planning Committee was formed, the following five-step planning process took place during the 10-month period from February 2016 to November 2016.

- **Organize resources:** The Planning Committee identified resources, including County staff, agencies, and local community members, which could provide technical expertise and historical information needed in the development of the HMP.
- **Assess risks:** The Planning Committee identified the hazards specific to the County and the Walker River Paiute Tribe, and developed the risk assessment for the thirteen identified hazards. The Planning Committee reviewed the risk assessment, including the vulnerability analysis, prior to and during the development of the mitigation strategy.
- **Assess capabilities:** The Planning Committee reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards.
- **Develop a mitigation strategy:** After reviewing the risks posed by each hazard, the Planning Committee worked to develop a comprehensive range of potential mitigation goals, objectives, and actions. Subsequently, the Planning Committee identified and prioritized the actions to be implemented.
- **Monitor progress:** The Planning Committee developed an implementation process to ensure the success of an ongoing program to minimize hazard impacts to the County.

The following table provides the new section format and provides details on the update.

Table 4-1. Plan Outline and Update Effort

Plan Section	Update Effort	What Changed
Section 1 – Official Record of Adoption	Minor Revisions	Updated information to include the Walker River Paiute Tribe.
Section 2 - Background	Minor Revisions	Updated information to include the Walker River Paiute Tribe.
Section 3 – Community Description	Moderate Revisions	Updated demographics, added new information regarding the Walker River Paiute Tribe.
Section 4 – Planning Process	Moderate Revisions	This section details the current plan's planning process. Committee tables were updated. Public and stakeholders outreach efforts are provided.
Section 5 – Hazard Analysis	Moderate Revisions	Each hazard profile and hazard ranking was reviewed. Historic events for the last 5 years were updated. Hazard mapping was reviewed and added for the WRPT. Additionally, climate change was reviewed as appropriate for each hazard profile. Where applicable, climate change information was incorporated into the Location, Extent, and Probability of Future Events section of each hazard profile.
Section 6 – Vulnerability Analysis	Minor Revisions	Population and building stock, as well as critical facilities and infrastructure, were reviewed and updated. Each hazard was also reviewed for environmental impacts. New information was added for the Walker River Paiute Tribe.
Section 7 – Capability Assessment	Minor Revision	Capability assessment was reviewed with Planning Committee and minor revisions were made. New information was added for the Walker River Paiute Tribe.
Section 8 – Mitigation Strategy	Minor Revisions	The status of each mitigation action was reviewed with the committee and documented in Appendix F. The Committee reviewed the priority of each action utilizing the STAPLE+E criteria.
Section 9 – Plan Maintenance	Minor Revisions	The Planning Committee discussed how to better implement an annual review of the HMP and incorporated this into the document.
Section 10 – Reference	Minor Revisions	Updated to include materials referenced for this update.

Each section of the previous LHMP plan was reviewed for content and the committee revised every section of the plan.

4.2 HAZARD MITIGATION PLANNING COMMITTEE

4.2.1 Formation of the Planning Committee

As previously noted, the planning process began in February 2016. T.C. Knight, Emergency Management for the County, formed the advisory body, known as the Planning Committee, utilizing the Local Emergency Planning Committee (LEPC) which included staff from relevant County agencies, the Hawthorne Army Depot, community organizations and the WRPT. The Planning Committee members are listed in Table 4-2. The Planning Committee meetings are described in section 4.2.2. Meeting minutes are provided in Appendix C.

Table 4-2. Mineral County Hazard Mitigation Planning Committee

Name	Department	Participation
Chair: T.C. Knight	Mineral County Fire Chief	Chair of the Committee, chaired meetings, provided evaluation and information on the following sections, wildfire, vulnerability analysis, risk assessment, mitigation strategies, plan maintenance. Attended meetings, reviewed drafts and provided input.
Karen Johnson	Nevada Division of Emergency Management	Liaison between State of Nevada and Mineral County. Provided information on tools, guidance, plan outline, state hazards, mitigation strategies, plan maintenance Attended meetings, reviewed drafts and provided input
Stephanie Hicks	Nevada Division of Emergency Management	Prepared draft and final plan.
Wanda Nixon	Mineral County Health Nurse	Provided information on epidemics, vulnerability analysis, risk assessment, mitigation strategies. Attended meetings, reviewed drafts and provided input.
Joyce Brown	Mineral County LEPC Secretary	Liaison between Mineral County and State of Nevada. Attended meeting, participated in hazard ranking, provided input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Cynthia Oceguera	Walker River Paiute Tribe	Liaison between Walker River Paiute Tribe and Mineral County and State of Nevada. Provided tribal community profile, hazard ranking, input on hazard profiles and mitigation actions, reviewed draft and provided input.
Robert Weaver	Mineral County Fire Department	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Mike Fontaine	Mineral County Building Official	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Mike Trujillo	Mineral County Public Works	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Bill Ferguson	Mineral County Sheriff's Office	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Larry Grant	Hawthorne Utilities	Provided vulnerability input, input regarding utilities. Attended meetings, reviewed drafts and provided input.
Patrick Hughes	Mineral County Emergency Manager	Co-Chair of the Committee, chaired meetings, provided evaluation and information on the following sections, wildfire, vulnerability analysis, risk assessment, mitigation strategies, plan maintenance. Provided information on hospital Attended meetings, reviewed drafts and provided input
Tony Hughes	Mineral County Independent News	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input

Timothy Rutherford	Hawthorne Army Depot Fire Department	Provided information on fire and mitigation strategy Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Mike Trujillo	Mineral Co. Public Works	Provided information on county buildings, vulnerability analysis, mitigation strategies. Attended meetings, reviewed drafts and provided input
Paul Macbeth	Mineral County Commissioner	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
MJ Dykxhoorn	Hawthorne Van Coordinator for Reno VA	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Rick Schumann	Hawthorne Army Depot Fire Department	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Rob Mathias	Member at Large	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Adam Greenfield	Fire Chief Walker Lake	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Doug Homestead	Hawthorne Army Depot Fire Department	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.
Brian Dillard	Mineral County Sheriff's Office	Attended meetings, participated in hazard ranking, input on hazard profiles and mitigation actions, reviewed drafts and provided input.

4.2.2 Planning Committee Meetings & Monthly Progress

- ***February 2016***

During the kick-off meeting, at the Mineral County Fire Station, the Committee discussed the objectives of the DMA 2000 and the hazard mitigation planning process. Dr. Craig dePolo, Geologist, Bureau of Mines & Geology, briefed the committee on the Mineral County earthquake history and vulnerability. T.C. Knight & Mineral County Floodplain Manager Mike Fontaine briefed the committee on area hazards. See Appendix D for agenda, handouts and minutes.

- ***April 2016***

The Planning Committee was presented with draft changes to the first five sections of the plan. Karen Johnson with the Nevada Division of Emergency Management discussed the significant changes to the plan and the information that would be needed to complete the update, particularly regarding the addition of the Walker River Paiute Tribe. Sections 1-3 were briefly reviewed. Information regarding updates to demographics was requested from the County and also the Tribe. The Committee reviewed and updated the Incorporation of Existing Plans/Study Table to identify all the plans/studies available and that will be incorporated into the HMP. The Committee reviewed and provided updated historical information for the avalanche, drought,

earthquake, and epidemic hazard profiles. The Committee also discussed the public outreach process, community questionnaire, and the steps involved in updating the HMP.

- ***May 2016***

The Committee reviewed and discussed the press release and public questionnaire. Changes were made to update both and it was agreed the press release would be published in the local newspaper. The press release would notify of the public questionnaire which was made available on the County website, at the Mineral County Library and at the Care and Share.

The Committee complete the hazard ranking worksheets in order to prioritize hazards in the County and reviewed additional hazard profiles including flood and hazardous materials.

- ***June 2016***

The Planning Committee met in June and further discussed the flood hazard history in the County. The press release was posted in the Mineral County Independent News advising of the planning process and requesting public participation.

- ***July 2016***

At the July meeting, the Committee reviewed the critical facilities and infrastructure in Section 6 – Vulnerability Analysis. The Committee provided information regarding current projects in the County and recent projects that were constructed in the last 5 years, The Committee also reviewed Section 7 – Capability Assessment and provided updates to legal and regulatory capabilities, as well as financial capabilities. Another press release was published in the Mineral County Independent News to advise that the public questionnaire would be available on the Mineral County website as well as, at the Mineral County Library and at the Care and Share.

- ***August 2016***

The Planning Committee reviewed and finalized the hazard ranking for the plan.

- ***September 2016***

The Planning Committee was presented with the results of the Questionnaire (see Appendix D). The Planning Committee reviewed mitigation goals and actions and new actions were identified. The Committee used STAPLE+E form to prioritize actions. See Appendix E for meeting handouts. With the information from the prioritization process the Planning Committee selected the top actions they felt were feasible and realistic to be completed during this iteration of the HMP. With this information they completed the Mitigation Action matrix.

- ***October - November 2016***

The completed plan was distributed to the Planning Committee for their review. The plan was provided to the NV State Hazard Mitigation Officer for review and submission to FEMA.

4.2.3 Plans, Studies, Reports and Technical Information

In the 2010 plan, John Stroud, the Chair of the Committee felt that the information available was of high quality. He identified two studies, URM building mapping and better identification of fire access roads and dirt road, would be helpful to the next plan update. Since this time, the URM buildings have been mapped. The current Planning Committee has updated the mitigation actions to include a URM site analysis and ground truthing. Mapping these structures provides

information regarding proximity to fault lines and buildings that are located in the flood zones. The access and dirt road system would provide a better understanding of escape routes and fire breaks.

4.3 PUBLIC INVOLVEMENT

The public was invited to participate in the planning committee meetings and meeting agenda were posted. Additionally, two press releases were published in the local paper and a questionnaire was placed on the County website, at the Mineral County Library and at the Care and Share. From this outreach 33 questionnaires were returned and input and review was provided.

Questionnaire

In July 2016, a questionnaire was placed on the County website, at the Mineral County Library and at the Care and Share. The questionnaire remained available until the end of September. The questionnaire and the results can be found in Appendix D.

Press Release & Public Awareness

A press release was published twice in the Mineral County Independent News which services the County through a printed newspaper and a web site. The press releases can be found in Appendix D. Additionally, all committee planning meeting agendas were posted at the County offices and the public was welcome and invited to attend.

Letters to Stakeholders and Neighboring Communities

The County mailed letters (see Appendix D) regarding the update of the HMP to the following entities:

- FEMA – Did not attend but will review the plan.
- State NDEM, NDOT – Did not attend but provided input and review.
- State Assembly & Senate Representative – Did not participate.
- Counties of Churchill, Esmeralda, Lyon, and Nye– Did not participate but their HM plans were reviewed for hazard information.
- County Public Airport – Attended, provided input and review.
- Healthy Communities Coalition– Attended, provided input and review.
- National Weather Service – Attended, provided input and review.

All but FEMA, State Assembly and Senate Representative, and neighboring counties participated. FEMA will be sent the plan for review. The neighboring counties were aware of the planning effort and offered to provide answers to specific questions. No questions were requested of them during the planning effort.

4.4 INCORPORATION OF EXISTING PLANS AND OTHER RELEVANT INFORMATION

During the planning process, the Planning Committee reviewed and incorporated information from existing plans, studies, reports, and technical reports into the HMP. A synopsis of the sources used follows.

- ***Mineral County Building Code*** **(2012):** These regulations concern zoning districts, variances, and general development standards within Mineral County and includes the 2006 US Building Codes.
- ***Mineral County Fire Code*** **(2012)*:*** This document includes a wildland/urban interface section that delineates regulations for building and maintaining homes in wildland fire prone areas.
- ***Mineral County Master Plan*** **(2011; currently updating for 2017) –** This document includes planning and zoning information.
- ***Mineral County Open Space Plan (Resource Concepts Inc. 2010):*** The plan describes methods the County could use to ensure recreational access, protect natural and historic resources and maintain open space lands.
- ***Walker River Regional Floodplain Management Plan*****:** This plan provides strategies for floodplain management that can be applied regionally as well as locally.
- ***Community Wildfire Protection Plan*** **(Resource Concepts Inc. August 2004).:** This document includes findings and recommendations for mitigating the threat to property from wildland fires.
- ***Emergency Action Plan (Draft)****:* This document is the main reference source for managing disasters and large scale emergencies in Mineral County. Annex P provides guidance for hazard mitigation.
- ***Mineral County Hazardous Materials Response Plan****:* This plan provides guidance to emergency response personnel on the general plan of action for a response to a hazardous materials emergency and provides for a resource directory.
- ***Water Facility Emergency Operations Plan***
- ***Water Protection Plan (2004)***
- ***Mineral County POD Plan (2009):*** Provides public heath preparedness guidance.
- ***Weber Dam Emergency Action Plan (2014)***
- ***Army Depot Hazardous Materials Plan (2016)***
- ***Mineral County Mass Fatality Plan***
- ***Solid Waste Management Plan (2010*****):** Provides guidance on solid waste management.
- ***Walker River Paiute Tribe Comprehensive Emergency Plan (2011)***: This plan provides guidance to emergency personnel responding to disasters.

- ***State of Nevada Enhanced Multi-Hazard Mitigation Plan 2013****:* This plan, prepared by NDEM, was used to ensure that the County's HMP was consistent with the State's Plan.
- ***FEMA Flood Insurance Study for Mineral County, NV (*****FEMA 2011*****)****:* This outlined the principal flood problems and floodplains within the County.

The following FEMA guides were also consulted for general information on the HMP process:

- ***How-To Guide #1: Getting Started: Building Support For Mitigation Planning*** **(FEMA 2002c)**
- ***How-To Guide #2: Understanding Your Risks – Identifying Hazards and Estimating Loss Potential*** **(FEMA 2001)**
- ***How-To Guide #3: Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies*** **(FEMA 2003a)**
- ***How-To Guide #4: Bringing the Plan to Life: Implementing the Hazard Mitigation Plan*** **(FEMA 2003b)**

A complete list of the sources consulted is provided in Section 10, References.

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A hazard analysis includes the identification and screening of each hazard and subsequent profiling of each hazard. Hazard identification is the process of recognizing the natural and human-caused events that threaten an area. Natural hazards result from unexpected or uncontrollable natural events of sufficient magnitude. Human-caused hazards result from human activity and include technological hazards and terrorism. Technological hazards are generally accidental or result from events with unintended consequences, for example, an accidental hazardous materials release. Terrorism is defined as the calculated use of violence or threat of violence to attain goals that are political, religious, or ideological in nature.

Even though a particular hazard may not have occurred in recent history in the study area, all hazards that may potentially affect the study area are included in the screening process. The hazards that are unlikely to occur or for which the risk of damage is accepted as being very low, are eliminated from consideration.

All identified hazards will be profiled by describing hazards in terms of their nature, history, magnitude, frequency, location, and probability. Hazards are identified through the collection of historical and anecdotal information, review of existing plans and studies, and preparation of hazard maps of the study area. Hazard maps are used to determine the geographic extent of the hazards and define the approximate boundaries of the areas at risk.

5.1 HAZARD IDENTIFICATION AND SCREENING

The requirements for hazard identification, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Risk Assessment – Overall

Identifying Hazards
§201.6(c)(2)(i): [The risk assessment shall include a] description of the type of all natural hazards that can affect the jurisdiction.
Element

- Does the new or updated plan include a description of all the types of all natural hazards that affect the jurisdiction?

Source: FEMA, March 2008.

The first step of the hazard analysis is the identification and screening of hazards, as shown in Table 5-1. During the first HMP meeting, the Planning Committee (comprised of representatives from the County agencies, local businesses, State Division of Emergency Management, Hawthorne Army Depot) reviewed the State's identified hazards from the State of Nevada Hazard Mitigation Plan and identified 16 possible hazards (14 natural hazards and 2 human-caused hazards).

Table 5-1. Identification and Screening of Hazards

Hazard Type	Should It Be Profiled?	Explanation
Avalanche	Yes	No historical record of this hazard in the County however possibility near Walker Lake
Drought	Yes	Statewide drought declarations were issued in 2002 and 2004.
Earthquake	Yes	Several active fault zones pass through the County.
Epidemic	Yes	This hazard was addressed in the State Multi-Hazard Mitigation Plan.
Expansive Soils	No	No historical record of this hazard in the County
Extreme Heat	No	No historical record of this hazard in the County
Flood (Including Dam/Levee Failure)	Yes	Flash floods and other flood events occur regularly during thunderstorms.
Hazardous Material Event	Yes	Mineral has several facilities that handle or process hazardous materials.
Infestations	Yes	No recorded damages
Land Subsidence & Ground Failure	Yes	Rock slides annually during winter months near Walker Lake and Highway 95.
Severe Weather Snow/Ice//Windstorm	Yes	Mineral is susceptible to severe weather. Previous events have caused damage to property.
Seiche	No	No recent historic events have occurred.
Tornado	Yes	While rare, weak tornadoes have caused damage to property (2015). This hazard will be included in Severe Weather section due to low frequency.
Volcano	Yes	No significant historic events have occurred in the County. However a young volcano resides in the County and Mammoth has a small chance of an event occurring.
WMD / Terrorism	Yes	This hazard is addressed due to the presence of Hawthorne Army Depot.
Wildland Fire	Yes	The terrain, vegetation, and weather conditions in the region are favorable for the ignition and rapid spread of wildland fires.

Assigning Vulnerability Ratings

During Committee meetings the members were tasked to prioritize the hazards by their total impact in the community. An exercise requiring the committee to complete a form which tabulated their ratings of each hazard was accomplished. The exercise formula took into account the historical occurrence of each respective hazard, the potential area of impact when the disaster does occur, and the magnitude. Please see Table 5-2 below for scoring criteria.

It is important to note that hazards of the same magnitude and the same frequency can occur in similar sized areas; however, the overall impact to the areas would be different because of population densities and property values in the areas impacted.

Table 5-2. Vulnerability Ratings Rubric

		Frequency	Magnitude/Severity	Warning Time	Duration
Lowest	1	1000+ years	1-5% Damaged; No deaths; Local	> 48 hrs	1 - 3 Days
	2	100 -1000 years	5-15%; No deaths; City/Community	24 to 48 hrs	4 - 7 Days
	3	10 -100 years	15-30%; < 5 Deaths; County	12 to 24 hrs	8 - 14 Days
	4	5 -10 years	30-50%; > 5 Deaths; State	6 to12 hrs	15 - 20 Days
Highest	5	0 - 5 years	50+%; Significant Deaths; Region IX	< 6 hrs	20+ Days

The Committee referenced the NDEM historical records, and data provided in the 2012 Mineral County Hazard Mitigation Plan, as well as HAZUS runs from the Nevada Bureau of Mines and Geology (NBMG) for scientific data used for magnitude, economic and frequency scores based on historical frequencies and/or projected probabilities of the hazards identified, as well as members' knowledge of previous occurrences and technical expertise.

The Committee calculated scores for magnitude, economic and frequency based on historical frequencies and/or projected probabilities of the hazards identified.

Upon obtaining total scores for each hazard, the Planning Committee utilized the scores to analyze and prioritize the hazards to focus upon during the profiling, vulnerability assessment and mitigation strategy. Table 5-3 provides the summary of the hazards scoring results of both the members present at the meeting and those that supplied feedback via e-mail after the meeting.

The Planning Committee determined that twelve hazards pose a threat to the County: drought, earthquakes, epidemic, floods, hazardous materials events, infestation, land subsidence, severe weather, terrorism/WMD, volcano, and wildland fires.

Table 5-3. 2016 Preliminary Hazard Ranking Results

Mineral County		
High Risk	**Medium Risk**	**Low Risk**
Earthquake Flood Wildland Fire	Drought Epidemic Hazardous Materials Landslide Severe Weather Terrorism Volcano	Avalanche Infestation
Walker River Paiute Tribe		
High Risk	**Medium Risk**	**Low Risk**
Flood Severe Weather	Drought Earthquake Wildland Fire	Avalanche Epidemic Hazardous Materials Infestation Landslide Terrorism Volcano

The Committee then discussed the results of the ranking and through Committee deliberation, flood was considered high hazard. Earthquake, epidemic, hazardous materials, severe weather, terrorism and wildfire are considered moderate hazards. Avalanche, drought, infestation, and land slide and volcano were considered low hazards.

Table 5-4. Hazard Ranking

High Risk	Medium Risk	Low Risk
Flood	Earthquake Epidemic Hazardous Materials Severe Weather Terrorism Wildland Fire	Avalanche Drought Infestation Landslide Volcano

The remaining hazards excluded through the screening process were considered to pose no threat to life and property in the County due to the low likelihood of occurrence or the low probability that life and property would be significantly affected. Should the risk from these hazards increase in the future, the HMP can be updated to incorporate a vulnerability analyses for these hazards.

All hazards will be carried through to the Risk Assessment and will be addressed in the Mitigation Strategy. The County's Hazard Rating results generally correspond with ratings determined in the State of Nevada Standard Hazard Mitigation Plan except for terrorism which was considered high by the State and medium by the County. This may be due to Mineral County's distance from the major cities within Nevada which are more at risk to terrorism events.

5.2 HAZARD PROFILE

The requirements for hazard profile, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Risk Assessment – Profiling Hazards

Profiling Hazards

Requirement §201.6(c)(2)(i): [The risk assessment **shall** include a] description of the location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

Element

- Does the risk assessment identify the **location** (i.e., geographic area affected) of each natural hazard addressed in the plan?
- Does the risk assessment identify the **extent** (i.e., magnitude or severity) of each hazard addressed in the plan?
- Does the plan provide information on **previous occurrences** of each hazard addressed in the plan?
- Does the plan include the **probability of future events** (i.e., chance of occurrence) for each hazard addressed in the plan?

Source: FEMA, March 2008.

The specific hazards selected by the Planning Committee for profiling have been examined in a methodical manner based on the following factors:

- Nature
- History
- Location of future events
- Extent of future events
- Probability of future events

The hazards profiled for the County are presented in Section 5.2 hazards in alphabetical order. The order of presentation does not signify the level of importance or risk. Low hazards were not profiled.

5.2.1 Avalanche

Planning Significance – Low

5.2.1.1 Nature

An avalanche is a mass of snow sliding down a mountainside. An avalanche occurs when gravitational pull exceeds the bonding strength of the snow cover. There are four factors that contribute to an avalanche; a steep slope, a snow cover, a weak layer in the snow cover, and a trigger. About 90 percent of all avalanches start on slopes of the 30-45 degrees; about 98 percent of all avalanches occur on slopes of 25-50 degrees. Avalanches release most often on slopes above timberline, such as gullies, roads cuts, and small openings in the trees. Avalanches can also occur on small slopes well below timberline, such as gullies, road cuts, and small openings in the trees. Very dense trees can anchor the snow to steep slopes and prevent avalanches from starting; however, avalanches can release and travel through a moderately dense forest.

The vast majority of avalanches occur during and shortly after winter storms, during the winter and spring months between January and April. The most avalanche-prone months are in order, February, March, and January. The avalanche danger increases with major snowstorms and periods of thaw. Duration of avalanche impacts is generally one to three days or less.

5.2.1.2 History

According to the NOAA Representative, Chris Smallcomb, there is no recorded history of avalanches in Mineral County.

5.2.1.3 Location, Extent, and Probability of Future Events

The area affected is the western section of the County within the higher altitudes in mountain passes. There are no homes within the avalanche areas however there is US95 at Anchorite Pass and State Route 6 at Montgomery Pass. The avalanche hazard would not have disaster magnitude and would be rated as an emergency incident and road closure. There is a low probability of future events based on no previous occurrences.

5.2.2 Drought

Planning Significance - Low

5.2.2.1 Nature

Drought is a normal, recurrent feature of virtually all climatic zones, including areas of both high and low rainfall, although characteristics will vary significantly from one region to another. Erroneously, many consider it a rare and random event. It differs from normal aridity, which is a permanent feature of the climate in areas of low rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period of time, typically one or more seasons in length. Other climatic characteristics, such as high temperature, high wind, and low relative humidity, impact the severity of drought conditions.

Drought can be defined using both conceptual and operational definitions. Conceptual definitions of drought are often utilized to assist in the widespread understanding of drought. Many conceptual definitions portray drought as a protracted period of deficient precipitation resulting in extensive damage to agricultural crops and the consequential economic losses. Operational definitions define the beginning, end, and degree of severity of drought. These definitions are often used to analyze drought frequency, severity, and duration for given periods of time. Such definitions often require extensive weather data on hourly, daily, monthly, or other time scales and are utilized to provide a greater understanding of drought from a regional perspective. Four common definitions for drought are provided as follows:

- Meteorological drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- Hydrological drought is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- Agricultural drought is defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops.
- Socioeconomic drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. This may also be called a water management drought.

A drought's severity depends on numerous factors, including duration, intensity, and geographic extent as well as regional water supply demands by humans and vegetation. Due to its multi-dimensional nature, drought is difficult to define in exact terms and also poses difficulties in terms of comprehensive risk assessments.

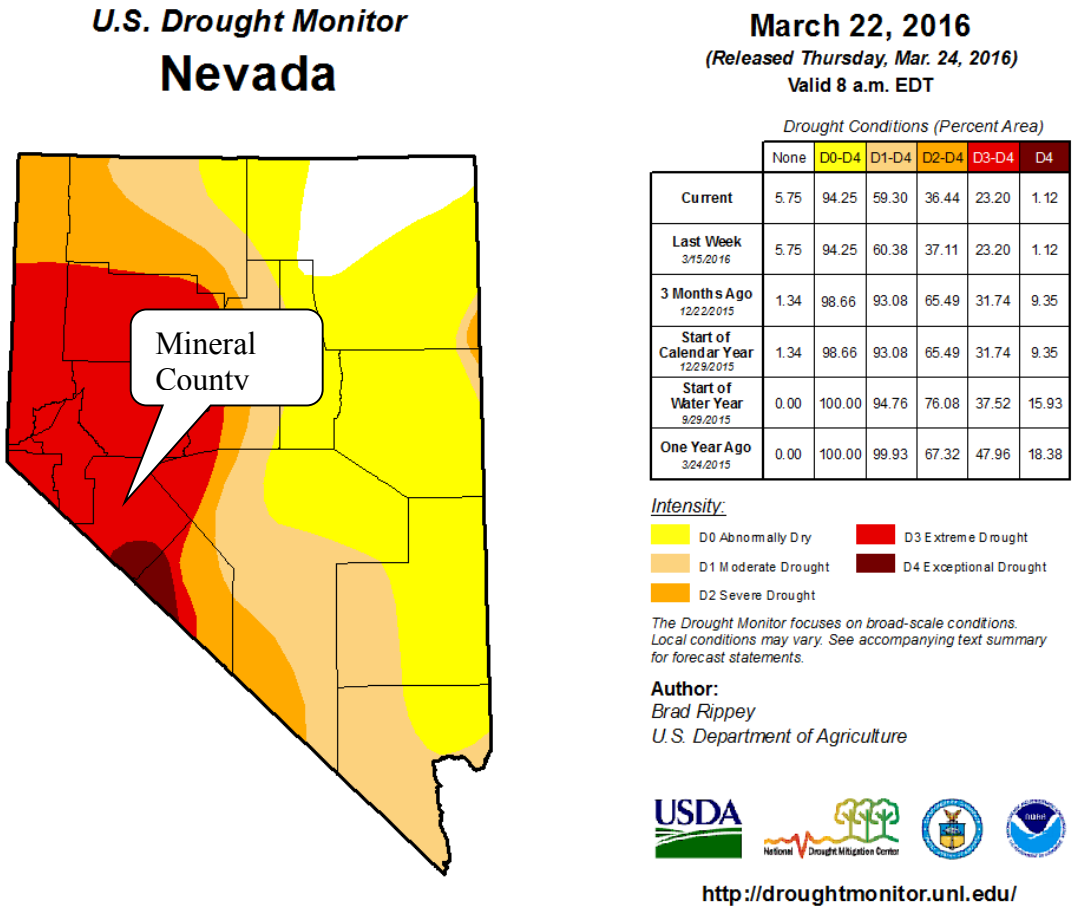
Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering of effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.

5.2.2.2 History

Mineral County lies within Nevada's South Central climate division 3. The drought data are reported from 1895 to the present by the National Climatic Data Center (NCDC). In the South Central division there were 31 observed months in the time span from 1895—2006 that were rated as Extreme Drought, -4 or less. The major drought years in this division were 1928, 1934, 1959, 1960, and 2002. The worst years were 1928 and 1934, in which seven out of twelve months were below –4, with May 1934 peaking out at –6.3.

In 2002, 2004, 2008, 2014, and 2015 the U.S. Department of Agriculture designated all 17 counties in Nevada as drought affected. As of early 2016, the U.S. Seasonal Drought Monitor classified the majority of Nevada as being in drought with the western half of the state including Mineral County more severely impacted compared to eastern Nevada (See Figure 5-1 below). Implications from this drought include increased risk of wildfires, water shortages, insect infestations, and crop damages.

Figure 5-1 - U.S. Drought Monitor for March 22, 2016.

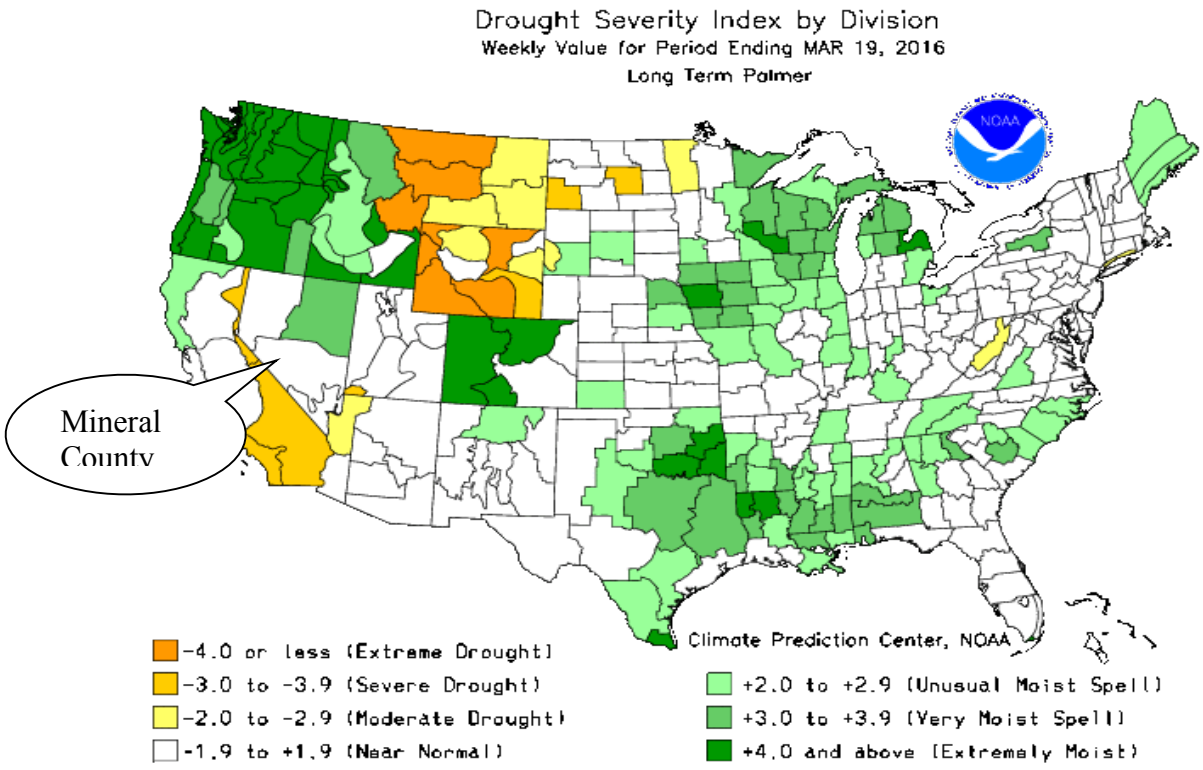


Source: droughtmonitor.unl.edu

5.2.2.3 Location, Extent, and Probability of Future Events

In the County, moderate, severe and extreme drought conditions (D-0 to D4-rated intensities on the U.S. Seasonal Drought Monitor) have persisted over the past ten years. Drought would affect the County economically due to the agriculture and water derived from wells within the County. The U.S. Seasonal Drought Outlook forecasts that Nevada, including Mineral County, will continue to be affected by drought. However, in 2015 summer rain in northeastern and extreme southern- Nevada drove some improvement in the four-year drought gripping Nevada. Additionally, the 2015-2016 winter snowpack hit a 5-year high. Further improvements in drought conditions are reflected in the Palmer Drought Severity Index below which estimates that Mineral County will move out of the extreme drought range and can expect near normal drought in the future.

Figure 5-2: Drought Severity Index



Source: NOAA; www.NOAA.gov

Climate Change:

There is an expectation that the effects of climate change will result in rising snow levels. The rising snow levels will result in a large fraction of winter precipitation falling as rain instead of snow. As a result of the predicted changing precipitation source, maintaining, creating additional resources will become even more important for storing water supply.

5.2.3 Earthquake

Planning Significance – Medium

5.2.3.1 Nature

An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of the earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. The most common effect of earthquakes is ground motion, or the vibration or shaking of the ground during an earthquake.

The severity of ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Ground motion causes waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves. There are two kinds of seismic waves. P (primary) waves are longitudinal or compressional waves similar in character to sound waves that cause back-and-forth oscillation along the direction of travel (vertical motion). S (secondary) waves, also known as shear waves, are slower than P waves and cause structures to vibrate from side to side (horizontal motion). There are also two kinds of surface waves: Raleigh waves and Love waves. These waves travel more slowly and typically are significantly less damaging than seismic waves.

In addition to ground motion, several secondary hazards can occur from earthquakes, such as surface faulting. Surface faulting is the differential movement of two sides of a fault at the earth's surface. Displacement along faults, both in terms of length and width, varies but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures including railways, highways, pipelines, and tunnels.

Earthquake-related ground failure due to liquefaction is another secondary hazard. Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure and causing some of the empty spaces between granules to collapse. Porewater pressure may also increase sufficiently to cause the soil to behave like a fluid for a brief period and cause deformations. Liquefaction causes lateral spreads (horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property.

The effects of earthquake waves at the surface can be measured using the Modified Mercalli Intensity (MMI) Scale, which consists of arbitrary rankings based on observed effects, or the Richter Magnitude Scale, a mathematical basis that expresses the effects of an event in magnitude (M).

5.2.3.2 History

Nevada is ranked third in the states having the highest number of large earthquakes. The Sierra Nevada-Great Basin seismic belt includes earthquakes along the eastern side of the Sierra Nevada and appears to be a northern continuation of the Eastern California seismic belt. The Central Nevada seismic belt, shown on the map below, which trends north-south in the west-

central part of the state, includes the largest historic earthquakes in Nevada in the 20th century. Mineral County sits within both belts.

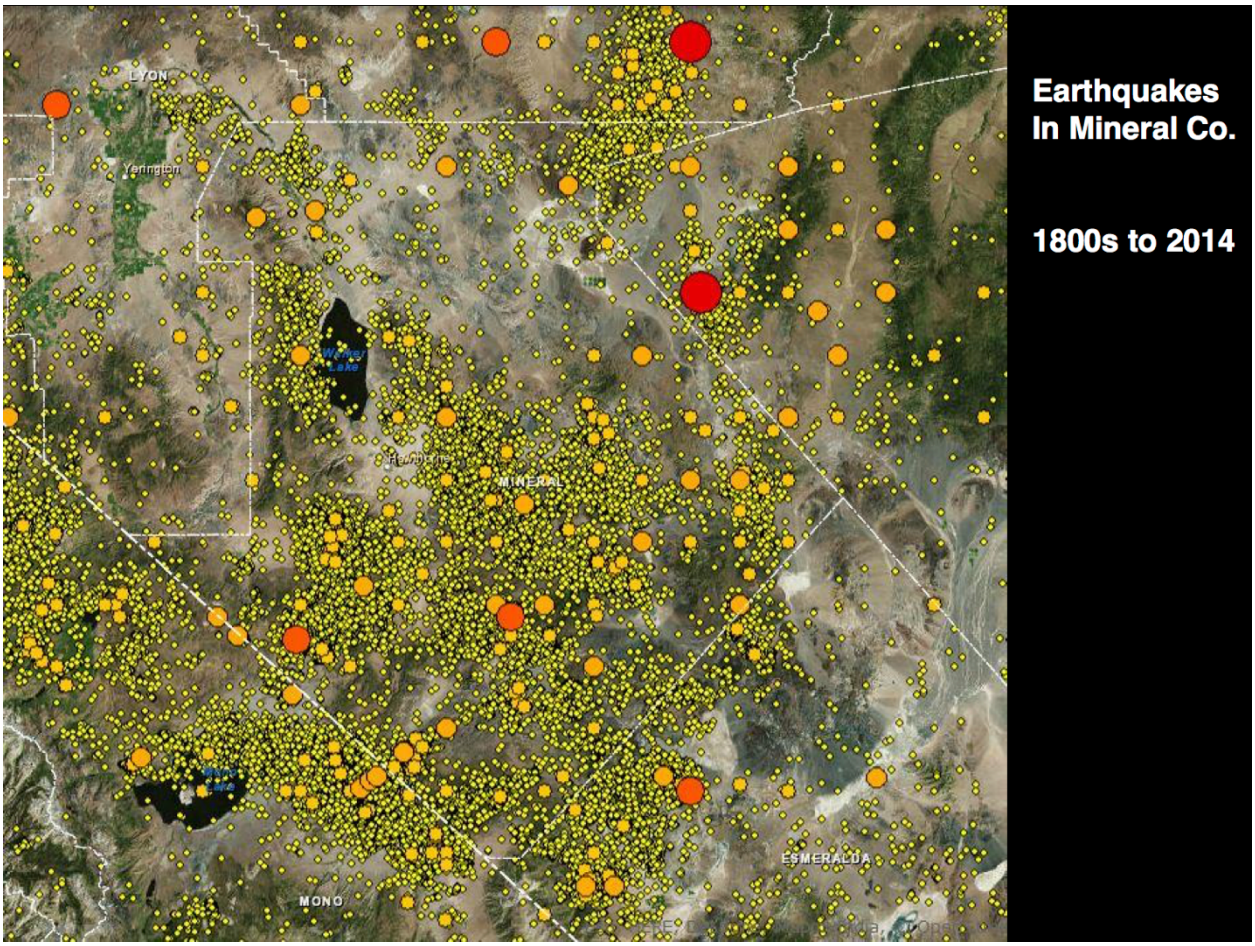
The table below provides the historical earthquakes over 5.0 magnitude in Mineral County and Figure 5-3 illustrates earthquake activity in Mineral County from the 1800s to 2014.

Table 5-5 Large Historic Earthquakes in Mineral County

Large Historic Earthquakes in Mineral County		
Date	**Magnitude**	**Near**
December 21, 1932	7.1	Eastern Mineral Co.
January 30, 1934	5.5	Southern Mineral Co.
September 14, 1941	6.1	Northern Mineral Co.
September 14, 1941	5.9	Northern Mineral Co.
March 23, 1959	6.3	Northwest Mineral Co.
June 23, 1959	5.6	Northwest Mineral Co.
June 6, 1960	5.5	Western Mineral Co.
September 7, 1980	5.5	Southern Mineral Co.
September 7, 1980	5.1	Southwest Mineral Co.
September 7, 1980	5.0	Southern Mineral Co.

Source: NBMG 2016; USGS 2016 - http://earthquake.usgs.gov/earthquakes/map

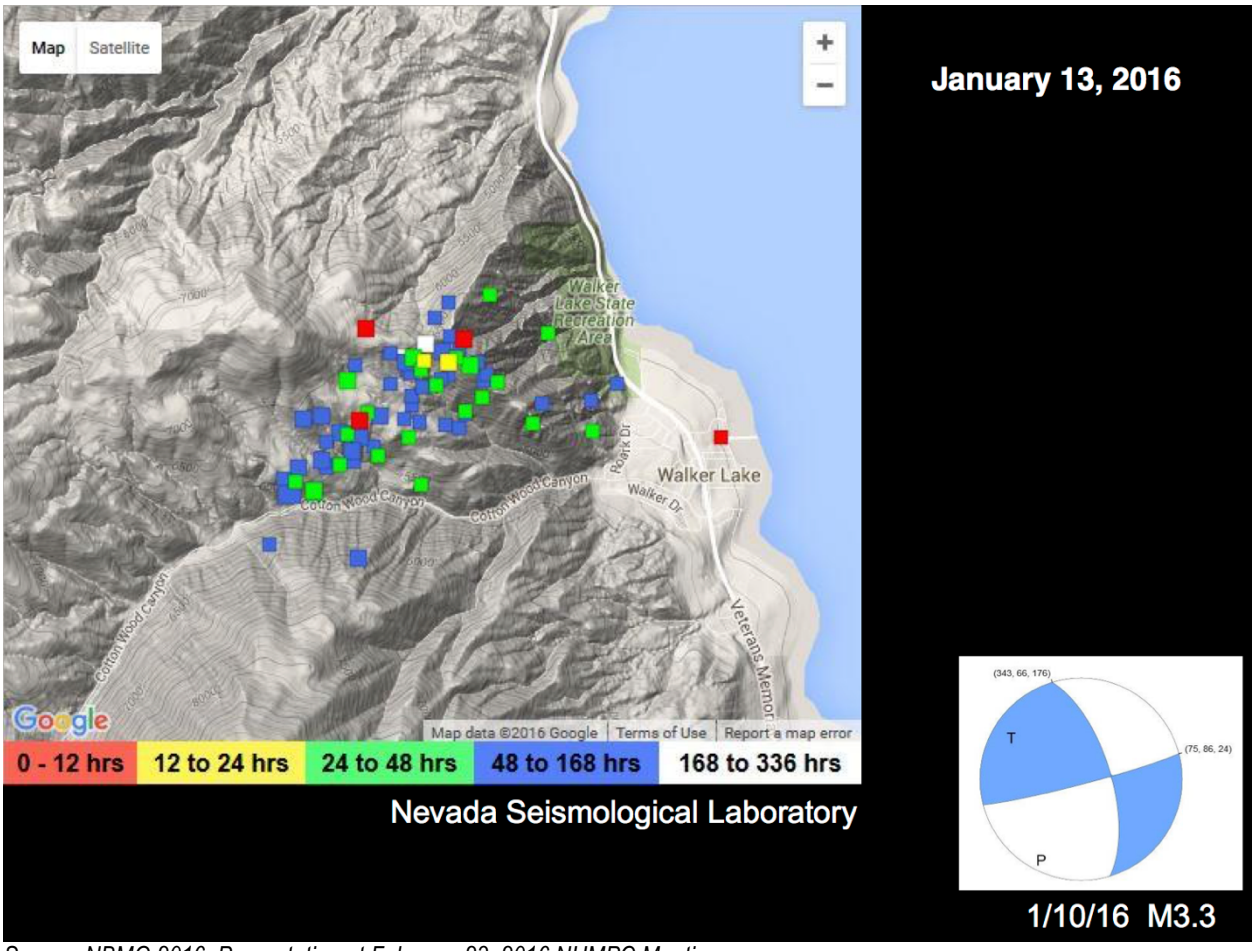
Figure 5-3 Earthquakes in Mineral County



Source: NBMG 2016; Presentation at February 23, 2016 NHMPC Meeting

It was first noted that in March and April of 2011 there were a cluster of over 100 earthquakes north of Walker Lake and south east of Hawthorne the greatest being a 4.6 magnitude. Since this time, this area has remained very active and is more active that other areas in Nevada. See Figure 5-4. UNR's Seismology Lab will continue to monitor these areas.

Figure 5-4 Earthquake Clusters near Walker Lake

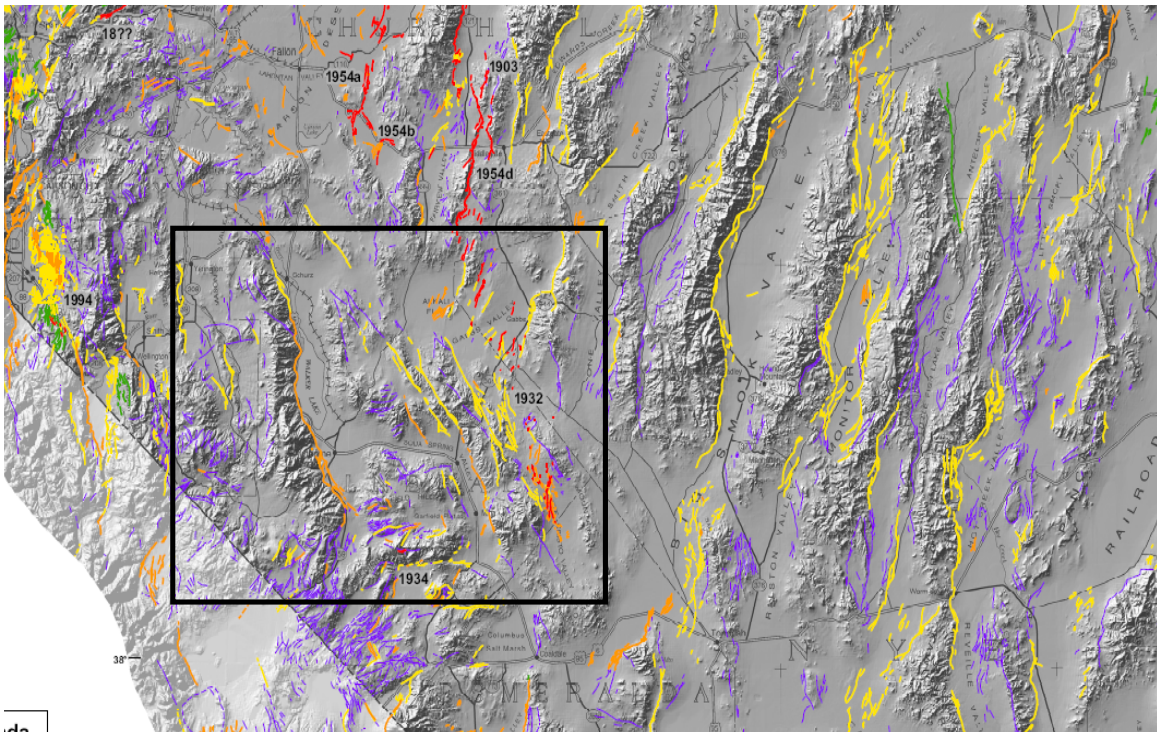


Source: NBMG 2016; Presentation at February 23, 2016 NHMPC Meeting

5.2.3.3 Location, Extent, and Probability of Future Events

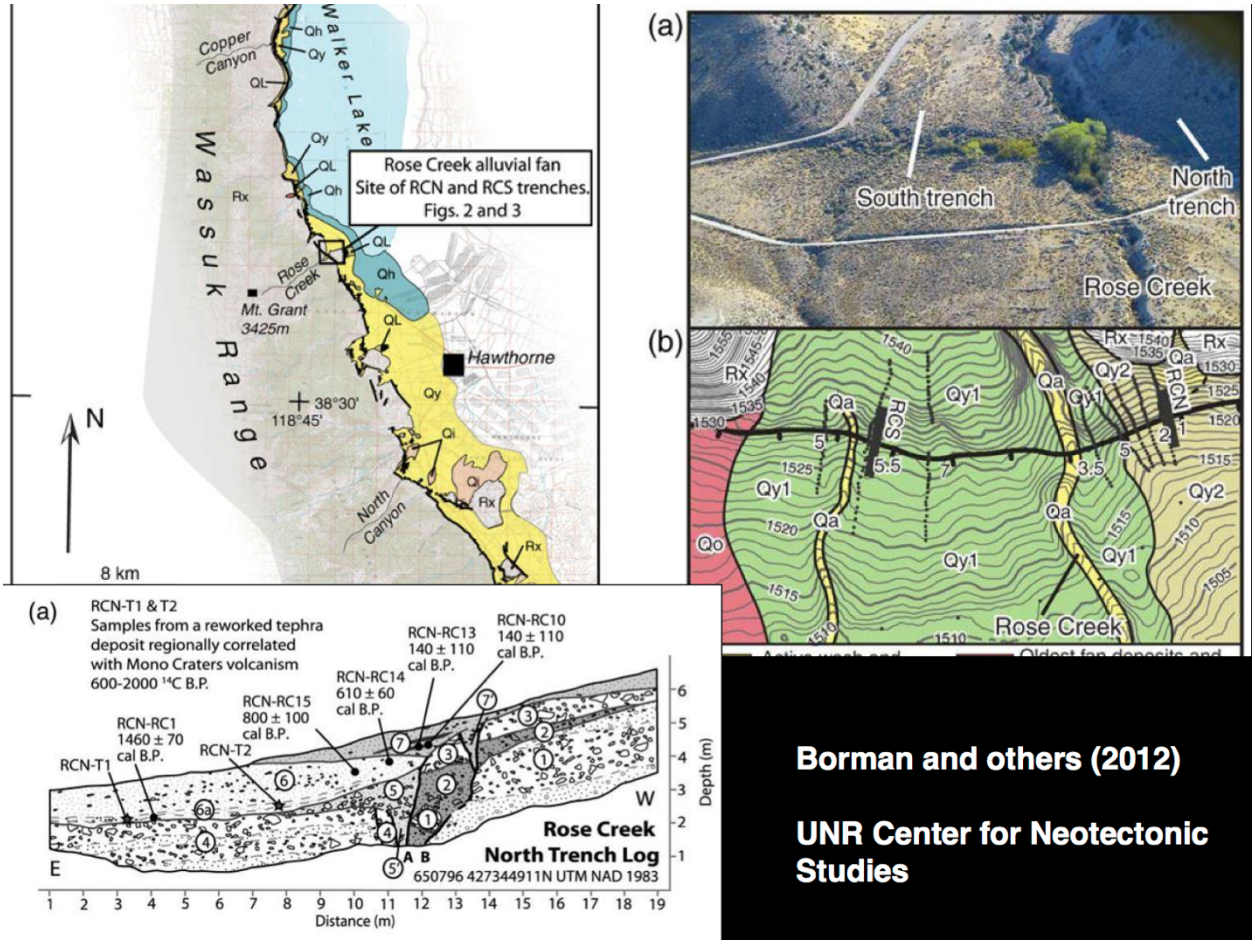
The location of damage from an earthquake would have the greatest impact in Hawthorne or Schurz with the highest population density. The figures below provide a map of the major faults in Mineral and the fault line along the Wassuk Range west of Walker Lake. The map in Appendix B, Figure B-6 shows greater detail of the fault lines in Mineral.

Figure 5-5: Major Faults Mineral County



Source: NBMG 2010 http://www.nbmg.unr.edu/Pubs/m/m167/m167.pdf

Figure 5-6: Fault along the Wassuk Range



Source: NBMG 2016; Presentation at February 23, 2016 NHMPC Meeting

The Nevada Earthquake Safety Council, in part through the services of the Nevada Bureau of Mines and Geology (NGMG) and the Nevada Seismological laboratory, provides assistance of Earthquake risk assessment and earthquake mitigation activities for the State of Nevada. The Hazard Mitigation Planning Committee will utilize the Nevada Earthquake Risk Mitigation Plan (NERMP) for consideration in identifying Mineral County Policy and mitigation Strategies.

The Executive Summary of the NERMP states that Nevada is earthquake country, ranking third in the nation in the number of major earthquakes. Since the 1850s, 62 earthquakes have occurred in Nevada that have had potentially destructive magnitudes of 5.5 (Richter Scale) or greater. Nevada is a national leader in population growth, and the risk of harm and loss from earthquakes increases proportionally with population and development. We can expect earthquakes to continue to occur in Nevada and some of these will strike our growing urban centers and communities.

"The occurrence rates of major historical earthquakes in western Nevada produced 1 ½ to 7 times higher probabilities of having a major earthquake than estimates based on instrumental seismicity and geological data sets." NBMG Open-File Report 03-3, Nevada Bureau of Mines and Geology, 2003. The extent & probability for the entire County is shown in the figure below

was provided by the Nevada Bureau of Mines & Geology and is the probability of earthquakes of various magnitudes occurring within 50 years within 50 kilometers.

According to a recent presentation to NHMPC by Craig dePolo of the NBMG, Mineral has a 6% chance of having an earthquake that is elevated and should motivate individuals to take action. Due to activity Mineral would be in top 5 areas of the State that is more at risk to a larger earthquake.

Table 5-6: Earthquake Probability

County	% of Probability of magnitude greater than					Rank by Probability
	5.0	5.5	6.0	6.5	7.0	
Hawthorne	>90	~75	61	30-40	10-12	10th highest in the state of NV

Source: Bureau of Mines & Geology, UNR, Estimated Losses from Earthquakes Near NV Communities, 2009

5.2.4 Epidemic

Planning Significance - Medium

5.2.4.1 Nature

A disease is a pathological (unhealthy or ill) condition of a living organism or part of the organism that is characterized by an identifiable group of symptoms or signs. Disease can affect any living organism, including people, animals, and plants. Disease can both directly (via infection) and indirectly (via secondary impacts) harm these living things. Some infections can cause disease in both people and animals. The major concern here is an epidemic, a disease that affects an unexpected number of people or sentinel animals at one time. (Note: an epidemic can result from even one case of illness if that illness is unheard of in the affected population, i.e., smallpox)

Of great concern for human health are infectious diseases caused by the entry and growth of microorganisms in man. Most, but not all, infectious diseases are communicable. They can be spread by coming into direct contact with someone infected with the disease, someone in a carrier state who is not sick at the time, or another living organism that carries the pathogen. Disease-producing organisms can also be spread by indirect contact with something a contagious person or other carrier has touched and contaminated, like a tissue or doorknob, or another medium (e.g., water, air, food).

According to the Centers for Disease Control and Prevention (CDC), during the first half of the twentieth century, optimism grew as steady progress was made against infectious diseases in humans via improved water quality and sanitation, antibiotics, and inoculations (October 1998). The incidences and severity of infectious diseases such as tuberculosis, typhoid fever, smallpox, polio, whooping cough, and diphtheria were all significantly reduced during this period. This optimism proved premature, however, for a variety of reasons, including the following: antibiotics began to lose their effectiveness against infectious disease (e.g., Staphylococcus aureus); new strains of influenza emerged in China and spread rapidly around the globe; sexually transmitted diseases resurged; new diseases were identified in the U.S. and elsewhere (e.g., Legionnaires's disease, Lyme disease, toxic shock syndrome, and Ebola hemorrhagic fever); acquired immunodeficiency syndrome (AIDS) appeared; and tuberculosis (including multidrug-resistant strains) reemerged (CDC, October 1998).

In a 1992 report titled *Emerging Infections: Microbial Threats to Health in the United States*, the Institute of Medicine (IOM) identified the growing links between U.S. and international health, and concluded that emerging infections are a major and growing threat to U.S. health. An emerging infectious disease is one that has newly appeared in a population or that has been known for some time, but is rapidly increasing in incidence or geographical range. Emerging infectious diseases are a product of modern demographic and environmental conditions, such as global travel, globalization and centralized processing of the food supply, population growth and increased urbanization.

In response to the threat of emerging infectious diseases, the CDC launched a national effort to protect the US public in a plan titled *Addressing Emerging Infectious Disease Threats*. Based on the CDC's plan, major improvements to the US health system have been implemented, including

improvements in surveillance, applied research, public health infrastructure, and prevention of emerging infectious diseases (CDC, October 1998).

Despite these improvements, infectious diseases are the leading cause of death in humans worldwide and the third leading cause of death in humans in the U.S. (American Society for Microbiology, June 21, 1999). A recent follow-up report from the Institute of Medicine, titled *Microbial Threats to Health: Emergence, Detection, and Response*, notes that the impact of infectious diseases on the U.S. has only grown in the last ten years and that public health and medical communities remain inadequately prepared. Further improvements are necessary to prevent, detect, and control emerging, as well as resurging, microbial threats to health. The dangers posed by infectious diseases are compounded by other important trends: the continuing increase in antimicrobial resistance; the diminished capacity of the U.S. to recognize and respond to microbial threats; and the intentional use of biological agents to do harm (Institute of Medicine, 2003).

The CDC has established a national list of over 50 nationally reportable diseases. A reportable disease is one that, by law, must be reported by health providers to report to federal, state or local public health officials. Reportable diseases are those of public interest by reason of their communicability, severity, or frequency. The long list includes such diseases as the following: AIDS; anthrax; botulism; cholera; diphtheria; encephalitis; gonorrhea; Hantavirus pulmonary syndrome; hepatitis (A, B, C); HIV (pediatric); Legionellosis; Lyme disease; malaria; measles; mumps; plague; polio (paralytic); rabies (animal and human); Rocky Mountain spotted fever; rubella (also congenital); Salmonellosis; SARS; Streptococcal disease (Group A); Streptococcal toxic-shock syndrome; *Streptococcus pneumoniae* (drug resistant); syphilis (also congenital); tetanus; Toxic-shock syndrome; Trichinosis, tuberculosis, Typhoid fever; and Yellow fever (Centers for Disease Control and Prevention, May 2, 2003).

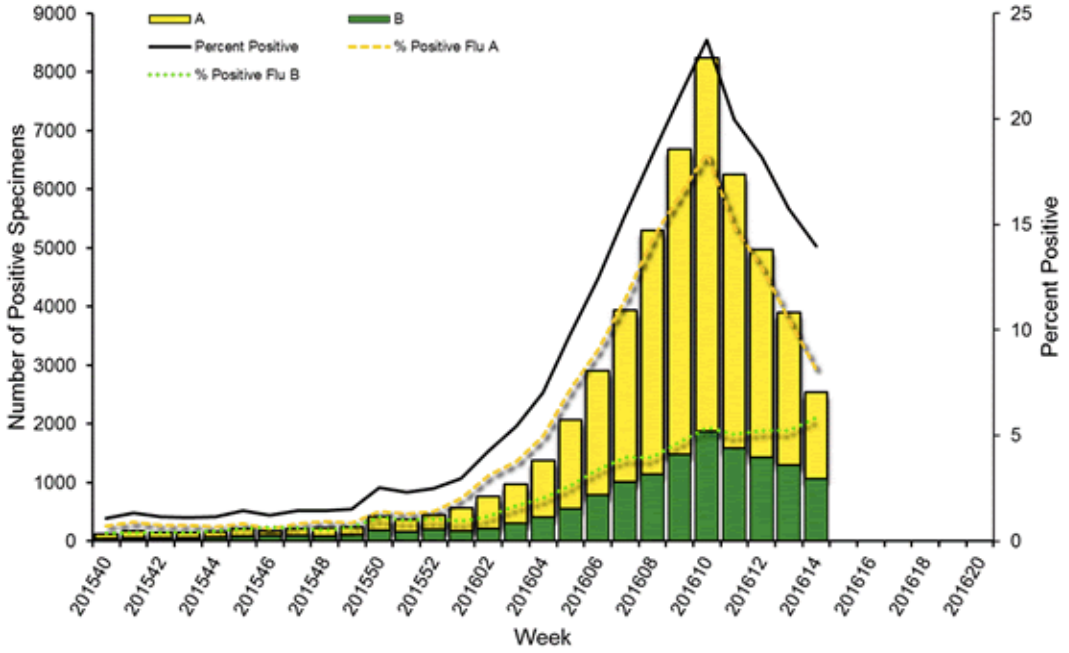
Many other hazards, such as floods, earthquakes or droughts, may create conditions that significantly increase the frequency and severity of diseases. These hazards can affect basic services (e.g., water supply and quality, wastewater disposal, electricity), the availability and quality of food, and the public and agricultural health system capacities. As a result, concentrated areas of diseases may result and, if not mitigated right away, increase, potentially leading to large losses of life and damage to the economic value of the area's goods and services.

5.2.4.2 History

The influenza pandemic of 1918 and 1919, known as the Spanish Flu, had the highest mortality rate in recent history for an infectious disease. More than 20 million persons were killed worldwide, some 500,000 of which were in the U.S. alone (Centers for Disease Control and Prevention, October 1998). More recent incidences of major infectious diseases affecting people in the U.S. include the following:

- **H1N1,** an influenza strain that was first recognized in Mexico and entered the US in Southern California in April 2009. H1N1 was recognized as a worldwide pandemic by the World Health Organization in May 2009. The CDC graph below illustrates the number of office visits due to the flu and demonstrates how easily the US medical system can be overwhelmed by a pandemic.

Figure 5-7: Influenza Positive Tests Reported to CDC by U.S. Clinical Laboratories, National Summary, 2015-2016 Season



Source: Center for Disease Control and Prevention; http://www.cdc.gov/flu/weekly

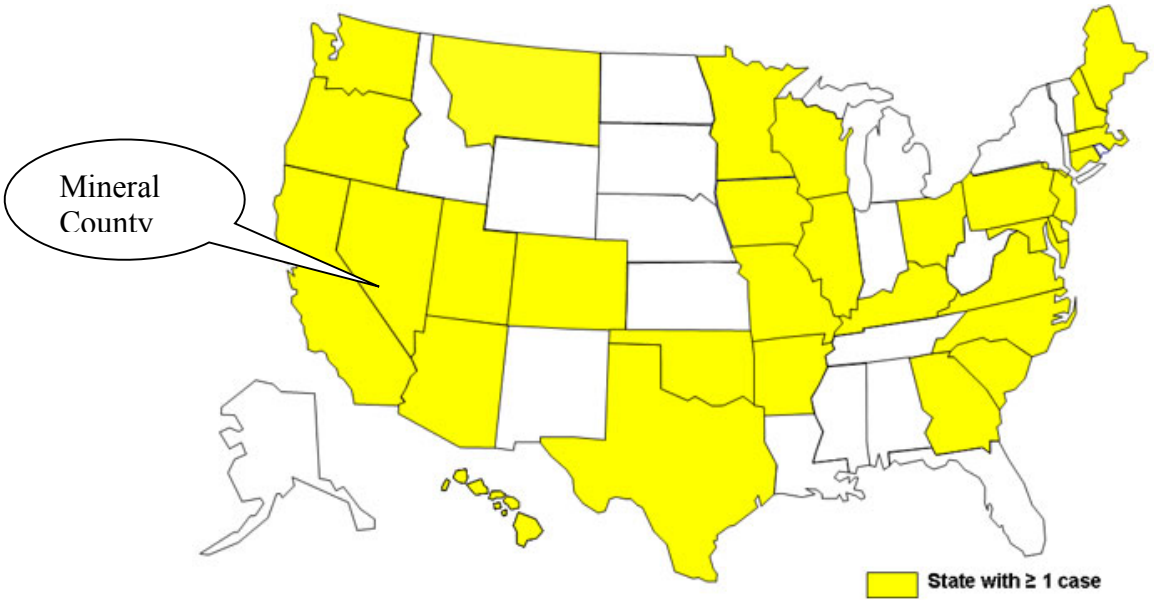
H1N1 varies from other influenzas in that it doesn't seem to affect populations born after 1950 due to that group's immunity to a similar strain. The CDC has taken an aggressive approach to this highly contagious strain and is in the process of inoculating the US public through vaccinations. Although H1N1 has a less than 1% mortality rate due to the high contagion rate this could lead to a significantly higher than normal number of deaths for the 2009-2010 flu season. (Centers for Disease Control and Prevention, October 2009)

- **West Nile Virus (WNV)**, a seasonal infection transmitted by mosquitoes, caused an epidemic which grew from an initial U.S. outbreak of 62 disease cases in 1999 to 4,156 reported cases, including 284 deaths, in 2002. However due to communities' aggressive approach to mosquito control the number of cases dropped to 1356 with 44 deaths in 2008 (Centers for Disease Control and Prevention, October 2009).
- **Severe acute respiratory syndrome (SARS)**, which is estimated to have killed 774 and infected 8,098 worldwide. In the U.S., there were 175 suspect cases and 8 confirmed cases all who traveled to other parts of the world, although no reported deaths (Centers for Disease Control and Prevention, October 2009).
- **Norovirus** - CDC estimates that 23 million cases of acute gastroenteritis are due to norovirus infection, and it is now thought that at least 50% of all food borne outbreaks of gastroenteritis can be attributed to noroviruses (Centers for Disease Control and Prevention, October 2009).
- **Escherichia coli (abbreviated as *E. coli*)** are a large and diverse group of bacteria. Although most strains of *E. coli* are harmless, others can make you sick. Some kinds of *E. coli* can cause diarrhea, while others cause urinary tract infections, respiratory illness and

pneumonia, and other illnesses. Experts think that there may be about 70,000 infections with *E. coli* O157 each year in the United States. (Centers for Disease Control and Prevention, October 2009).

- **Zika Virus** - Zika virus disease (Zika) is a disease caused by the Zika virus, which is spread to people primarily through the bite of an infected Aedes species mosquito. The most common symptoms of Zika are fever, rash, joint pain, and conjunctivitis (red eyes). The illness is usually mild with symptoms lasting for several days to a week after being bitten by an infected mosquito. People usually don't get sick enough to go to the hospital, and they very rarely die of Zika. For this reason, many people might not realize they have been infected. However, Zika virus infection during pregnancy can cause a serious birth defect called microcephaly, as well as other severe fetal brain defects. Once a person has been infected, he or she is likely to be protected from future infections.

Figure 5-8: States Where Persons Infected with the Outbreak Strain of E. coli O157:H7, Live United States, by State March 1, 2009 to June 22, 2009



Centers for Disease Control; http://www.cdc.gov/ecoli/

Table 5-7: Historic Occurrences of Epidemics Registered in Nevada

Date	Details
February 1992	Cholera outbreak confirmed. At least 26 passengers from Aerolineas Argentinas Flight 386 that brought a cholera outbreak to Los Angeles traveled on to Las Vegas, where 10 showed symptoms of the disease. Cholera or cholera-like symptoms developed in 67 passengers of Flight 386.
Spring 2000	Five cases of the measles confirmed. Outbreak identified and confirmed, Clark County Health District (CCHD) Office of Epidemiology (OOE) worked with the Immunization Clinic and the media to alert the community about the prevention of the spread of the disease.

October 2004	Norovirus confirmed at a major public accommodation facility on the Strip. Details regarding the spread of this disease and the exact number affected are still under investigation and pending at time of print of this plan.
April 2009	H1N1 virus confirmed by the WHO as a worldwide epidemic. The CDC conducted a vaccination program to contain this virus.
October - December 2015	Norovirus outbreak caused over 2,000 staffers, faculty, and students in the Washoe County School District to be sickened.
2015	Two individuals tested positive for West Nile Virus in Washoe County.
April 2016	A woman in Washoe County tested positive for Zika Virus after returning from a trip to El Salvador.

5.2.4.3 Extent and Probability of Future Events

The probability and magnitude of disease occurrence, particularly an epidemic, is difficult to evaluate due to the wide variation in disease characteristics, such as rate of spread, morbidity and mortality, detection and response time, and the availability of vaccines and other forms of prevention. A review of the historical record (see above) indicates that disease related disasters do occur in humans with some regularity and varying degrees of severity. There is growing concern, however, about emerging infectious diseases as well as the possibility of a bioterrorism attack.

Epidemics constitute a significant risk to the population of Nevada, particularly as it relates to the frequency in which the Mineral County population travels and the proximity of Las Vegas and Reno's tourist population. Of highest concern is in the Reno area, in various entertainment venues, and Reno/Tahoe International Airport. The transient nature of the Washoe County population, coupled with dense population gatherings increase the potential for an epidemic as well as for its spread into neighboring counties such as Mineral. However the planning committee considers the probability to be low considering the counties small population and remote location.

5.2.4.4 Location

An epidemic in the County would affect a regional response requiring coordination among Walker River Tribal Health Clinic, Hawthorne Army Depot, neighboring counties, state and federal agencies. Segments of the population at highest risk for contracting an illness from a foreign pathogen are the very young, the elderly, or individuals who currently experience respiratory or immune deficiencies. These segments of the population are present within the County.

5.2.4.5 Warning Time

Due to the wide variation in disease characteristics, the warning time for a disease disaster can vary from no time to months, depending upon the nature of the disease. No warning time may be available due to an extremely contagious disease with a short incubation period, particularly if combined with a terrorist attack in a crowded environment. However, there are agencies in place that have capabilities to prevent, detect, and respond to these types of diseases, such as the Centers for Disease Control (CDC), and the Nevada State Health Division (NSHD). This provides a positive, balancing influence to the overall outcome of a disease disaster event.

Climate Change:

Temperature dependencies are seen in correlations between disease rates and weather variations over weeks, months or years and in close geographic associations between key climate variables and the distributions of important vector-borne diseases. These temperature dependencies can impact both humans and livestock. Temperature has also been found to affect food-borne infectious diseases.

5.2.5 Floods

Planning Significance – High

5.2.5.1 Nature

Flooding as defined by the National Flood Insurance Program is "A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from:

- Overflow of inland or tidal waters;
- Unusual and rapid accumulation or runoff of surface waters from any source;
- Mudflow, (a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water, or
- Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Floodplains are lowlands adjacent to water bodies that are subject to recurring floods. Floods are natural events that are considered hazards only when people and property are affected.

Nationwide, floods result in more deaths than any other natural hazard. Physical damage from floods includes the following:

- Inundation of structures, causing water damage to structural elements and contents.
- Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features.
- Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters. Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects.
- Destruction of crops, erosion of topsoil, and deposition of debris and sediment on croplands.
- Release of sewage and hazardous or toxic materials as wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.

Floods also cause economic losses through closure of businesses and government facilities; disrupt communications; disrupt the provision of utilities such as water and sewer service; result in excessive expenditures for emergency response; and generally disrupt the normal function of a community.

In Mineral County, flooding is most commonly associated with unusually heavy rainfall in the State of Nevada and can be influenced by "atmospheric river" winter storms out of the Northern Pacific Ocean and summer monsoon thunderstorms. Due to the aridity of the County, the area is dry except during and shortly after these storms. When a major storm develops, water collects rapidly in a short period of time. As a consequence, flows are of the flash-flood type. Flash floods are generally understood to involve a rapid rise in water level, high velocity, and large amounts of debris, which can lead to significant damage that includes the uprooting of trees,

undermining of buildings and bridges, and scouring of new channels. The intensity of flash flooding is a function of the intensity and duration of rainfall, steepness of the watershed, stream gradients, watershed vegetation, natural and artificial flood storage areas, and configuration of the streambed and floodplain.

In areas where alluvial fans are present, the flow paths of flash floods lack definition. Flow depths with alluvial fan flooding are generally shallow with damage resulting from inundation, variable flow paths, localized scour, and the deposition of debris.

The predictability of winter "rain on snow" river floods has increased in the past decade. Often a preliminary heads-up can be provided from the National Weather Service to emergency managers 4-8 days in advance, with more detailed river and flood predictions 1-3 days ahead. Summer flash floods, however, are far less predictable and often occur with only 0-30 minutes lead time based on radar detections. It is important to note that Mineral County is located far from any National Weather Service radar, therefore severe weather such as flash floods and tornadoes are less detectable and warning lead times often are on the lower end of the range given. Days of heightened flash flood risk can be forecast, usually 1-3 days in advance, but those are just general outlooks.

Canal and Dam Failures

Dam or canal failures involve unintended releases or surges of impounded water resulting in downstream flooding. The high-velocity, debris-laden wall of water released from dam failures results in the potential for human casualties, economic loss, lifeline disruption, and environmental damage. Failures may involve either the total collapse of a dam, or other hazardous situations such as damaged spillways, overtopping from prolonged rainfall, or unintended consequences from normal operations. Severe storms with unusually high amounts of rainfall within a drainage basin, earthquakes, or landslides may cause or increase the severity of the failure.

Factors causing failure may include natural or human-caused events, or a combination of both. Dam failures usually occur when the spillway capacity is inadequate and water overtops the dam. Piping, when internal erosion through the dam foundation occurs, is another factor in a dam failure. Structural deficiencies from poor initial design or construction, lack of maintenance or repair, or gradual weakening from aging are factors that contribute to this hazard.

5.2.5.2 History

Much of the potential flooding is from the Mt. Grant drainage coming down towards Hawthorne and the Walker River near Schurz.

The table below provides historical flooding in and near Mineral County.

Table 5-8: Historical Floods in Mineral County

Date	Location	Description
1984	Hawthorne	FEMA – Flood area included Main Street and at least one home flooded and had an NFIP claim. Water system damaged.
Jan 1-3, 1997	Northern Nevada Walker River Paiute Tribe Mineral County	FEMA 1153 – Northern Nevada Flood. Extremely heavy rainfall, combined with snow levels above 10,000 feet and complete melt-off of a heavy low-elevation snow pack cause moderate to severe flash flooding and small stream flooding on streams coming out of the mountains throughout northern

Table 5-8: Historical Floods in Mineral County

Date	Location	Description
		Nevada Damages are too numerous to mention here, but amounted to millions of dollars, separate from losses due to mainstream river flooding. Walker River Paiute Tribe and Mineral County requested State and Federal assistance
December 31, 2005	Northern Nevada	FEMA 1629, New Years Flood – Flooding occurred in Carson City, Douglas Elko, Lyon, Storey, and Washoe Counties. Flooding in Schurz. Hwy 95 was closed for 2 days. No homes or structures damaged.
July 24, 2010	Luning	Hwy 95 closed for a day. Culverts eroded and had to be replaced.
October 2010	Luning and Mina	Hwy 95 closed for a few hours.
July 2012	Sodaville	Mineral County Fire Department reported a debris flow across Highway 95 which caused some road damage
July 2015	Hawthorne	A spotter reported that Highway 359 south of Hawthorne and Lucky Boy Pass Road were closed due to flash flooding/debris flows. At least one vehicle was stranded in mud.
July 2015	Marietta and Basalt	The Nevada DOT reported a flash flood and rock slide along State Route 360. Numerous pictures showed the aftermath of a flash flood in the canyon/alluvial fan west of the small community of Marietta. Minor damage was noted to area roads (unpaved) and a wire mesh fence.

Dam Failure

The following is a list of Dams in Mineral County.

Table 5-9: Dams in Mineral County

Dam	Location
Black Beauty Dam	Hawthorne West
Cat Creek Dam	Hawthorne West
Rose Creek Dam	Hawthorne West
Weber Dam	Weber Reservoir
Source: http://nevada.hometownlocator.com/features/cultural,class,dam,startrow,151.cfm	

There has been no recorded history of dam failure.

5.2.5.3 Location, Extent, and Probability of Future Events

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. Flood studies often use historical records, such as stream flow gages, to determine the probability of occurrence for floods of different magnitudes. The probability of occurrence is expressed as a percentage for the chance of a flood of a specific extent occurring in any given year.

Factors contributing to the frequency and severity of flooding include the following:

- Rainfall intensity and duration
- Antecedent moisture conditions

- Watershed conditions, including steepness of terrain, soil types, amount and type of vegetation, and density of development
- The existence of attenuating features in the watershed, including natural features such as swamps and lakes and human-built features such as dams
- The existence of flood control features, such as levees and flood control channels
- Velocity of flow
- Availability of sediment for transport, and the erodibility of the bed and banks of the watercourse

These factors are evaluated using (1) a hydrologic analysis to determine the probability that a discharge of a certain size will occur, and (2) a hydraulic analysis to determine the characteristics and depth of the flood that results from that discharge.

The magnitude of flood used as the standard for floodplain management in the United States is a flood having a 1 percent probability of occurrence in any given year. This flood is also known as the 100-year flood or base flood. The most readily available source of information regarding the 100-year flood is the system of Flood Insurance Rate Maps (FIRMs) prepared by FEMA. These maps are used to support the National Flood Insurance Program (NFIP). The FIRMs show 100-year floodplain boundaries for identified flood hazards. These areas are also referred to as Special Flood Hazard Areas (SFHAs) and are the basis for flood insurance and floodplain management requirements. The FIRMs also show floodplain boundaries for the 500-year flood, which is the flood having a 0.2 percent chance of occurrence in any given year. FEMA has prepared a FIRM for Mineral County, dated 1984 and 2000 for Hawthorne. The 100-year floodplain was used by the Mineral County Flood Plain Manager to create the flood map, see Appendix B, Figures B-7 through B-9 and which uses the 100-year flood as a basis and provides the areas susceptible to flood.

The new areas of Hawthorne acquired from the Bureau of Land Management have not been studied for flood and FEMA is reviewing a levee-like structure in Hawthorne and its impact to flooding. These should be reviewed in the next update of the plan.

Dam Failure

The Planning Committee felt there was a low rate of probability for dam failure. Rose, Cat Creek and Black Beauty dams (near Hawthorne) have the potential to impact Hwy 95 near Hawthorne and a small portion of land at the Hawthorne Army Depot however no structures would be impacted. Weber Dam (near Walker River Paiute Indian Reservation and Schurz) has a very low hazard rating from the Bureau of Indian Affairs (BIA), Dam Safety. It is an earthen dam originally built in 1933-1935, with a major repair in 2007. So dam failure probability is very low with minimal damage to roads if failure occurred.

Figure 5 - 9
Weber Dam 1935
Source: http://www.wrpt.us/

Figure 5-10
Weber Dam 2010
Source: http://www.satelliteviews.net/cgi-bin/g.cgi?fid=858240&state=NV&ftype=dam

Climate Change:

Increased warming increases the capacity of the atmosphere to hold moisture, which leads to more water vapor in the atmosphere. Individual storms supplied with increased moisture might produce more intense precipitation events. Further warmer conditions between summer thunderstorms can additionally dry and compact the soil, making it more impervious to heavy rain, increasing the rate of the runoff during flash floods.

5.2.6 Hazardous Materials Events

Planning Significance - Medium

5.2.6.1 Nature

Hazardous materials may include hundreds of substances that pose a significant risk to humans. These substances may be highly toxic, reactive, corrosive, flammable, radioactive, or infectious. Hazard materials are regulated by numerous Federal, State, and local agencies including the U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation (DOT), National Fire Protection Association, FEMA, U.S. Army, and International Maritime Organization.

Hazardous material releases may occur from any of the following:

- Fixed site facilities (such as refineries, chemical plants, storage facilities, manufacturing, warehouses, wastewater treatment plants, swimming pools, dry cleaners, automotive sales/repair, and gas stations)
- Highway and rail transportation (such as tanker trucks, chemical trucks, and railroad tankers)
- Air transportation (such as cargo packages)
- Pipeline transportation (liquid petroleum, natural gas, and other chemicals)

Unless exempted, facilities that use, manufacture, or store hazardous materials in the United States fall under the regulatory requirements of the Emergency Planning and Community Right to Know Act (EPCRA) of 1986, enacted as Title III of the Federal Superfund Amendments and Reauthorization Act (42 USC 11001–11050; 1988). Under EPCRA regulations, hazardous materials that pose the greatest risk for causing catastrophic emergencies are identified as Extremely Hazardous Substances (EHSs). These chemicals are identified by the EPA in the *List of Lists – Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112 of the Clean Air Act*. Releases of EHSs can occur during transport to and from fixed site facilities. Transportation-related releases are generally more troublesome because they may occur anywhere, including close to human populations, critical facilities, or sensitive environmental areas. Transportation-related EHS releases are also more difficult to mitigate due to the variability of locations and distance from response resources.

In addition to accidental human-caused hazardous material events, natural hazards may cause the release of hazardous materials and complicate response activities. The impact of earthquakes on fixed facilities may be particularly serious due to the impairment or failure of the physical integrity of containment facilities. The threat of any hazardous material event may be magnified due to restricted access, reduced fire suppression and spill containment, and even complete cut-off of response personnel and equipment. In addition, the risk of terrorism involving hazardous materials is considered a major threat due to the location of hazardous material facilities and transport routes throughout communities and the frequently limited antiterrorism security at these facilities.

On behalf of several Federal agencies including the EPA and the DOT, the National Response Center (NRC) serves as the point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment within the United States.

5.2.6.2 History

The Nevada Division of Environmental Protection report-shows the following oil and chemical spills have occurred within Mineral County.

Table 5-10: Hazardous Material Release in Mineral County

Location	Date	Substance	Description
Denton Rawhide Mine	2/1/2005	Weak Cyanide Solution	2500 gallons released when line came apart
Hawthorne Army Depot	7/30/2005	Mercury Air Emission	<1 gram released from a research & development system.
SR 95 69.5 Post	06/12/2005	Diesel	100-200 Gallons split in vehicle accident
SR 95 S Adjacent to Hawthorne Army Depot	10/1/2006	Diesel	75 Gallons vehicle accident
Sheriffs Office	3/20/2007	Mercury	Evidence vault audit cause unknown
Hawthorne Shell Station	5/1/2007	Hydrochloric Acid	20 sample vials containing several teaspoons dumped at gas station
¾ Mile NW of Mina	6/15/2007	Cyanide?	Several Drums mislabeled dumped
BLM pit on Hawthorne Army Depot	2/1/2008	Diesel	Thief left valve open after stealing fuel, 1500 Gallons
SR 95 5 Miles N. Hawthorne	2/1/2008	Diesel	600 gallons valve on truck was open
Desert Across from Cemetery Hawthorne	11/9/2009	Sewage	Sewage main ruptures causing 1000s of gallons of raw sewage to spill
Maples Rd. & Corey view Dr in Mina	11/25/2009	Diesel	1000 gallons of fuel from truck.
Babbitt Area	4/16/2010	DDE Breakdown of DDT	2000 yd3, tree line was historically treated with DDT for mosquitoes and elm tree disease which lead to contamination
Esmeralda Mill	7/22/2012	Sodium Hydroxide	500 gallons. Pump failure die to power outage caused release of solution onto the ground. No injuries. No waterways threatened by release.
Gravel Pit at Hawthorne Army Depot	11/7/2012	Fuel	100-200 gallons
117-2, PODS Building	6/17/2013	Water	6000 gallons. Valve was left open during closure procedure, causing a release to the building. Water flowed into a sump, was pumped to a holding tank. Tank and secondary containment overflowed.
Esmeralda Mill, 2800 Luck Boy Pass Road	12/18/2013	Solid Form Lead Nitrate	Approximately 100 pounds. Tote containing lead nitrate degraded, causing a release to the environment.
Hazous Bypass in Hawthorne, NV	6/29/2014	Gasoline and diesel	200 gallons. Tanker truck rollover.
Water Treatment Plant Building 117-7	2/11/2015	Explosive-Contaminated Water	50 – 100 gallons. Trying to clean sludge portion of water treatment plant - clogged the hose they were using to clean and broke hose and spilled to soil and containment
I-95 Mile Marker 43	9/7/2015	Unknown - Likely Diesel	100 gallons. Vehicle accident due to mattress on the road.

Table 5-10: Hazardous Material Release in Mineral County

Location	Date	Substance	Description
WADF Building 117-6 (steam out facility)	2/17/2016	Explosive-Contaminated Water	500-1000 gallons. Personnel clearing clogged line containing explosives when explosives started burning.
Source: NV Division of Environmental Protection			

5.2.6.3 Location, Extent, and Probability of Future Events

The State of Nevada permitted 39 facilities within the County that handle hazardous waste and none are active and/or archived Superfund sites. Other than the Hawthorne Army Depot, several of the small, fixed facilities (e.g., body shops) have varying uses of hazardous chemicals; in general these facilities do not pose a significant risk to the County.

In addition to fixed facilities, hazardous material events have the potential to occur along State Route 95. The trucks that use these transportation arteries commonly carry a variety of hazardous materials including gasoline, other crude oil derivatives, and other chemicals known to cause human health problems.

Comprehensive information on the probability and magnitude of hazardous material events from all types of sources (such as fixed facilities or transport vehicles) is not available. Wide variations among the characteristics of hazardous material sources and among the materials themselves make such an evaluation difficult. While it is beyond the scope of this HMP to evaluate the probability and magnitude of hazardous material events in the County in detail, it is possible to determine the exposure of population, buildings, and critical facilities should such an event occur. EHSs in Hawthorne, pose the greatest risk for causing catastrophic emergencies. Areas at risk for hazardous material events include any area within a 1-mile radius of State Route 95 and EHS fixed facilities.

5.2.7 Infestation

Planning Significance - Low

5.2.7.1 Nature

An "invasive species" is defined as a species that is:

1) non-native (or alien) to the ecosystem under consideration and
2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Invasive species can be plants, animals (including aquatic species) and other organisms (e.g., microbes). Source: United States Dept. of Agriculture, National Agriculture Library (10/5/2007)

Infestations impact Nevada's economy through the destruction of crops and natural resources which also impacts tourism. Some of the plant infestations are highly flammable and assist in the spread of wildfires. Human actions are the primary means of introduction and spread of invasive species.

5.2.7.2 History

The infestation hazard was reviewed during the 2016 update by the Planning Committee, and there were no new occurrences for this update. The data that follows was compiled during the 2012 plan.

The following noxious weeds currently can be found in Mineral County; Yellow Starthistle – Centaurea solstilitalis and Diffuse Knapweed – Centaurea diffusa, Russian Knapweed – Acroptilon repens, and Perennial Pepperweed – Lepidium latifolium. However this may change in the near future and therefore all noxious weeds are listed below. This information was found in the Enhanced Nevada State Hazard Mitigation Plan.

The Nevada Department of Agriculture monitors the introduction and spread of noxious weeds in the state. They have developed a categorization scheme for control of noxious weeds with Category "C" being the most widespread and subject to active eradication. Below is the Nevada Department of Agriculture's Nevada Noxious Weed List as designated by application of NRS 555.

NEVADA NOXIOUS WEED LIST

NRS 555.130 Designation of noxious weeds. The State Quarantine Officer may declare by regulation the weeds of the state that are noxious weeds, but a weed must not be designated as noxious which is already introduced and established in the State to such an extent as to make its control or eradication impracticable in the judgment of the State Quarantine Officer.

NAC 555.010 Designation and categorization of noxious weeds. (NRS 555.130)

The plants listed below are designated noxious weeds and categorized as follows:

- **Category A weeds** are generally not found in or limited in distribution throughout the State. Such weeds are subject to active exclusion from the State and active eradication wherever found and active eradication from the premises of a dealer of nursery stock.

- **Category B weeds** are generally established in scattered populations in some counties of the State. Such weeds are subject to active exclusion where possible and active eradication from the premises of a dealer of nursery stock.
- **Category C weeds** are generally established and widespread in many counties of the State and are subject to active eradication from the premises of a dealer of nursery stock.

Table 5-11. Noxious Weeds

Category A Weeds:			
African rue	(*Peganum harmala*)	Iberian starthistle	(*Centaurea iberica*)
Austrian fieldcress	(*Rorippa austriaca*)	Malta starthistle	(*Centaurea melitensis*)
Black henbane	(*Hyoscyamus niger*)	Mayweed chamomile	(*Anthemis cotula*)
Camelthorn	(*Alhagi pseudalhagi*)	Mediterranean sage	(*Salvia aethiopis*)
Common crupina	(*Crupina vulgaris*)	Perennial sowthistle	(*Sonchus arvensis*)
Common St. Johnswort Crimson fountain grass	(*Hypericum perforatum*) (*Pennisetum setaceum*)	Purple loosestrife	(*Lythrum salicaria, L. virgatum* & cultivars)
Dalmatian toadflax	(*Linaria dalmatica*)	Purple starthistle	(*Centaurea calcitrapa*)
Dyer's woad	(*Isatis tinctoria*)	Rush skeletonweed	(*Chondrilla juncea*)
Eurasian watermilfoil	(*Myriophyllum spicatum*)	Spotted knapweed	(*Centaurea maculosa*)
Giant reed	(*Arundo donax*)	Squarrose knapweed	(*Centaurea virgata*)
Giant salvinia	(*Salvinia molesta*)	Sulfur cinquefoil	(*Potentilla recta*)
Goatsrue	(*Galega officinalis*)	Swainsonpea	(*Sphaerophysa salsula*)
Houndstongue	(*Cynoglossum officinale*)	Syrian beancaper	(*Zygophyllum fabago*)
Hydrilla	(*Hydrilla verticillata*)	Yellow starthistle	(*Centaurea solstitialis*)
		Yellow toadflax	(*Linaria vulgaris*)

Category B Weeds:			**Category C Weeds:**	
African mustard	(*Brassica tournefortii*)		Canada thistle	(*Cirsium arvense*)
Diffuse knapweed	(*Centaurea diffusa*)		Hoary cress	(*Cardaria draba*)
Horsenettle	(*Solanum carolinense*)		Johnsongrass	(*Sorghum halepense*)
Leafy spurge	(*Euphorbia esula*)		Perennial pepperweed	(*Lepidium latifolium*)
Medusahead	(*Taeniatherum caput-medusae*)		Poison-hemlock	(*Conium maculatum*)
Musk thistle	(*Carduus nutans*)		Puncturevine	(*Tribulus terrestris*)
Russian knapweed	(*Acroptilon repens*)		Salt cedar (tamarisk)	(*Tamarix* spp.)
Scotch thistle	(*Onopordum acanthium*)		Spotted water hemlock	(*Cicuta maculata*)
Silverleaf nightshade	(*Solanum elaeagnifolium*)			

Other invasive plants that are too widely distributed in Nevada to be included in the noxious weed list but present problems in Nevada are listed below:

- Bromus tectorum *L. or* Cheatgrass *is an annual grass that forms tufts up to 2 feet tall. The leaves and sheathes are covered in short soft hairs. The flowers occur as drooping, open, terminal clusters that can have a greenish, red, or purple hue. These annual plants will germinate in fall or spring (fall is more common) and senescence usually occurs in summer. Cheatgrass invades rangelands, pastures, prairies, and other open areas. Cheatgrass has the potential to completely alter the ecosystems it invades. It can completely replace native vegetation and change fire regimes. It occurs throughout the United States and Canada, but is most problematic in areas of the western United States with lower precipitation levels such as Nevada. Cheatgrass is native to Europe and parts of Africa and Asia. It was first introduced into the United States accidentally in the mid 1800s.*
- Bromus rubens L*. or* Red brome: *In the North American region red brome is reported to be invasive because it faces low herbaceous competition. Once established, it has the potential to compete with other grasses. The accumulation of litter and necromass has the potential to increase fire frequency in the desert. Red brome-fueled fires result in the loss of native perennial species in invaded areas, resulting in disturbed areas that are ideal for increased growth of red brome.*

Animal infestations - Insects

The following is a list of invasive insect species infestations currently affecting Nevada:

- *Africanized honey bees:* Imported and bred with European honey bees to increase honey production in South America. The Africanized honey bees are more aggressive than European honeybees with a negative impact on the honey production industry.
- *Scolytus schevyrewi or Bark Beetle* came from Asia. It was first collected in insect traps in Aurora Colorado. The beetle infests and breeds in elm trees stressed by drought.
- *Solenopsis Invicta or Fire Ants:* About 1930, the light fire ant was introduced from South America into the Mobile area, and has since spread to its current range. The ants nest in the soil of open areas, pastures and agronomic fields, but are found occasionally in wooded areas. Mounds are generally dome-shaped in contrast to those of other fire ant species, and the sting, characterized by an intense burning sensation, is more severe. A pustule (not seen in the sting of other species) is formed at the sting site in a day or so, which may become infected. Sensitive individuals can swell up as a result of stings and occasionally die. The ants have a serious impact on agriculture since the hardened mounds interfere with the mechanical cultivation of fields and the ants' painful stings interfere with livestock grazing and the harvesting of crops by farm workers.

Figure 5-11. Fire ant attacking larva. Photo courtesy of USDA/ARS

Mormon crickets are flightless, ground dwelling insects native to the western United States. They eat native, herbaceous perennials (forbs), grasses, shrubs, and cultivated forage crops, reducing feed for grazing wildlife and livestock. In large numbers, their feeding can contribute to soil erosion, poor water quality, nutrient depleted soils, and potentially cause damage to range and cropland ecosystems. Drought encourages Mormon cricket outbreaks, which may last several years (historically 5 to 21 years) and cause substantial economic losses to rangeland, cropland, and home gardens.

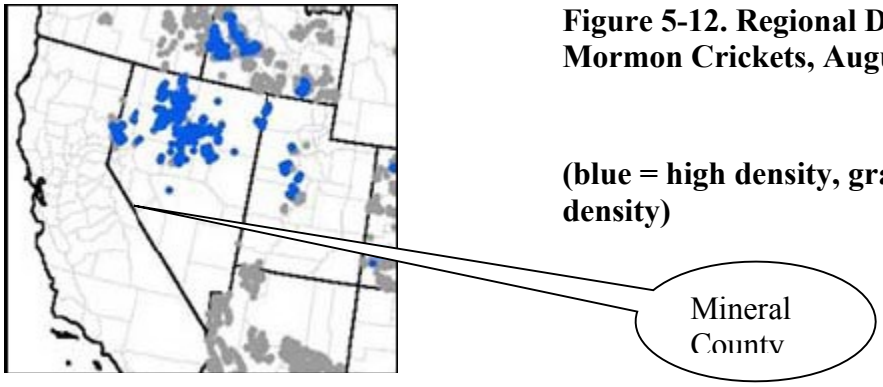


Figure 5-12. Regional Distribution of Mormon Crickets, August 2005

(blue = high density, gray =low density)

Source: University of Nevada, Cooperative Extension – Identification and Management of Mormon Crickets fact sheet 06-16

Animal infestations – aquatic species

Aquatic species that have become a particular concern in Nevada in recent years are: zebra mussels, quagga mussels, Asian clams, and New Zealand mud snails.

Zebra mussels were first found at Lake Mead in 2004 and quagga mussels were found there in 2007. Since that time, the population has exploded, now numbering in the trillions. Both mussels are nuisance invasive species that reproducing quickly and in large numbers. They are biofoulers that obstruct pipes in municipal and industrial raw-water systems, requiring millions of dollars annually to maintain. They produce microscopic larvae that float freely in the water column, and thus can pass by screens installed to exclude them. Monitoring and control of these mussels cost millions of dollars annually. As filter feeders, zebra and quagga mussels remove suspended material from the habitat in which they live. This includes the planktonic algae that are the primary base of the food web. Thus these mussels may completely alter the ecology of water bodies in which they invade. As yet no quagga or zebra mussels have been found in Lake Tahoe or any other northern Nevada lakes and reservoirs but zebra mussels have been found in a northern California reservoir southeast of San Francisco, and a UNR researcher has determined that Lake Tahoe water can support these species. Proactive measures are being taken by a number of groups to prevent the spread of these species into Lake Tahoe and the Truckee watershed.

For the past two years the Tahoe Resource Conservation District's invasive species program has included a boat inspection effort in the Tahoe Basin to prevent the introduction of quagga and zebra mussels into the area.

The Truckee Meadows Water Authority is funding a new program with more than $231,000 from the Truckee River Fund, money collected from utility bills to pay for projects and protect the Truckee River. In spring 2010 the program efforts will include monitoring lakes and

reservoirs within the Truckee River system for the presence of adult or juvenile mussels. A program to inspect boats launching into at least one lake, such as Boca Reservoir, should also begin this spring and will later be expanded.

The Asian clam is a relatively new aquatic invasive species that is becoming established in Lake Tahoe. Asian clams can impact Lake Tahoe's environment by:

- Releasing nitrogen and phosphorus to the lake, resulting in algal blooms.
- Negatively impacting drinking water by clogging intake pipes.
- Littering beaches with their sharp shells, negatively impacting recreation.

There is an ongoing current project in 2010, by the Tahoe Resource Conservation District to physically remove Asian clams from south shore areas of Lake Tahoe and install large plastic bottom barrier sheets to cover and terminate Asian clam populations by reducing oxygen and food availability.

New Zealand Mudsnail *Potamopyrgus antipodarum*. The New Zealand mudsnail is a nuisance aquatic species now reported in a few Nevada streams along the periphery of the state (see map in Figure 3-21). It is reported in all western states, except New Mexico and is listed as an invasive species in California. It reproduces rapidly and competes for food with native gastropods and other species and is detrimental to trout populations because of its lack of nutritional value. It is not yet a huge problem but is being monitored in the state and may become more of a problem in the future.

5.2.7.3 Location, Severity and Probability of Future Events

Nevada Division of Forestry in conjunction with the Nevada Department of Agriculture is currently working to update the infestation GIS system and provide a more detailed study for each county. This study will be completed in 2013 and should be considered in the next plan update. The transportation corridor of Highway 95 is a likely area for the spread of noxious weeds as they can travel on cars and trucks. There is currently no known infestations of insects or aquatic species however the infestation of insects could affect agricultural crops and aquatic species could affect the Walker Lake and Walker River. The committee felt that the probability of future events is low and the severity or economic impact is low.

The Nevada Hazard Mitigation Planning Subcommittee agreed that plant, insect, and aquatic organism infestations will continue to occur throughout the state as recreation and commerce continue to move people and property across state lines. Therefore, the probability of an infestation occurring is moderate however the severity of impact is very low. Cooperative efforts are necessary among state, federal, agencies and other interested regional groups to implement programs to control and mitigate the effects of infestations on all aspects of the state's environment and economy.

5.2.8 Landslide

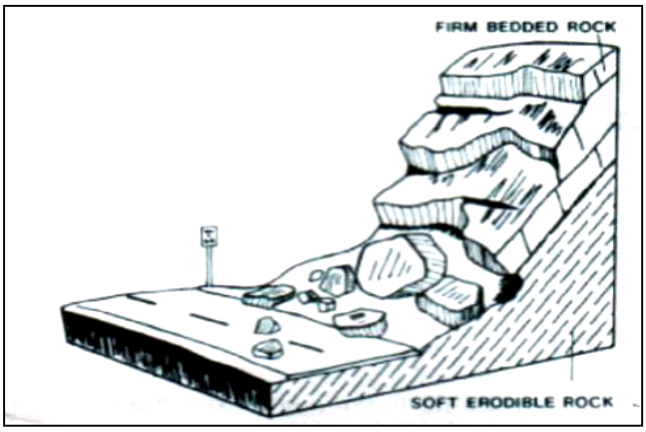
Planning Significance - Low

5.2.8.1 Nature

A landslide is the movement of rock and soil that may take place gradually over a small area, or it may be very rapid and involve a huge area, such as the landslides that have been documented at Slide Mountain. Landslides may also be initiated by removal, or absence, of soil-retaining vegetation, from causes such as range fires (e.g., Waterfall fire July 2004) or changes in agricultural practices. Removal of material at the base of slopes may result in unstable conditions. Heavy building structures, mine dumps and road fill may add enough stress to initiate landslide movement in otherwise stable conditions.

Landslides in Nevada include rockfalls. Some rockfalls occur where sedimentary rocks are capped by volcanic rocks (lava flows and other layered volcanic rocks). When the sedimentary rock weathers and erodes it undermines the lava cap and a rock fall results. Another type of landsliding in Nevada occurs in areas cut by perennial streams. Water undermines the supporting base of a steep surface, which eventually collapses. An example of this type of slide is Mogul, on the Truckee River, West of Reno. Landslides in Nevada tend to be localized and therefore tend not to result in very large dollar damages. They can occur with earthquakes and major storms and floods, and they can be initiated by melting ice and snow.

Figure 5-13. Landslide Soil



Source: Planning for Natural Hazards: The Oregon Technical Resource Guide

5.2.8.2 History

The landslide hazard was reviewed during the 2016 update by the Planning Committee, and there were no new occurrences for this update. The data that follows was compiled during the 2012 plan.

The largest recorded event in recent history in neighboring Washoe County was on May 30, 1983, on the eastern slopes of Slide Mountain. The rockslide killed one man, destroyed a house and caused $2M in damage to the area. There are no other recorded events however this may be because there was no damage from previous landslide events.

5.2.8.3 Location, Extent, and Probability of Future Events

The Landslide Map B-10, located in Appendix B, shows the potential locations of landslide within Mineral County. The area identified near Highway 95 near Walker Lake would affect the highway but structure impact is unlikely by a slide in this area.

5.2.9 Severe Weather

Planning Significance - Medium

5.2.9.1 Nature

Thunderstorms, hailstorms, tornadoes, windstorms, and winter storms were combined into the category of severe weather. Thunderstorms are further defined due to the numerous threats associated with them.

Hail and Thunderstorms:

Hail is a form of solid precipitation which consists of balls or irregular lumps of ice, that are individually called hail stones. Hail stones consist mainly of water ice and measure between 0.20 and 3 inches in diameter, with the larger stones coming from severe and dangerous thunderstorms. Hail is possible with most thunderstorms as strong rising air currents in the thundercloud transport moisture laden air well above the freezing level converting super-cooled water vapor into hail stones. The stronger the updraft into the thunderstorm, the longer these initially small hails stones stay suspended in the storm, allowing them to grow to in size to the point where they eventually become too heavy for the updraft to keep them aloft, and they fall to the surface.

Thunderstorms are formed from a combination of moisture, rapidly rising warm air, and a force capable of lifting the air, such as warm and cold fronts or mountainous terrain. A thunderstorm produces lightning, thunder, and rainfall and can develop in just minutes. Thunderstorms may occur singly, in clusters, or in lines. As a result, it is possible for several thunderstorms to affect one location in the course of a few hours. The main threats from thunderstorms are hail, wildfires, deadly lightning, tornadoes, flash floods, and downburst winds. Flash floods and wildfires are detailed in this plan.

Thunderstorms occur regularly each summer in Mineral County. Hazards from thunderstorms have limited predictability given current technology and science. Days favorable for severe thunderstorm development can be anticipated 1-3 days in advance with a general heads up, however specific severe thunderstorm and tornado warnings are often limited to 0-30 minutes lead time. It is important to note that Mineral County is located far from any National Weather Service radar, therefore severe weather such as flash floods and tornadoes are less detectable and warning lead times often are on the lower end of the range given.

Windstorms –Tornadoes:

A tornado is a violent, rotating column of air which is in contact with both the surface of the earth and a thunderstorm cloud. Tornadoes come in many sizes but are typically in the form of a visible condensation funnel, whose narrow end touches the earth and is often encircled by a cloud of debris. Most tornadoes have wind speeds between 65 mph and 110 mph, are approximately 250 feet across, and travel less than a mile before dissipating. Some attain wind speeds of more than 300 mph, stretch more than a mile across, and stay on the ground for dozens of miles. Tornadoes are rare in Mineral County. However, they can occur and have most recently in 2015.

Downburst Winds:

A downburst is created by an area of significantly rain-cooled air that, after hitting ground level, spreads out in all directions producing strong winds. Unlike winds in a tornado, winds in a downburst are directed outwards from the point where it hits land or water. Dry downbursts are associated with thunderstorms with very little rain, while wet downbursts are created by thunderstorms with high amounts of rainfall. Downburst winds are often termed microbursts, macrobursts, or outflow thunderstorm winds. Most downburst winds that impact Mineral County occur as dry downbursts due to the high cloud bases of the associated thunderstorms, which allows for much of the rainfall to evaporate before reaching the ground. They are also usually microbursts compared to macrobursts since the area affected is typically less than 2.5 miles. Macrobursts do occur in the region when individual thunderstorm cells organize into a line or cluster, but are less common. Downburst winds are typically 35 to 75 mph, but can exceed over 100 mph in rare cases.

Downburst winds typically damages fences, roofs, weakened structures, trees, and power lines. Downbursts do pose a significant risk to aviation, especially to aircraft taking off and landing due to strong winds that change direction over very short distances. In addition, small aircraft on the ground can incur damage if not secured. Downburst winds do pose a significant risk to new lightning induced wildfire starts, allowing small fires to grow quickly. During periods of drought, dust storms result from downburst winds and cause visibilities to drop below ½ mile, creating hazardous driving conditions. Downburst winds from thunderstorms are common in Mineral County from late spring through early fall.

Downslope Wind Storms:

Winds are horizontal flows of air that blow from areas of high pressure to areas of low pressure. Wind strength depends on the difference between the high- and low-pressure systems and the distance between them. Therefore, a strong pressure gradient results from a large pressure difference over short distance between places and causes strong winds.

Strong and/or severe winds often precede or follow frontal activity, including cold fronts, warm fronts, and dry lines. Downslope wind storms are common in Mineral County during the winter months when winter storms approach the Sierra. Strong winds ahead of a cold front are ducted down to the surface due to mountain waves, enhancing wind speeds that are often stronger than Down-slope wind storms seen in the rest of the United States. Down-slope winds in the lee of the Sierra typically produce sustained southwest winds of 30 to 50 mph with gusts to 70 mph. During the strongest down slope wind storms, winds can exceed over 100 mph and last numerous hours.

Down-slope wind storms can overturn mobile homes, tear roofs off of houses, down fences, topple trees, snap power lines, shatter windows, and sandblast paint from cars. Other associated hazards include utility outages, arcing power lines, and dust storms.

In addition to strong and/or severe winds caused by large regional frontal systems, locally strong winds caused from the funneling of winds through mountain peaks or drainages do occur. Areas impacted by these local winds are much smaller in scale, although wind speeds can be equally as strong as those caused by large scale weather systems.

Winter Storms:

Winter storms can bring heavy rain, snow, high winds, extreme cold, and freezing rain to the region. In Nevada, winter storms are massive low-pressure weather systems originating in the North Pacific Ocean that sweep across the western states. Winter storms can also plunge southward from arctic regions and drop heavy amounts of snow and ice. The severity of winter storms is generally minor. However, a heavy accumulation of snow or ice can create hazardous conditions. Additionally, a large winter storm event can also cause exceptionally high rainfall that persists for days, resulting in heavy flooding. Winter storms that are able to tap into subtropical moisture are the ones most likely to lead to flooding due to heavy warm rain. Flooding is exacerbated by warm heavy rains falling on low elevation snowpack. Major winter storms with heavy snow are rare in Mineral County; however, lighter snow events with significant travel impacts occur regularly in winter.

The predictability of both winter storms and downslope wind events has improved considerably in the last decade. General heads up can often be provided 4-7 days in advance, with more specific wind and snow predictions 1-3 days in advance. This improvement in predictability can help mitigate the impacts of these storms by ensuring public safety agencies and the public are better prepared and can consider alternate plans.

5.2.9.2 History

The National Weather Service provided the following data for severe weather occurrences since January 2000 through March 2016 in Mineral County. Some of the events are done by NWS "zone" which in this case covers Mineral and southern Lyon Counties, sharing a very similar geography and weather pattern. These are noted by an asterisk (*).

Number of days with the following types of severe weather

- High Wind (winter storms, downslope wind events) – 54* with an estimated $968k in damage and 2 injuries
- Dust Storm – 2*
- Flash flood or heavy rains from thunderstorms – 6
- Hail from thunderstorms – 3
- Heavy snow or winter storm – 8*
- Downburst wind from thunderstorms – 4
- Tornado – 1 (June 5, 2015 an EF1 struck Hawthorne. The tornado was determined to be EF-1 for 0.3 miles on the east side of Hawthorne (near 5th street) and EF-0 elsewhere. Approximately 10 to 15 homes and businesses were severely damaged along with power lines and road signs. One 2-foot diameter tree was blown over onto a mobile home and 2 vehicles were severely damaged. No damage estimates were available.)

Below are tables showing the heaviest one-day snow events, hottest, and coldest temperatures in Hawthorne, NV. NWS maintains a long-standing Cooperative Network weather station there. Clearly the area is prone to temperature extremes and occasional heavy snow events. Note how many of the top-20 hottest days have occurred since 2000 while the coldest 20 days have mostly been before 2000.

Figure 5-14. Mean Temperature

Maximum 1-Day Mean Max Temperature for HAWTHORNE, NV

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date
1	108.0	2002-07-10
2	107.0	2002-07-11
-	107.0	1998-07-18
4	106.0	2007-07-06
-	106.0	2007-07-05
-	106.0	2003-07-22
-	106.0	1998-07-17
-	106.0	1961-07-22
9	105.0	2014-07-14
-	105.0	2013-07-22
-	105.0	2013-07-21
-	105.0	2013-07-01
-	105.0	2003-07-21
-	105.0	2003-07-20
-	105.0	2002-07-12
-	105.0	1961-08-03
17	104.0	2014-07-13
-	104.0	2013-07-20
-	104.0	2013-07-03
-	104.0	2013-07-02
Last value also occurred in one or more previous years.		
Period of record: 1954-08-19 to 2016-03-20		

Minimum 1-Day Mean Min Temperature for HAWTHORNE, NV

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date
1	-3.0	1997-01-14
-	-3.0	1963-01-12
3	-2.0	1998-12-23
-	-2.0	1962-01-23
5	-1.0	1963-01-13
6	0.0	1962-01-14
7	1.0	2007-01-13
8	2.0	2007-01-16
-	2.0	1998-12-21
-	2.0	1962-02-27
-	2.0	1962-01-24
12	3.0	2013-12-09
-	3.0	1998-12-20
14	4.0	1997-01-13
-	4.0	1965-01-01
-	4.0	1961-12-11
17	5.0	2013-01-14
-	5.0	1998-12-24
-	5.0	1962-01-22
-	5.0	1955-01-17
Period of record: 1954-08-20 to 2016-03-20		

Figure 5-15. Damage to a home in Hawthorne from the EF1 tornado on June 5, 2015.

Source: NWS Reno

5.2.9.3 Location, Extent, and Probability of Future Events

Thunderstorms that produce hail and downburst winds occur in the County every year. An active thunderstorm pattern, resulting from monsoon moisture over the Southwestern United States being transported into Nevada can lead to a prolonged period of thunderstorms and severe weather. Sometimes this can last for 1-2 weeks with day after day of thunderstorms, high winds, and flash flooding. Thunderstorms are a high risk in Mineral County, since they occur many days each summer especially when there is a strong monsoon weather pattern.

Hailstorms are a common occurrence in the County, especially during the late spring through early fall months when thunderstorms are most frequent. Hail sizes are typically between pea and marble size, but can get larger than golf balls during the strongest storms that impact the area. Due to a warm summer climate, Mineral County rarely sees large damaging hail; therefore, it can be classified as a low-moderate risk.

Tornadoes are rare in the County and therefore have a low probability of occurring due to the mountainous terrain which prevents them from spinning up. Historically, tornadoes in the region

are usually weak, often categorized as EF0 (65-85 mph) or EF1 (86-110 mph) on the Enhanced Fujita Scale.

Severe wind events in the County occur every year and are the result of two weather events: winter storms (downslope winds) or summer thunderstorms (downburst winds). These wind events occur regularly in the County each year and can affect just about anywhere. There is an enhanced probability of future downslope wind events in the Highway 95/ Walker River and South Walker Lake areas. Just about anywhere in the County can be impacted by thunderstorm downburst winds.

Winter storms occur each year in Mineral County but are of varying impact. Most frequently high winds are the main impact however on the order of 1-2 times each winter heavy snowfall or rainfall can accompany winter storms.

Schurz and Hawthorne are the location of greatest impact of severe weather due to the majority of the County's population being located in those areas. The probability of a severe weather event occurring can be derived by frequency is determined to be moderate and the planning significance moderate to low.

Climate Change:

Climate change could result in a higher probability of wetter winter storms. The effect of a warming climate on hailstorm frequency and intensity is largely unknown. Lightning occurrence might increase with climate variability due to increased water vapor in the atmosphere related to warming. For the Sierra Front, it is not clear that windstorms will change in magnitude or frequency resulting from climate variability.

5.2.10 Terrorism

Planning Significance – Medium

5.2.10.1 Nature

The Department of Justice (DOJ) Federal Bureau of Investigation (FBI) defines terrorism as the unlawful use of force or violence against persons or property to intimidate or coerce a government and/or the civilian population in furtherance of political or social objectives. Weapons of Mass Destruction (WMD) associated with terrorism are defined as nuclear, biological and chemical in origin. Technological terrorism is defined as the intentional disruption in the nation's data control systems. Attacks on financial, business, and governmental computer networks are being considered as technological terrorist-related acts.

The FBI is the primary investigatory agency for domestic terrorism. The Central Intelligence Agency (CIA) monitors potential security threats from foreign sources. The DOJ through the FBI will coordinate the domestic preparedness programs and activities of this nation to address the threat posed by terrorists and the use of weapons of mass destruction.

Acts of terrorism may originate from a single person, special interest groups, or acts sponsored by a foreign government. Terrorist acts include the use of arson, hostile takeovers, shootings, biological agents (such as anthrax, plague, botulism and others), chemical agents (such as hydrogen cyanide, sulfur mustard, sarin and chlorine), and hostage taking. The most popular method used in recent events in the United States has been terrorism by bombing.

Conventional Explosive Devices

The easiest to obtain and use of all weapons is still a conventional explosive device, or improvised bomb, which may be used to cause massive local destruction or to disperse chemical, biological, or radiological agents. The components are readily available, as are detailed instructions to construct such a device. Improvised explosive devices are categorized as being explosive or incendiary, employing high or low filler explosive materials to explode and/or cause fires.

Bombs and firebombs are cheap and easily constructed, involve low technology, and are the terrorist weapon most likely to be encountered. Large, powerful devices can be outfitted with timed or remotely triggered detonators and can be designed to be activated by light, pressure, movement, or radio transmission. The potential exists for single or multiple bombing incidents in single or multiple municipalities. Historically, less than five percent of actual or attempted bombings were preceded by a threat. Explosive materials can be employed covertly with little signature, and are not readily detectable. Secondary devices may be targeted against responders.

Nuclear Weapon/Radiological Agent Use

The difficulty of responding to a nuclear or radiological incident is compounded by the nature of radiation itself. In an explosion, the fact that radioactive material was involved may or may not be obvious, depending upon the nature of the explosive device used. Unless confirmed by radiological detection equipment, the presence of a radiation hazard is difficult to ascertain. Although many detection devices exist, most are designed to detect specific types and levels of radiation and may not

be appropriate for measuring or ruling out the presence of radiological hazards. The table below lists some indicators of a radiological release.

General indicators of possible nuclear weapon/radiological agent use are as follows.

• A stated threat to deploy a nuclear or radiological device
• The presence of nuclear or radiological equipment (e.g., spent fuel canisters or nuclear transport vehicles)
• Nuclear placards or warning materials along with otherwise unexplained casualties

The scenarios constituting an intentional nuclear/radiological emergency include the following:

1. Use of an **Improvised Nuclear Device (IND)** includes any explosive device designed to cause a nuclear yield. Depending on the type of trigger device used, either uranium or plutonium isotopes can fuel these devices. While "weapons-grade" material increases the efficiency of a given device, materials of less than weapons grade can still be used.

2. Use of a **Radiological Dispersal Device (RDD)** includes any explosive device utilized to spread radioactive material upon detonation. Any improvised explosive device could be used by placing it in close proximity to radioactive material.

3. Use of a **Simple RDD** that spreads radiological material without the use of an explosive. Any nuclear material (including medical isotopes or waste) can be used in this manner.

Biological Agents

An identified terrorist tactic or weapon is the use of toxic biological agents in an attempt to harm or intimidate the public. Anthrax, Yersinia pestis, and small pox are examples of this type of threat. Anthrax is found naturally in the soil in some of the old ranch areas in Nevada. UNR and the Nevada State Agriculture Labs maintain a vigilant watch of these threats.

According to information from the Nevada State Health Division, most biological agents are naturally occurring in various parts of the world. They can be weaponized to enhance their virulence in humans and make them resistant to vaccines and antibiotics. Weaponization of biological agents usually involves using selective reproduction pressure or recombinant engineering to mutate or modify the genetic composition of the agent. Terrorist may choose to use biological weapons to achieve their goals because a very small amount can harm many people. It is reported that many of these agents would be relatively easy to prepare and easy to hide. The actual or threatened use of bio-weapons can have tremendous psychological impact on the population.

The CIA currently lists 15 animal pathogens as having potential Biological Weapons application that could potentially be used in a terrorist act:

- African swine fever
- Avian influenza
- Bluetongue
- Foot and Mouth Disease
- Goat Pox
- Monkey Pox
- Pseudo-rabies
- Hog cholera
- Lyssa virus
- Newcastle disease
- Pest des petits
- Swine vesicular disease
- Rinderpest
- Sheep pox
- Porcine enteroviral encephalomyelitis
- Vesicular stomatitis

Yersinia pestis is used an aerosol attack can cause cases a pneumonic form of plague. One to six days after becoming infected with the bacteria, people would develop pneumonic plague. Once people have the disease, the bacteria can spread to others who have close contact with them. Because of the delay between being exposed to the bacteria and becoming sick, people could travel over a large area before becoming contagious and possibly infecting others. Controlling the disease would then be more difficult. A biological weapon carrying Y. pestis is possible because the bacterium occurs in nature and could be isolated and grown in quantity in a laboratory. Even so, manufacturing an effective weapon using Y. pestis would require advanced knowledge and technology.

Smallpox is caused by the variola virus that emerged in human populations thousands of years ago. Except for laboratory stockpiles, the variola virus has been eliminated. However, in the aftermath of the events of September and October, 2001, there is heightened concern that the variola virus might be used as an agent of bioterrorism. For this reason, the US government is taking precautions for dealing with a small pox outbreak.

Unless the agent is disseminated in an airborne or other mass contaminate methodology, the exposures will be limited in nature. Mass distributed biologic agents could require mass contamination and isolation. Medical responders and facilities would be stressed. Infrastructure such as drinking water could be affected. Some critical buildings could be closed and sealed pending decontamination if possible. Economic losses could be incurred due to lack of tourism or if major gaming establishments were affected.

According to USDA-ARS Arthropod-Borne Animal Diseases Research Laboratory (ABADRL) at the present time, the most economically important arthropod-borne disease of US livestock is Bluetongue Disease (BLU). As articulated in the Journal of American Veterinary Medical Association article, *Biological Terrorism and Veterinary Medicine in the United States*, "Although recent reports have emphasized the need for improving the ability to detect a

biological terrorist attack on human populations, the use of veterinary services in this effort and the potential for the targeting of livestock (e.g., horses, cattle, sheep, goats, swine, and poultry) have been addressed only briefly. Improving surveillance for biological terrorist attacks that target livestock and improving detection and reporting of livestock, pet, and wild animal morbidity and mortality are important components of preparedness for a covert biological terrorist attack."

Chemical Agents

The table below lists those chemical agents that might be used in a terrorist attack and categorizes them by effect.

Table. 5-12. Hazardous Chemical Agents Potentially Used in Terrorist Act

Effects	Chemical Agent
Blood (Blister/Vesicants)	Arsine (SA)
	Cyanogen Chloride (CK)
	Hydrogen Chloride
	Hydrogen Cyanide (AC)
Choking/Lung/Pulmonary Damaging	
	Chlorine (CL)
	Diphosgene (DP)
	Cyanide
	Nitrogen Oxide (NO)
	Perfluroisobutylene (PHIB)
	Phosgene (CG)
	Red Phosphorous (RP)
	Sulfur Trioxide-Chlorosulfonic Acid (FS)
	Teflon and Perfluroisobutylene (PHIB)
	Titanium Tetrachloride (FM)
	Zinc Oxide (HC)
Incapacitating (Nerve, Riot Control/Tear Gas)	Bromobenzylcyanide (CA)
	Chloroacetophenone (CN)
	Chloropicrin (PS)
	CNB – (CN in Benzene and Carbon Tetrachloride)
	CNS – (CN and Chloropicrin in Chloroform)
	CR
	CS
Vomiting	
	Adamsite (DM)
	Diphenylchloroarsine(DA)
	Diphenylcyanoarsine (DC)

The State of Nevada is comprised of diverse populations that include members of nation-wide militia organizations. The Federal government has continually released terrorism warnings since 1998 that state most communities in the United States are vulnerable to terrorist attack. The State of Nevada Enhanced Multi-Hazard Mitigation Plan 2010, currently lists nine domestic terrorism groups with representatives and offices in Nevada. Those groups are included in this

plan to give local governments information of their existence and their geographical location. See the table below.

Table 5-13. Identified Hate Groups and Patriot Groups, Nevada

Type	Group	Location
Domestic Terrorism Groups		
	World Church of the Creator	Carson City
	Hammerskin Nation	Las Vegas
	Nation of Islam	Las Vegas
	National Alliance	Las Vegas
	National Socialist Movement	Las Vegas
	Aryan Nations/Aryan National Alliance	Reno
	National Alliance	Reno
	Aryan Nations/Aryan National Alliance	Wellington
Patriot Groups		
	Center for Action	Sandy Valley

5.2.10.2 History

The terrorism hazard was reviewed during the 2016 update by the Planning Committee, and there were no new occurrences for this update. The data that follows was compiled during the 2012 plan.

There have been no incidents of terrorism in Mineral County. According to the FBI, sporting events, political conventions, and other special events are attractive targets for domestic and foreign terrorists because they are highly visible and attract celebrities and political leaders. Other targets of opportunity for terrorism include large public works facilities, utilities, transportation facilities such as airports, train stations, subways, bridges and ferries, military bases, schools, medical facilities and other state and federal facilities. Examples of terrorism include the World Trade Center bombing in New York City, the Murray Federal Building bombing in Oklahoma City, the Olympic Centennial Park bombing in Atlanta, and the Pan American Flight bombing over Lockerbie, Scotland.

Acts of terrorism may originate from a single person, special interest groups, or acts sponsored by a foreign government. The most popular method used in recent events in the United States has been terrorism by bombing. Terrorist acts include the use of arson, hostile takeovers, shootings, biological agents (such as anthrax, plague, botulism and others); chemical agents (such as hydrogen cyanide, sulfur mustard, sarin and chlorine), and hostage taking.

5.2.10.3 Location, Extent, Probability of Future Events

In determining the risk areas within a jurisdiction, the vulnerabilities of potential targets should be identified, and the targets themselves should be prepared to respond to a WMD incident. In-depth vulnerability assessments are needed for determining a response to such an incident.

The Hawthorne Army Depot is susceptible to the impacts of terrorism. Additionally, special events, above-ground fuel tanks, and the sewage plants are also susceptible. The sewage plant uses chlorine to disinfect the treated wastewater before discharge into an adjacent waterway. The chlorine is housed in a chlorine tanker located in on site buildings for this purpose.

Standard models are available for estimating the effects of a nuclear, chemical, or biological release, including the area affected and consequences to population, resources, and infrastructure. Some of

these models include databases on infrastructure that can be useful in preparing the TIA. A good source of information on available Federal government models is the *Directory of Atmospheric Transport and Diffusion Consequence Assessment Models*, published by the Office of the Federal Coordinator for Meteorology (OFCM).

The overall magnitude, potential severity and frequency of impacts of terrorism and weapons of mass destruction is considered low in the County. Assessment of probability of future terrorism events in the County is gauged primarily on speculation, as no terrorism or events involving weapons of mass destruction have previously occurred in the planning area. The consensus of the Planning Committee is that probability of future events is low within Mineral County. Based on the Homeland Security Threatened Level System, it is anticipated that terrorism will remain a high threat into the foreseeable future. Because terrorism events typically are focused on a single high payoff area or facility, estimated damage is less than one percent damage to facilities in the County.

5.2.11 Volcanic Activity

Planning Significance - Low

5.2.11.1 Nature

Volcanoes are created when internal forces in the earth cause heated, melted rock (magma) to rise to the surface. First collecting in magma chambers, some of the magma pushes upward through cracks and eventually vents to the Earth's surface. As the magma reaches the surface, it can erupt violently due to escaping gases, it can erupt less spectacularly as a lava flow (e.g., Hawaii), or it can expand slowly as a lava dome (similar to the filling of the crater of Mount St. Helens in recent years).

Volcanoes have varied shapes and sizes, but are divided, based on the type of material that reaches the surface and the type of eruption that ensues.

1. Composite or Stratovolcanoes

Composite volcanoes (stratovolcanoes) develop from repeated explosive and non-explosive eruptions of tephra (airborne lava fragments that can range in size from tiny particles of ash to house-sized boulders) and lava that build up layer by layer. These volcanoes are the largest and form symmetrical cones with steep sides. Mount Shasta, Mount Rainier, and Mount St. Helens are examples of stratovolcanoes.

2. Shield Volcanoes

Shield volcanoes form from "gentle" or non-explosive eruptions of flowing lava. The lava spreads out and builds up volcanoes with broad, gently sloping sides. They are named for their low-profile shape that resembles a warrior's shield. Currently active volcanoes of this type are found in the Hawaiian Islands.

3. Cinder Cones

Cinder cones build up from lava that is blown violently into the air and breaks into fragments. As the lava pieces fall back to the ground, they cool and harden into cinders (lava fragments about ½ - inch in diameter) that pile up around the volcano's vent at the angle of repose. Cinder cones are the smallest volcanoes and are cone-shaped. Cinder cones are found in many areas of the western U.S., including Nevada.

4. Phreatic Eruptions

Phreatic eruptions occur when rising magma contacts ground or surface water. The extreme temperature of the magma (anywhere from 1110°F to 2140 ^{o}F (600-1170 ^{o}C) cause near-instantaneous boiling of groundwater resulting in an explosion of steam, water, ash, rock, and volcanic bombs. A less intense geothermal event may result in a mud volcano. This kind of activity is also described as steam-blast eruptions. Phreatic eruptions typically include steam and rock fragments and seldom erupt lava. The temperature of the fragments can range from cold to hundreds of degrees Fahrenheit. If molten material is included, the term phreato-magmatic may be used. These eruptions occasionally create broad, low-relief craters called maars. Phreatic explosions can be accompanied by carbon dioxide or hydrogen sulfide gas emissions. The former can asphyxiate at sufficient concentration; the latter is a broad spectrum poison. A 1979 phreatic

eruption on the island of Java killed 149 people, most of whom were overcome by poisonous gases.

5. Calderas

Calderas are large volcanoes that produce violent eruptions of ignimbrites- hot ash that wipes out areas tens to thousands of square miles in size. Although many calderas existed in Nevada tens of millions of years ago, none are active today. However, the Long Valley Caldera near Mammoth Lakes, California, deposited ash in much of western Nevada when it erupted approximately 760,000 years ago. Similarly Mount Mazama, a stratovolcano in Oregon, deposited ash in Nevada approximately 7,700 years ago, when it erupted to create Crater Lake, a relatively small caldera.

5.2.11.2 History

Nevada has a long history of volcanism. In western Nevada, the most recent episode was between 2.6 to 1 million years ago (Henry and Cousens, 2013). At about 1.36 million years ago, two lava flows erupted out of a volcanic cone at McCellan Peak and "flowed -6 km [3.6 mil into what is now suburbs of Carson City and across U.S. Highway 50" (Henry and Cousens. 2013). It has been a long time since these eruptions but still renewed activity is not out of the question.

Volcanic activity from surrounding states, particularly California and Oregon, has created ash clouds that have drifted over Nevada, as evidenced by numerous young ash beds in western Nevada. Small eruptions from the Mono Craters area near Lee Vining and Mono Lake in eastern California have sent ash into Nevada as recently as about 260 years ago; an eruption from these volcanoes presents the most likely current volcanic hazard for Nevada. Other volcanoes that have erupted in recent history and could deposit ash in Nevada include Lassen Peak, Mount Shasta, the Long Valley Caldera in California, and volcanoes in the Cascade Mountains in Oregon. Ash from the 1915 eruption of Lassen Peak traveled at least 200 miles northeast to Winnemucca. The eruption of Mount St. Helens in 1980 deposited up to several centimeters of ash several hundred kilometers away from the volcano. The biggest threat to Churchill County and Nevada from eruptions in California and Oregon is damage to flying aircraft.

A massive eruption from the Long Valley Caldera near Mammoth Lakes, California about 760,000 years ago devastated a considerable area in Owens Valley when thick, hot flows of ash were deposited as far south as Bishop. Air-fall ash from these eruptions did collect as thick piles of ash in parts of Nevada, and some of the ash may have been hot enough or thick enough to locally devastate the landscape. Scientists would expect to see strong indications from seismographs before another eruption of this magnitude. The U.S. Geological Survey continues to monitor the area around Mammoth Lakes, and will issue warnings prior to any subsurface changes that could precede a major eruption.

Seismic and geodetic data at the north end of Lake Tahoe have been interpreted by researchers at the University of Nevada, Reno (K.D. Smith and others, 2004, Evidence for deep magma injection beneath Lake Tahoe, Nevada-California: Science, v. 305, p. 1277-1280). These data indicate active magma at a depth of approximately 19 miles (30 kilometers). There does not appear to be a near-term threat of volcanic eruption from this area, in part because the last documented eruption in the area was approximately one million years ago.

Soda Lake and Little Soda Lake near Fallon in Churchill County are maars, volcanoes that form by explosions when magma rises near the surface of the earth and boils the groundwater.

Phreatic eruptions such as these pose a risk of asphyxiation from the volcanic gases released. Soda Lake and Little Soda Lake are probably the youngest volcanoes within the borders of the State. They have not erupted in recorded history, although sediment deposited during the last high stand of glacial Lake Lahontan is overlain by volcanic sediments indicating that they are younger than 13,000 years old. On the basis of preliminary helium isotopic studies (Thure Gerling, University of Utah, personal communication, 1997), the eruption at Soda Lake may be younger than 1,500 years before present. Somewhat similar phreatic events, but without magma, have occurred at the Steamboat geothermal area just south of Reno. The youngest volcanic rocks exposed at the Earth's surface in the Steamboat area are approximately one million years old.

Other relatively young volcanoes occur in the Crater Flat-Lunar Crater zone, Nye County, which includes basaltic volcanoes ranging in age from about 38,000 to 1 million years old (Smith, E.l. Keenan, D.L., Plank, T. 2002, Episodic volcanism and hot mantle: implications for volcanic hazard studies at the proposed nuclear waste repository at Yucca Mountain, Nevada: GSA Today, v.12, no.4, p. 4-10); in Clayton Valley, near Silver Peak in Esmeralda County; near Winnemucca in Humboldt County; and near Reno in Storey County. Most of these are basaltic volcanoes, which typically form small cinder cones and small lava flows. There are also some one million-year-old rhyolitic lava flows in the Reno area near Steamboat Hot Spring

Although geothermal power plants in many parts of the world are associated with active volcanoes, the 15 geothermal power plants in northern Nevada do not appear to be associated with magma. With the possible exception of the Steamboat geothermal system at the south end of Reno, the geothermal areas in Nevada appear to be derive their heat from deep circulation of groundwater rather than direct connections with magma or cooling igneous rock. A hazard that is recognized in the Steamboat area is violent eruption of steam, mud, and rock from geysers. As indicated on the geologic map of the Mt. Rose NE Quadrangle (Nevada Bureau of Mines and Geology Map 4Bg), such eruptions have occurred during the Quaternary Period near the Mount Rose Highway (Nevada Route 431), west of the intersection with U.S. Highway 395, and could occur again there or in other parts of the Steamboat area. The hazard from such eruptions is a local feature that would not be likely to require federal assistance.

5.2.11.3 Location, Extent, and Probability of Future Events

There is clearly some potential for ash from the Mono Craters, Inyo Craters, and Mammoth Mountain to affect airplanes, air quality, and highway driving in Nevada, particularly in near-downwind areas of Esmeralda, Mineral, and Nye Counties. In the event of an eruption in this region, planes flying between Reno and Las Vegas would have to be re-routed west of the Sierra Nevada. Similarly, there is some potential for ash from Cascade volcanoes in northern California (Lassen Peak and Mount Shasta areas) and Oregon to affect airplanes, air quality, and highway driving in northern Nevada, particularly Washoe, Humboldt, Pershing, and Elko Counties. Air travel between Reno and Portland and Reno and Seattle would be re-routed in the event of an eruption in this area. Geologic evidence of past eruptions from these volcanoes, recognized as ash deposits of particular ages and distinct chemical compositions, is abundant in Nevada. Volcanic gases associated with phreatic eruptions could pose a localized threat of asphyxiation to humans in poorly ventilated spaces in the immediate vicinity of these vents. At Mammoth Mountain, several CO_2 related deaths occurred when a skier and rescuers became trapped in a snow pocket that was filled with CO_2 gas. The emission of CO_2 gas in this area is associated with volcanic unrest in between more dramatic eruption cycles. Elevated CO_2 levels in the soil were first observed by the USGS in 1989 after a swarm of small earthquakes occurred beneath

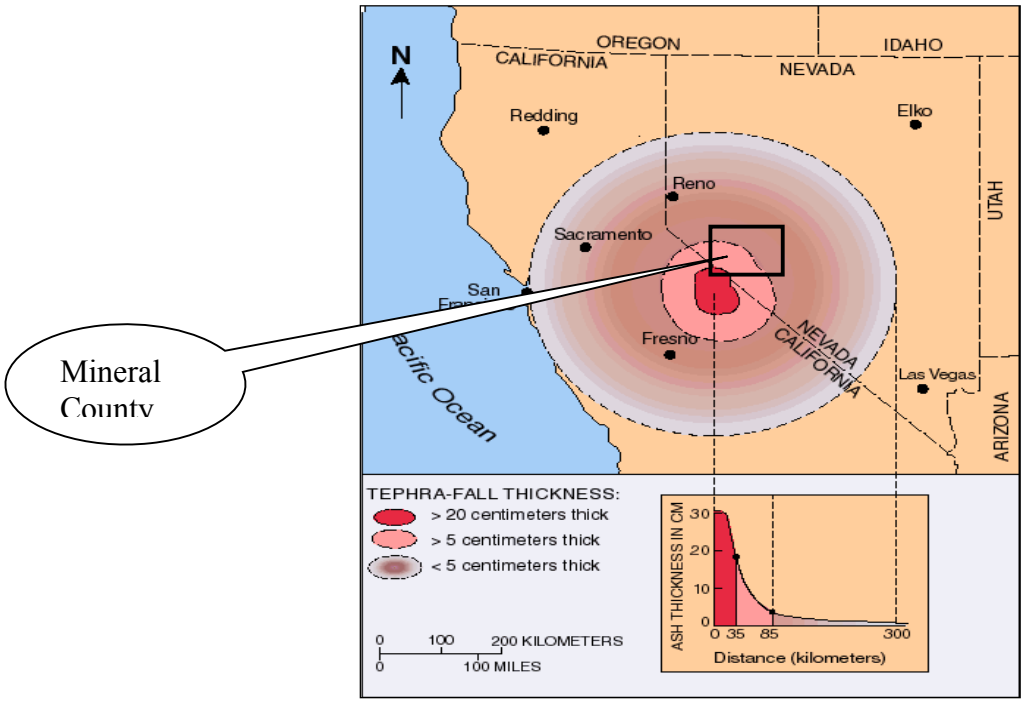
Mammoth Mountain. It is noted that the ski resorts in that region are located in close proximity to volcanoes.

Volcanic eruptions may also trigger a "volcanic blast" or an atmospheric shock wave that creates a pressurized burst of moving air which travels away from the eruption center. Shock waves from eruptions may flatten trees (e.g. Mounty Saint Helens) and break windows in buildings. Effects of these shock waves are more destructive near the eruption center.

It is likely that seismic instruments will detect any imminent eruption in time to warn people to avoid the hazard. Our ability to monitor small tremors associated with magma at depth is limited by the currently small number of seismographs that are operated in Nevada. The Nevada Seismological Laboratory and the U.S. Geological Survey have joint responsibilities for earthquake monitoring and warnings.

Volcanic risk is low, but can change to high in a matter of months to a year as a volcano becomes active. The probability is low but the consequences can be locally severe. Mitigation actions are limited to public awareness and evacuation procedures at the local level.

Figure 5-16. Volcanic Ash Dispersal Map for the Long Valley Caldera



Source: USGS Volcano hazards program; C.D. Miller, J. Johnson; http://lvo.wr.usgs.gov/zones/TephraFall.html

5.2.12 Wildland Fire

Planning Significance - Medium

5.2.12.1 Nature

A wildland fire is a type of wildfire that spreads through consumption of vegetation. It often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles around. Wildland fires can be caused by human activities (such as arson or campfires) or by natural events such as lightning. Wildland fires often occur in forests or other areas with ample vegetation. In addition to wildland fires, wildfires can be classified as urban fires, interface or intermix fires, and prescribed fires.

The following three factors contribute significantly to wildland fire behavior and can be used to identify wildland fire hazard areas.

- **Topography:** As slope increases, the rate of wildland fire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildland fire behavior. However, ridge tops may mark the end of wildland fire spread, since fire spreads more slowly or may even be unable to spread downhill.
- **Fuel:** The type and condition of vegetation plays a significant role in the occurrence and spread of wildland fires. Certain types of plants are more susceptible to burning or will burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available to fuel the fire (referred to as the "fuel load"). The ratio of living to dead plant matter is also important. The risk of fire is increased significantly during periods of prolonged drought, as the moisture content of both living and dead plant matter decreases. The fuel's continuity, both horizontally and vertically, is also an important factor.
- **Weather:** The most variable factor affecting wildland fire behavior is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildland fire activity. By contrast, cooling and higher humidity often signals reduced wildland fire occurrence and easier containment.

The frequency and severity of wildland fires also depends upon other hazards, such as lightning, drought, and infestations. If not promptly controlled, wildland fires may grow into an emergency or disaster. Even small fires can threaten lives and resources and destroy improved properties. In addition to affecting people, wildland fires may severely affect livestock and pets. Such events may require emergency watering/feeding, evacuation, and shelter.

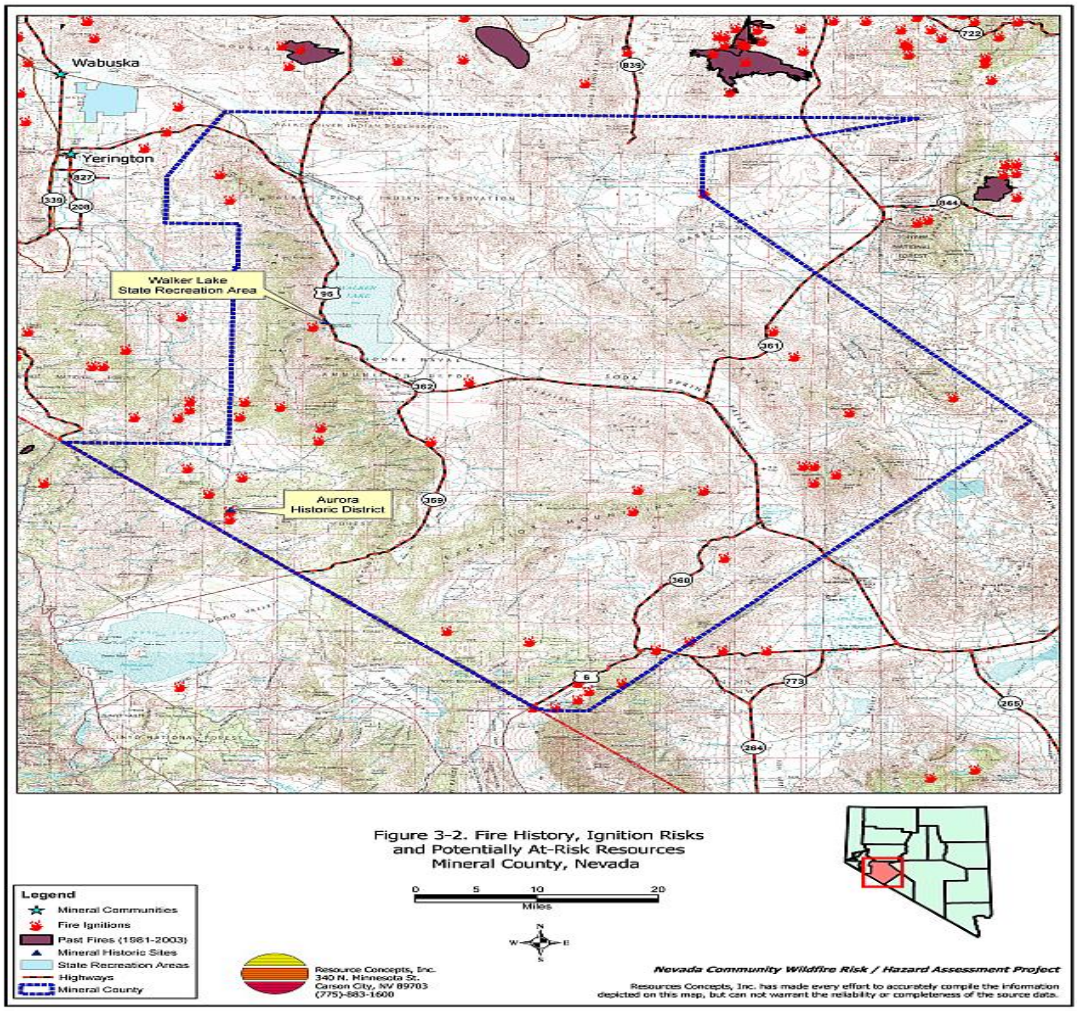
The indirect effects of wildland fires can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby increasing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above.

5.2.12.2 History

The wildfire hazard was reviewed during the 2016 update by the Planning Committee, and there were no new occurrences for this update. The data that follows was compiled during the 2012 plan.

Mineral County had 49 wildland fires which burned 1,449 acres since 1997 according to NDF. Approximately 95 percent of these fires were due to lightning, while humans and unknown causes make up the remaining 5 percent of ignition sources. The figure below, provides a map of the historic fire locations in Mineral County.

Figure 5-17: Mineral County Fire History



Source: RCI Mineral County Wildfire Risk Assessment

According to the Mineral County Fire Department (MCFD), MCFD responds to an average of five wildland fire calls per year with 95% of these calls being 1 tree fires which are extinguished before they spread. All fires are very small. There have been 3 or 4 larger fires (accounting for the acreage number from NDF) but these fires occurred on Hawthorne Army Depot (HWAD)

property. These fires are a result of demilitarization explosions in their New Bomb area. MCFD did not keep records prior to 2004.

5.2.12.3 Location, Extent, Probability of Future Events

Communities in Mineral County have a varying degree of risk from Wildfire. This risk is varied, largely due to past fire activity and the type of moisture received during the winter months. Lengthy rainy seasons tend to increase the production of grasses which can create fast moving fires in the brush and grass areas of the County. Drought seasons tend to decrease the fuel moisture in the large fuels (trees and large brush) and create high output BTU fires that are difficult to control and can extend for days.

Depending upon the type and amount of moisture received the risk to a given community in Mineral County can change from season to season. Mineral County has developed a Community Wildfire Protection Plan to help guide the community and its residents on where and how to focus fuel reduction efforts. The Community Wildfire Protection Plan generally speaks to protecting the built environment from the threats of wildland fire. The Marietta community has a high ignition risk assessment rating due to no organized fire department and high brush and Schurz has a moderate rating, Hawthorne with the largest population has a low rating along with the rest of the communities. Appendix B, Figures B-11 through B-16, provide maps of each community and the wildland urban interface (WUI) area as provided in the RCI County Wide Assessment.

Table 5- 13: Wildfire Assessment Summary by Community

Community	Hazard Rating
Hawthorne	Low
Luning	Low
Marrietta	High
Mina	Low
Schurz	Moderate
Walker Lake	Low
Source: RCI County Wide Assessment Results, www.rci-nv.com/reports/mineral/section04.html	

Based on historical records, Mineral County can anticipate nearly 5 wildland fire starts per year, while a very small percentage of these (less than 1%) will exceed 100 acres.

Climate Change:

Numerous studies indicate that warmer weather coupled with lengthening of the fire season, could lead to an increase both in fire occurrence and in the areas burned. The effects of climate change, depending upon the type and amount of moisture received, can increase the risk to a given community in Mineral County which can change from season to season. These effects can range from poor air quality due to smoke from wildland fires and fuel sources grown during the rainy seasons, turning to extreme dry brush (fuels for fire.)

A vulnerability analysis predicts the extent of exposure that may result from a hazard event of a given intensity in a given area. The analysis provides quantitative data that may be used to identify and prioritize potential mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage. A vulnerability analysis consists of the following six steps: assets inventory, methodology, data limitations, exposure analysis, and summary of impacts. Land use and development trends are not discussed in this version of the HMP.

6.1 ASSET INVENTORY

Asset inventory is the first step of a vulnerability analysis. Assets within each community that may be affected by hazard events include population, residential and non residential buildings, and critical facilities and infrastructure. Assets and insured values throughout the County are identified and discussed in detail below.

6.1.1 Population and Building Stock

Population data for the County was obtained from the NV State Demographer and verified from the 2015 U.S. Census QuickFacts and shown in Table 6-1. The Nevada State Demographer's Office maintains annual population estimates by county. Estimated numbers and replacement values for residential and nonresidential buildings, as shown in Table 6-1, were obtained from FEMA Hazus-MH 2009 run by the Nevada Bureau of Mines and Geology and verified by the County Assessor's office.

The residential buildings considered in this analysis include single-family dwellings, mobile homes, multi-family dwellings, temporary lodgings, institutional dormitory facilities, and nursing homes. Nonresidential buildings were also analyzed including commercial, industrial, agricultural, government, educational, and religious centers.

The HAZUS-MH 2009 run for earthquake by the Bureau of Mines & Geology, UNR, was reviewed. The HAZUS-MH software presents a data limitation by which this software identifies nonresidential buildings by square footage resulting in some nonresidential buildings not being counted. The building count was verified by parcel data from the Assessor's Office. The buildings' values were calculated by adding 20% to the net assessed value of buildings to get the market value. This was done by Kelly Rosemore, GIS, Mineral County. Un-reinforced masonry (URM) building information was obtained from Wayne Carlson and Advanced Data Systems, Inc.

Due to no significant growth in the last 5 years, the data and values from the 2012 plan were used for Mineral County. While there were no new critical facilities constructed in the last 5 years, Mineral County acquired a State building located at 9th and Armory which is used by the Parks and Recreation Department. This building was already included in Table 6-2, as it was leased from the State in previous years. New private development included a new Dollar General Store and Golden Gate Gas Station. Additionally, new data was added for the WRPT. Although there were data limitations particularly regarding building valuations and GIS, the best information available for the Tribe was provided. The WRPT had over 25 new residential building constructed in the last 2 years and a new fireworks building. Although the building count or value may not be precise, whether residential or nonresidential, this analysis will meet

the intention of DMA 2000 by providing County residents with an accurate visual representation of their community's risk by hazard. This data is the most complete dataset available at the time and will be updated in future version of the HMP.

Table 6-1. Mineral County Estimated Population and Building Inventory

Population		Residential Buildings		Nonresidential Buildings	
2015 Census Population Count	NV Demographer Projected 2015 Population	Total Building Count	Total Value of Buildings (in millions)	Total Building Count	Total Value of Buildings (in millions)
4,478	4,584	1,960	329	40	59

Source: *U.S. Census Quickfacts 2015 population data, http://www.census.gov/quickfacts/table/PST045215/32021, State of Nevada Demographer, FEMA HAZUS-MH http://www.nbmg.unr.edu/dox/of098/Scenarios/OpenFileReport09-8.pdf, Mineral County*

Table 6-1. Walker River Paiute Tribe Estimated Population and Building Inventory

Population	Residential Buildings		Nonresidential Buildings	
2015 Population	Total Building Count	Total Value of Buildings (in millions)	Total Building Count	Total Value of Buildings (in millions)
720	280	NA	8	NA

Source: *Walker River Paiute Tribe and Walker River Paiute Tribe Housing Department; http://www.wrpt.us/housing.htm*

6.1.2 Critical Facilities and Infrastructure

A critical facility is defined as a public or private facility that provides essential products and services to the general public, such as preserving the quality of life in the County and fulfilling important public safety, emergency response, and disaster recovery functions. Similar to critical facilities, critical infrastructure is defined as infrastructure that is essential to preserve the quality of life and safety in the County.

The County's and the WRPT critical facilities are listed in Table 6-2 and shown and were not shown in map form for security.

Table 6-2. Mineral County Critical Facilities and Infrastructure

Category	Type	Number	Estimated Value Total Structures/Miles (millions of $)
Critical Facilities	Sherriff Stations, Public Safety, & Juvenile Detention Center	3	9.2
	Fire Stations	4	7
	EOCs	1	5*
	Public Primary and Secondary Schools	3	29
	Shelters (Senior Center, LDS, Baptist, Library)	5	10
	Hospital w/Emergency Room	1	11.2
	Clinic/Community Health	2	1
	Ambulance Facilities	1	Included in Fire Station

Table 6-2. Mineral County Critical Facilities and Infrastructure

Category	Type	Number	Estimated Value Total Structures/Miles (millions of $)
	Convention Center/Shelter	1	1
	Communication Facilities	1	5
Critical Infrastructure	State and Federal Highways (miles)	396 km	1,730.7
	Airport Facilities	1	79.6
	Bridges	5	Included in Highway
	Utilities (Water, Waste Water, Gas, Electrical)	n/a	245.8

Source: FEMA HAZUS-MH http://www.nbmg.unr.edu/dox/of098/Scenarios/OpenFileReport09-8.pdf*, Mineral County Building Department & Fire Department, NV Division of Emergency Management, Mineral County School District., NV Dept. of Transportation*

The new Mineral County EOC is currently under construction. For Mineral County, the shelters include the Senior Center in Hawthorne and Mina, the LDS Church, the Baptist Church, the public library, and the Convention Center

Table 6-2. Walker River Paiute Tribe Critical Facilities and Infrastructure

Category	Type	Number	Estimated Value Total (millions of $)
Walker River Paiute			
Critical Facilities	Walker River Paiute Tribal Administration Building	1	NA
	Walker River Tribal Health Clinic	1	NA
	Walker River Tribal Housing Authority	1	NA
	Walker River Paiute Tribe Police Department	1	NA
	Schurz Volunteer Fire Department	1	NA
	Schurz Post Office	1	NA
	Schurz Elementary School	1	NA
	Four Seasons Smoke Shop	1	NA

Source: *Walker River Paiute Tribe; No values were available.*

In addition to the facilities listed above, the LEPC also considers the following as critical but not county facilities: The Safeway (only market within an hour drive), the State Highway Patrol office, the State Department of Transportation yard, the State Public Works yard. These are addressed in the State Hazard Mitigation Plan.

6.2 METHODOLOGY

During the 2012 plan, a conservative exposure-level analysis was conducted to assess the risks of the identified hazards. Due to no significant growth in the last 5 years, the data and values from the 2012 plan were reviewed and used for residential and non-residential building stock. Updated population data was included. Additionally, this update added information regarding climate change to the applicable hazards. Hazard areas were determined using information provided by the U.S. Seasonal Drought Monitor, EPA, HAZUS, Nevada Bureau of Mines and Geology, and

NWS. This analysis is a simplified assessment of the potential effects of the hazard on values at risk without consideration of probability or level of damage.

Using GIS, the building footprints of critical facilities were compared to locations where hazards are likely to occur. If any portion of the critical facility fell within a hazard area, it was counted as impacted. Using census block level information, a spatial proportion was used to determine the percentage of the population and residential and nonresidential structures located where hazards are likely to occur. Census blocks that are completely within the boundary of the hazard area were determined to be vulnerable and were totaled by count. A spatial proportion was also used to determine the amount of linear assets, such as highways and pipelines, within a hazard area. The exposure analysis for linear assets was measured in miles. For drought, population was the only asset analyzed, as drought mainly affects people and agricultural lands (which were not considered in this version of the HMP).

Replacement values or insurance coverage were developed for physical assets. These values were obtained from the County's Assessor's Office, Building Department, Nevada Department of Transportation and HAZUS-MH 2009 run. For facilities that did not have specific values per building in a multi-building scenario (e.g., schools), the buildings were grouped together and assigned one value. For each physical asset located within a hazard area, exposure was calculated by assuming the worst-case scenario (that is, the asset would be completely destroyed and would have to be replaced). Finally, the aggregate exposure, in terms of replacement value or insurance coverage, for each category of structure or facility was calculated. A similar analysis was used to evaluate the proportion of the population at risk. However, the analysis simply represents the number of people at risk; no estimate of the number of potential injuries or deaths was prepared.

6.3 DATA LIMITATIONS & FUTURE DEVELOPMENT

The vulnerability estimates provided herein use the best data currently available, and the methodologies applied result in an approximation of risk. These estimates may be used to understand relative risk from hazards and potential losses. However, uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning hazards and their effects on the built environment, as well as approximations and simplifications that are necessary for a comprehensive analysis.

The resulting analysis was compiled to the highest degree possible with the hardware, software and data availability limitations discovered during plan preparation. HAZUS was able to determine the population and critical facilities within a given hazard area and from there a limited assessment was derived. In the situation of Drought & Epidemic, where structures would not usually be affected the term N/A (not applicable) is used.

It is also important to note that the quantitative vulnerability assessment results are limited to the exposure of people, buildings, and critical facilities and infrastructure to a hazard. While the 2012 plan contemplated a more detailed or comprehensive assessment of risk (including annualized losses, people injured or killed, shelter requirements, loss of facility/system function, and economic losses) during this update, due to no significant growth in the last 5 years, it was determined that the data and values from the 2012 plan would be sufficient. Such impacts may be addressed with future updates of the HMP. Additionally, building valuation and GIS analysis of hazard areas for the WRPT will be contemplated in future updates.

6.3.1 Changes in Development

Since the 2012 plan, there has been no new residential development in Mineral County. However, approximately 25 new residences were constructed at the WRPT. The new Mineral County EOC is currently under construction. The building is in place and the interior is currently being refurbished. The WRPT has constructed a new fireworks building and new private development in the County includes a new Dollar General Store and Golden Gate Gas Station. Additionally, a new solar plant containing 2,000 pads on 500 acres is being constructed northwest of Luning on the Gabbs Highway.

6.3.2 Future Development

Mineral County has historically low growth with an average of less than 1% per year for population. There has been no significant change since the 2012 update. During 2015-2020 the State Demographer estimated a decrease in population growth of 1.3% annually. As discussed at the end of Section 3 - Community Description there is additional land acquired in Hawthorne which has been slated for non-residential or commercial/industrial use primarily. The County Building Department has just completed an update to the County Master Plan in 2015. There are no plans for a significant employer to move to the County however there is some exploration in mining which may result in additional jobs. It is unclear when this may start. There are no plans for additional critical infrastructure in the next five years. Any additional building growth will incorporate the 2012 International Building Code which was adopted in 2015 and is not seen to pose additional risk.

The WRPT has a new police facility planned and new housing planned for the next 10 years.

The population decline and economic issues for the State of Nevada are having enormous impacts on residential and non-residential growth. For the purposes of this plan significant growth over the next five years is not expected, growth from 2016 to 2030 is expected at less than 19%. Therefore, the numbers and values of the Figures in the Table 6-3 and 6-4 below are viewed as accurate. During the plan maintenance activities this should be reviewed and during the next plan update process growth can be revisited.

6.4 EXPOSURE ANALYSIS

The requirements for a risk assessment, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Assessing Vulnerability, Overview

Assessing Vulnerability: Overview
Requirement §201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

Element
- Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?
- Does the new or updated plan address the impact of each hazard on the jurisdiction?

Source: FEMA 2008.

DMA 2000 Recommendations: Assessing Vulnerability, Identifying Structures

Assessing Vulnerability: Identifying Structures
Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area.
Element
- Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

Source: FEMA 2008.

DMA 2000 Recommendations: Assessing Vulnerability, Estimating Potential Losses

Assessing Vulnerability: Estimating Potential Losses
Requirement §201.6(c)(2)(ii)(B): [The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.
Element
- Does the new or updated plan estimate potential dollar losses to vulnerable structures?
- Does the new or updated plan reflect changes in development in loss estimates?
- Does the new or updated plan describe the methodology used to prepare the estimate?

Source: FEMA 2008.

The results of the exposure analysis are summarized in Tables 6-3 and 6-4 and in the discussion below. The results in this exposure analysis were greatly affected by the hardware, software and data availability limitations described above. The significant hazards designated as high and moderate are included in the exposure analysis below.

Table 6-3. Mineral County Potential Hazard Vulnerability Assessment – Population and Buildings

Hazard	Population[3]	Buildings			
		Residential		Nonresidential	
	Number	Number[3]	Value ($)[1]	Number[3]	Value ($)[1]
Total for Mineral County	4,584	2,830	399	40	58.2
Avalanche	0	0	0	0	0
Drought	4,584	2,830	N/A	40	N/A
Earthquake –Magnitude 6.0[2] (60% chance in 50 years)	4,584	333	46	4	9.9
Epidemic	4,584	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone	1,375	1,124	158	40	58.2
Hazardous Materials Event – 1-mile buffer transport corridors 80%	3,667	2,264	319	32	46.6
Infestation	0	0	0	0	0
Severe Weather – High – 40% of population & 1% buildings	1,884	28	3.9	1	.58
Landslide	0	3	.42	0	0
Terrorism 80%	3,667	2,264	319	32	46.6
Volcano/Ash	4,584	N/A	N/A	N/A	N/A
Wildland Fires – Extreme –(Marietta)	2	2	.3	0	0

[1] Value = Estimated Market value in millions Data acquired from Mineral County's Assessor's Office N/A = Not Applicable

[2] Data acquired from Nevada Bureau of Mines and Geology Open-file Report 09-8, HAZUS-MH [3] Data source Nevada State Demographer 2015 Estimates

Table 6-3. Walker River Paiute Tribe Potential Hazard Vulnerability Assessment – Population and Buildings

Hazard	Population[3]	Buildings			
		Residential		Nonresidential	
	Number	Number[3]	Value ($)[1]	Number[3]	Value ($)[1]
Total for WRPT	720	280	N/A	8	N/A
Avalanche	0	0	0	0	0
Drought	720	280	N/A	8	N/A
Earthquake –Magnitude 6.0[2] (60% chance in 50 years)	720	48	N/A	2	N/A
Epidemic	720	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone	0*	0	0	0	0
Hazardous Materials Event – 1-mile buffer transport corridors 80%	N/A	N/A	N/A	N/A	N/A
Infestation	0	0	0	0	0
Severe Weather – High – 40% of population & 1% buildings	288	3	NA	1	N/A
Landslide	0	0	0	0	0
Terrorism 80%	576	224	N/A	6.4	N/A
Volcano/Ash	720	N/A	N/A	N/A	N/A
Wildland Fires – Extreme –(Marietta)	N/A	N/A	N/A	N/A	N/A

[1] Value = Estimated Market value in millions Data acquired from Mineral County's Assessor's Office

N/A = Not Applicable or Not Available

[2] Data acquired from Nevada Bureau of Mines and Geology Open-file Report 09-8, HAZUS-MH

[3] Data source Nevada State Demographer 2010 Estimates

*Walker River Paiute Tribe has not been mapped by FEMA.

Table 6-4. Mineral County Potential Hazard Vulnerability Assessment – Critical Facilities

	Sherriff Station, Public Safety & Juvenile Detention Center (3)		Fire Station/EOC Ambulance (4)		Hospital/Urgent Care Facilities (3)		Schools & Shelters (10)		Communication Facilities (6)		Water / Sewer Facilities (2)	
Hazard	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Avalanche	0	0	0	0	0	0	0	0	0	0	0	0
Drought	0	0	0	0	0	0	0	0	0	0	0	0
Earthquake - 100yr Magnitude 6.0[2]	3	10.2	2	3.5	1	11.2	1	20	0	0	1	2.69
Epidemic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone	2	8.5	0	0	1	1	1	25	1	5	0	0
Flood – 500 Year Flood Zone	0	0	1	.2	0	0	0	0	0	0	0	0
Hazardous Materials Event – 1-mile buffer transport corridors	1	5	1	4	1	11.2	3	30.5	0	0	1	245.8
Infestation	0	0	0	0	0	0	0	0	0	0	0	0
Landslide	0	0	0	0	0	0	0	0	0	0	0	0
Severe Weather	0	0	0	0	0	0	0	0	0	0	0	0
Terrorism	3	10.2	1	3	1	11.2	3	30.5	0	0	1	245.8
Wildland Fire Extreme	0	0	0	0	0	0	0	0	0	0	0	0
Volcano/Ash	1	.4	0	0	1	.4	2	.4	0	0	1	.2

1 Value in millions

Table 6-4. Walker River Paiute Tribe Mineral County Potential Hazard Vulnerability Assessment – Critical Facilities

	Tribal Police Department (1)		Fire Department (1)		Health Clinic (1)		Schools & Shelters (1)		Admin Buildings (3)		Post Office (1)	
Hazard	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Avalanche	0	0	0	0	0	0	0	0	0	0	0	0
Drought	0	0	0	0	0	0	0	0	0	0	0	0
Earthquake - 100yr Magnitude 6.0[2]	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A
Epidemic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone*	0	0	0	0	0	0	0	0	0	0	0	0
Flood – 500 Year Flood Zone*	0	0	0	0	0	0	0	0	0	0	0	0
Hazardous Materials Event – 1-mile buffer transport corridors	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Infestation	0	0	0	0	0	0	0	0	0	0	0	0
Landslide	0	0	0	0	0	0	0	0	0	0	0	0
Severe Weather	0	0	0	0	0	0	0	0	0	0	0	0
Terrorism	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A
Wildland Fire Extreme	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Volcano/Ash	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1 Value in millions

*Walker River Paiute Tribe has not been mapped by FEMA

6.4.1 Avalanche

Only the high elevations which get large amounts of snow fall each year are at risk to Avalanche. None of the population or buildings, including critical facilities, are at risk to this hazard. The highway and utility lines are at low risk however there are alternate routes and utility lines that could be used.

6.4.2 Drought

According to the U.S. Seasonal Drought Monitor, the entire area of the County is at equal risk to a drought event. The entire population of the County, 4,584, and the Tribe, 720, may be affected by the drought however building and critical facilities would just be limited in their use but would not be damaged. The main industry affected by drought is recreation at Walker Lake.

Impacts on the community may be economic or associated with the relationship between drought and other natural hazards. Prolonged drought has caused crop failures and grazing restrictions on livestock, which may cause economic impacts in the community. If drought impacts groundwater levels, community water supplies could be affected. Additionally, drought may cause or accelerate insect infestations and dust storms. The drying impact of drought on vegetation may increase the frequency and intensity of wildfires. Continued drought and impacts attributed to global climate change can set in motion a series of events ranging from a change in fire behavior to habitat conversion to a decline in many of the bird and terrestrial species.

According to the ***Assessment of Drought Resiliency in Rural Northern Nevada*** prepared by the Desert Research Institute in April 2016, in the Walker Lake Valley, municipal supply wells are resilient to the impact of a 15-year severe drought. The most significant impact of drought occurs in the mountain block. 15-year severe drought does not pose a significant threat to domestic wells in this area. The majority of the simulated drawdown is concentrated in the area of municipal wells, indicating that municipal well pumping exerts a dominant influence on water level decline in the Whiskey Flat-Hawthorne area. Water level decline due to pumping presents a more significant threat to resilience than a 15- year severe drought.

6.4.3 Earthquakes

Using HAZUS-MH earthquake perimeters of a 6.0 magnitude event which has a 61% chance of occurring over 50 years according to NBMG, 17% of the buildings will be at least moderately damaged. This includes the addition of all structures including sheds, carports, detached garages and other auxiliary buildings. The 17% estimated damages sustained from moderate to severe could be up to 333 residential buildings (worth $56 million), and 4 non-residential buildings (worth $9.9 million) all within close proximity to fault lines. Cost estimates are not available for the Tribe.

Although the HAZUS run indicated that only the schools, police stations, and fire stations (Critical Facilities) and highway and railway, water or waste water lines and the airport and airport runway (Critical Infrastructure) would be damaged, the Planning Committee determined that due to the proximity of the faults that numerous critical facilities are at risk to perceived severe shaking; they include:

Sherriff Station and Jail
Fire Station & Ambulance Facility

Mineral County Administration Building
Juvenile Detention Facility
Mt. Grant General Hospital

The HAZUS run estimated 0 deaths, 1 injury requiring hospitalization and 5 injuries requiring medical treatment. Two people of 4,861 would seek shelter.

The percentage of building damage (17%) was obtained from the HAZUS-MH run dated August 14, 2009, from the Bureau of Mines and Geology. The affected population was obtained from the Nevada State Demographer.

University of Nevada, Reno has a contract with Advanced Data Solutions to inventory the un-reinforced masonry buildings within the State. During the writing of this update the data was made available. The report showed that 53 Commercial Buildings (224K sq ft) and 57 residential buildings (85K sq ft) were constructed of un-reinforced masonry. These buildings would have significantly more damage during an earthquake than other buildings. Unreinforced masonry buildings accounted for 224K square feet or $26.1M (using $175/sqft) in commercial buildings and 85K square feet or $14.9M (using $116/sqft) in residential buildings. The data from the report can be used by the County to identify and target structures for reinforcement. UNR will be using the data to up-grade information for the HAZUS runs and it is recommended that the County incorporate the information for the next plan update.

6.4.4 Epidemics

Epidemic was included as a possible hazard to the citizens of the County. The entire population of the County, 4,584, and the Tribe, 720, may be affected by the illness however building and critical facilities would just be limited in their use but would not be damaged.

6.4.5 Floods

Digital FIRMs are not yet available but FIRM maps were used for the County area to estimate at risk population and buildings. Within the 100-year floodplain area, the population at risk is 1,375 or 30% of the population. Within the County, the risk posed by the 100-year flood is high with 1,124 homes within or immediately adjacent to the 100-year floodplain. The exposure to the residential buildings are $158 million, exposure to the 40 nonresidential buildings is $58 million, which includes exposure to the following critical facilities – the sheriffs office and the public safety building, ($8.5 million), AT&T Substation ($5 million), the community health office ($1,000,000), Mineral County School ($25 million) and the senior center ($1 million) which acts as a shelter.

Within the 500 year flood the critical facilities at risk are the old and new fire house in Luning ($200,000). The new fire house in Hawthorne and the Utilities facilities on O St. have been designated as areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted on these facilities.

The affected population, building inventories, and values were calculated from the State Demographer and Mineral County Assessor's office. There are no repetitive loss or severe repetitive loss structures (as defined by NFIP) within the 100-year flood plain.

The Walker River Paiute Tribe has not been mapped yet by FEMA for flood zones. However, the main stem of the Walker River flows through the reservation in a southeasterly direction for

approximately 45 river miles. Walker Lake, the terminus of the Walker River, lies at the southern end of the reservation. Flood, particularly during the annual spring thaw, could present a hazard to those residents of the Walker River Paiute Tribe living in the flood-prone areas of the Walker River. Although inundation mapping has been completed, it does not identify the number of buildings impacts or costs associated with those buildings.

6.4.6 Hazardous Materials Events

Due to the small size of the five communities, Hawthorne was used as a risk assessment site. The entire population of Hawthorne and eighty percent (80%) of the buildings of the County reside within the 1-mile buffer of the identified hazardous sites or transportation corridors. The Planning Committee, estimated that the population of Hawthorne (3,196) and 80% of the buildings (residential $319 million and non-residential $47 million) are within the 1-mile buffer and may be affected. The affected population, building inventories, and values were calculated from the County's Assessors Office information using GIS mapping for the percentage affected.

6.4.7 Infestation

Infestation has no significant effect to buildings, infrastructure or agriculture in the County.

6.4.8 Landslide

The landslide area would affect approximately 0 residential buildings and 0 commercial buildings. Approximately one mile of State Highway 95 would be affected and road closure would affect Hawthorne and US Army Depot traffic requiring an alternate route. There are no critical facilities within the landslide area.

6.4.9 Severe Weather

Using winter storm data provided by the NWS, risk posed by winter storms were calculated for the County. All population and buildings are within the sever winter storm hazard area however homes and buildings within the County are built to withstand a degree of severe weather. The Planning Committee determined that a severe winter storm or wind event may affect 40% of population (due to road closures) and 1% of the buildings which are 1,884 people for the County and 288 people for the Tribe, 19 residential buildings (worth $3.3 million), 1 nonresidential building (worth $500K). The LEPC determined there were no critical facilities at risk. The affected population, building inventories, and values were calculated from the Nevada State Demographer and the County's Assessors office.

6.4.10 Terrorism

Due to the small size of the County and the varied number and potential extent of a terrorism event it was difficult to determine the extent of damage. The Planning Committee agreed on an estimate of 80% of the total population and buildings which are 3,667 people for the County and 576 people for the Tribe, 1,568 residential buildings (worth $264 million), 32 nonresidential buildings (worth $46.5 million) which include all critical facilities except for the tribal police station and 2 volunteer fire stations, critical facilities (worth $62 million). The high figure was used with the consideration that the area is near a US Army base and therefore a greater potential of terrorism. The affected population, building inventories, and values were calculated from the

Nevada State Demographer and the County's Assessors office. The Army base buildings are not included in this figure.

6.4.11 Wildland Fires

According to the Nevada Community Wildfire Risk/Hazard Assessment Project for the County, the risk posed by wildland fire is rated low. The small community of Marietta is categorized as high hazard and Schurz is categorized as a moderate hazard if evaluated separately. Exposed within this high wildland fire hazard area, are 20 people, 16 residential buildings (worth $2.2 million) and 0 nonresidential buildings. There are no critical facilities. The affected population, building inventories, and values were calculated from the Nevada State Demographer and the County Assessor's office.

6.4.12 Volcano

The volcano risk is mainly due to ash fall out from a volcano in the Mammoth, CA area to the south. Although the total population (4,584 and 720) is at risk to illness from ash in the air, the damage to buildings is limited to ventilation systems which may be contaminated from the ash and need replacement. The critical facilities included the hospital ($400,000) and the 2 schools ($400,000), which may have damage to their HVAC systems and the sewer/water facility of $200,000 for debris removal costs. The affected population was calculated from the Nevada State Demographer, the values were calculated by the LEPC.

6.5 REPETITIVE LOSS PROPERTIES

The requirements for a risk assessment, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Assessing Vulnerability, Addressing Repetitive-Loss Properties

Assessing Vulnerability: Addressing Repetitive Loss Properties

Requirement §201.6(c)(2)(ii): [The risk assessment **must** also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

Element

- Does the updated plan document how the planning team reviewed and analyzed this section of the plan and whether this section was revised as part of the update process?
- Does the new or updated plan describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?

Source: FEMA 2008.

The State is required to identify strategies that encourage local communities to mitigate severe repetitive loss properties, including the development of local mitigation plans. At a minimum, the State must include severe repetitive loss in the description of its process for providing funding and technical assistance to prepare mitigation plans (§201.4(c)(4)(i)), and in its criteria for prioritizing communities that have such properties for planning and project grant assistance (§201.4(c)(4)(iii)). Other strategies for encouraging local communities to mitigate severe repetitive loss properties should be demonstrated through specific actions identified in the Mitigation Strategy (Chapter 8).

There have been no coordination efforts in Mineral County because it does not have any recorded repetitive losses.

While not required by the DMA 2000, an important component of a hazard mitigation plan is a review of the County's and WRPT's resources to identify, evaluate, and enhance the capacity of those resources to mitigate the effects of hazards. This section evaluates the County's and WRPT's resources in three areas—legal and regulatory, administrative and technical, and financial—and assesses capabilities to implement current and future hazard mitigation actions.

The Planning Committee reviewed the capabilities as listed in the 2012. Since the last plan update, there have been several changes in the County's capabilities. For legal and regulatory capabilities, the County has implemented IBC 2012. Building codes for commercial and community facilities are regulated by the State Fire Marshall and therefore incorporate disaster resistant regulations for construction. Additionally, the Master Plan has been updated and includes discussion on flood, earthquake and hazard materials. Financial capabilities were also update to include water and sewer impact fees for homebuyers or developers for new developments/homes.

7.1 LEGAL AND REGULATORY CAPABILITIES

The County and the WRPT currently support hazard mitigation through their regulations, plans, and programs. The County's Building Code outlines hazard mitigation-related ordinances. Additionally, the County Master Plan identifies goals, objectives, and actions for natural hazards, including floods, drought, and earthquakes. In addition to policies and regulations, the County carries out hazard mitigation activities by participating in the National Flood Insurance Program (NFIP) see section 7.4.1.

The following table, Table 7-1, summarizes the County's hazard mitigation legal and regulatory capabilities.

Table 7-1. Mineral County Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Title	Effect on Hazard Mitigation
Plans	Master Plan	2011 (currently updating for 2017). Lists goals for coordination, neighborhood design, public awareness, floodplain & hazard area development, and geologic hazards to guide land use planning.
	Walker River Regional Floodplain Management Plan	Provides flood identification and habitat remediation.
	Economic Development Plan	Business Development
	Emergency Response Plan	Provides emergency response
	Community Wildfire Protection Plan	Provides Wildfire hazards. Enables Mineral County to mitigate fuel loads.
	Hazmat Plan	2010 Provides emergency response to reduce impact of HAZMAT spill.
	Draft Emergency Operations Plan	Provide directives to reduce future hazard impact
	Habitat Management Plan	Provides flood & wildfire hazard identification, remediation, and education

Table 7-1. Mineral County Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Title	Effect on Hazard Mitigation
	Water Protection Plan	Provides guidance and protection of water resources.
	Weber Dam Failure Plan	2012 plan provides guidance & locations to flood and evacuation during flood.
	Public Health Preparedness, Mass Fatality Plan & POD Plan	2009 Provides guidance to reduce spread of epidemic.
	Solid Waste Management Plan	2010 Provides hazardous materials guidance
Programs	National Flood Insurance Program	Mineral County adopts and enforces a floodplain management ordinance to reduce future flood damage. In exchange, the NFIP makes Federally backed flood insurance available to homeowners, renters, and business owners
Ordinances and Policies	Building Code (IBC 2012)	Master Plan, Land Use Plan Element. Provides regulations to reduce hazard impact
	Fire Code (2012)	
	Zoning Ordinances	
	Special purpose ordinances	Floodplain management, storm water management, wildfire ordinances, hazard set back requirements

Table 7-1. WRPT Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Title	Effect on Hazard Mitigation
Plans	Walker River Paiute Tribe Comprehensive Emergency Plan	2011. This plan provides guidance to emergency personnel responding to disasters.
	Walker River Regional Floodplain Management Plan	Provides flood identification and habitat remediation.
	Emergency Response Plan	2011.

7.2 ADMINISTRATIVE AND TECHNICAL CAPABILITIES

The administrative and technical capability assessment identifies the staff and personnel resources available within the County and WRPT to engage in mitigation planning and carry out mitigation projects. The administrative and technical capabilities of the County and WRPT are listed in Table 7-2.

Table 7-2. Mineral County Administrative and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department / Agency
Planner(s) or engineer(s) with knowledge of land development and land management practices	Building
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Building & Public Works
Planner(s) or engineer(s) with an understanding of manmade or natural hazards	Building, Planning, Fire Dept.
Staff with education or expertise to assess the community's vulnerability to hazards	Building, Fire, Public Works
Floodplain manager	Building
Personnel skilled in GIS and/or HAZUS-MH	Yucca Nuclear Program (not County employee)
Scientist familiar with the hazards of the community	UNR, Bureau of Mines & Geology for Earthquakes
Emergency Services	Fire Department Emergency Management
Finance (purchasing) – Fiscal Management	Finance
Public Information Officers, Planner(s)	Sheriff's Office, Fire Dept, Executive Staff

Table 7-2. WRPT Administrative and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department / Agency
Planner(s) or engineer(s) with knowledge of land development and land management practices	Land Assessment
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Housing Department, Building Department
Planner(s) or engineer(s) with an understanding of manmade or natural hazards	Environmental, Emergency Management
Staff with education or expertise to assess the community's vulnerability to hazards	Emergency Management, Fire, Haz Mat, Health Clinic
Personnel skilled in GIS and/or HAZUS-MH	GIS
Emergency Services	Fire, Police

7.3 FINANCIAL CAPABILITIES

The fiscal capability assessment lists the specific financial and budgetary tools that are available to the County and WRPT for hazard mitigation activities. These capabilities, which are listed in the table below, include both local and Federal entitlements.

Table 7-3. Mineral County Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
Local	
Authority to levy taxes for specific purposes	Yes. Upon approval of the Mineral County Board of Supervisors, staying within the stipulations set forth in the Nevada Revised Statues.
Capital Improvement Plans and Impact Fees	Assigns impact development fees to finance fire and flood control capital improvement programs.
Community Development Block Grants	Yes. Subject to grant from Fed/State.
Incur debt through general obligation bonds	Yes. Upon voter approval, staying within the stipulations set forth in the Nevada Revised Statues.
Incur debt through special tax and revenue bonds	Yes. Upon voter approval, staying within the stipulations set forth in the Nevada Revised Statues.
Incur debt through private activity bonds	Yes. Upon voter approval, staying within the stipulations set forth in the Nevada Revised Statues.
Withhold spending in hazard-prone areas	Yes.
State	
Question #1 State Bond	Funding for Parks which can include re-vegetation.
Federal	
FEMA Hazard Mitigation Project Grants (HMPG) and Pre-Disaster Mitigation (PDM) grants	Provides technical and financial assistance for cost-effective pre-disaster and post-disaster mitigation activities that reduce injuries, loss of life, and damage and destruction of property.
FEMA Flood Mitigation Grant Program (FMA)	Mitigate repetitively flooded structures and infrastructure.
USFA Assistance to Firefighters Grant (AFG) Program	Provide equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire.
FEMA/DHA Homeland Security Preparedness Technical Assistance Program (HSPTAP)	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (prevention, protection, response, recovery) and homeland security program management.
US HUD Community Block Grant Program Entitlement Communities Grants	Acquisition of real property, relocation and demolition, rehabilitation of residential and non-residential structures, construction of public facilities and improvements, such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes.
EPA Community Action for a Renewed Environment (CARE)	Through financial and technical assistance offers an innovative way for a community to organize and take action to reduce toxic pollution (i.e., storm water) in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them.
EPA Clean Water State Revolving Fund (CWSRF)	A loan program that provides low-cost financing to eligible entities within state and tribal lands for water quality projects, including all types of non-point source, watershed protection or restoration, estuary management projects, and more traditional municipal wastewater treatment projects

Table 7-3. Mineral County Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
CDC Public Health Emergency Preparedness (PHEP) Cooperative Agreement.	Funds are intended to upgrade state and local public health jurisdictions' preparedness and response to bioterrorism, outbreaks of infectious diseases, and other public health threats and emergencies.

Table 7-3. WRPT Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
Local	
Authority to levy taxes for specific purposes	N/A
Capital Improvement Plans and Impact Fees	N/A
Community Development Block Grants	N/A
Incur debt through general obligation bonds	N/A
Incur debt through special tax and revenue bonds	N/A
Incur debt through private activity bonds	N/A
Withhold spending in hazard-prone areas	N/A
Federal	
FEMA Hazard Mitigation Project Grants (HMPG) and Pre-Disaster Mitigation (PDM) grants	Provides technical and financial assistance for cost-effective pre-disaster and post-disaster mitigation activities that reduce injuries, loss of life, and damage and destruction of property.
FEMA Flood Mitigation Grant Program (FMA)	Mitigate repetitively flooded structures and infrastructure.
USFA Assistance to Firefighters Grant (AFG) Program	Provide equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire.
FEMA/DHA Homeland Security Preparedness Technical Assistance Program (HSPTAP)	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (prevention, protection, response, recovery) and homeland security program management.
US HUD Community Block Grant Program Entitlement Communities Grants	N/A
EPA Community Action for a Renewed Environment (CARE)	N/A
EPA Clean Water State Revolving Fund (CWSRF)	N/A
CDC Public Health Emergency Preparedness (PHEP) Cooperative Agreement.	N/A

7.4 CURRENT MITIGATION CAPABILITIES & ANALYSIS

The County's and WRPT's current mitigation programs, projects, and plans, as shown in Table 7-4, are listed as follows.

Table 7-4. Mineral County Local Mitigation Capability Assessment

Agency Name (Mission/ Function)	Programs, Plans Policies, Regulations, Funding, or Practices	Point of Contact Name and Phone	Effect on Loss Reduction			Comments
			Support	Facilitate	Hinder	
Building & Planning Dept.	Code Enforcement, Flood Plain Management	Mike Fontaine 775-945-3671	✓	✓		Code Enforcement, Engineering and planning support
Public Works	Roads, capital projects, building maintenance, parks, pool	Mike Trujillo 775- 945-2446	✓	✓		Engineering, detailed knowledge of infrastructure
Fire Department	Fuels mitigation, public education, Hazmat Response, County Fire Protection, Emergency Management	Chief TC Knight 775-945-2497	✓	✓		Familiar w/fire grants; detailed knowledge of vulnerability
Emergency Management	Emergency Management, Mitigation Planning, Prevention, Public Education	Patrick Hughes Work:775-945-2497 Cell: 775-316-0840	✓	✓		Emergency Management
Hawthorne Utilities	Water, Sewer	Larry Jackson 775-945-2486	✓	✓		Engineering, detailed knowledge of infrastructure
Health/Human Services	Health	Wanda Nixon 775-945-3657	✓	✓		Familiar w/ epidemic and CDC grants, health capability
Regional Planning Commission	Zoning & Community Planning	Mark Nixon 775-945-3784	✓	✓		Planning support and mitigation zoning
School District	Identify and implement mitigation actions for school property	Walter P. Hackford 775-945-2403 x10	✓	✓		Familiar w/school district infrastructure
Sherriff's Office	Public Safety and Animal Control	Randy Adams 775- 945-2434	✓	✓		Familiar w/terrorist mitigation

Table 7-4. WRPT Local Mitigation Capability Assessment

Agency Name (Mission/ Function)	Programs, Plans Policies, Regulations, Funding, or Practices	Point of Contact Name and Phone	Effect on Loss Reduction			Comments
			Support	Facilitate	Hinder	
Housing & Building	Code Enforcement, flood plain management	Gina Williams	✓	✓		Emergency management, Engineering and planning support
Environmental & Emergency Management	Environmental Resources, Emergency Management	Cynthia Oceguera	✓	✓		Environmental & Emergency management
Fire Department	Emergency Mt, Fuels mitigation, public education	Galen Castillo	✓	✓		Familiar w/fire grants; detailed knowledge of vulnerability
Utilities	Water, Sewer	LeRoy Hicks	✓	✓		Engineering, detailed knowledge of infrastructure
Health Clinic	Health	Ken Richardson	✓	✓		Familiar w/ epidemic and CDC grants, health capability
Land Assessment	Zoning & Community Planning	Victoria Guzman	✓	✓		Planning support and mitigation zoning
GIS	Identify hazards	Raymond Montoya	✓	✓		Mapping
Sherriff's Office	Public Safety and Animal Control		✓	✓		Familiar w/terrorist mitigation
Tribal Administrator/ Chairman	Administration	Bobby Sanchez	✓	✓		Emergency management

The programs, plan, policies and regulations listed above provide a basic framework for mitigation projects. These programs cover the County's and WRPT's infrastructure and program needs and are effective. However, the funding for mitigation projects may not always be available.

The County being small in population has individuals wearing multiple hats and therefore doesn't have strong legal, administrative and financial capabilities in relation to larger counties within Nevada. However, the County is able to enforce the International Building Code & International Fire Code, Building Code Title 12.09 and 15.05 which restrict building within a floodway, and is a member of the NFIP, in addition to programs for public safety, health and human services, public works and the school district. These programs are run by trained County staff, who are provided the resources to implement and promote the programs. Future implementation may be constrained by budget reduction in the next few years due to the recession.

7.4.1 National Flood Insurance Program

DMA 2000 Requirements: Mitigation Strategy – National Flood Insurance Program

National Flood Insurance Program (NFIP) Compliance)
Requirement: §201.6(c)(3)(iii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.
Element

- Does the updated plan document how the planning team reviewed and analyzed this section of the plan and whether this section was revised as part of the update process?
- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?)
- Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?

Source: FEMA, March 2008.

The County has identified special flood-hazard areas. They entered the NFIP in 1984. The County has not participated in the Community Rating System (CRS). The CRS is a voluntary program for the NFIP-participating communities. The goals of the CRS are to reduce flood losses, to facilitate accurate insurance rating, and to promote the awareness of flood insurance. County is a CRS Class 10 community. The County outlined mitigation actions listed under goals 5 and 6 detailed below in Table 8-2, Mitigation Goals and Potential Actions. There are no repetitive loss or severe repetitive loss properties (as defined by the NFIP) within the County. County Building Code restricts future building within a floodway.

The following provides an overview of the four-step process for preparing a mitigation strategy: developing mitigation goals and objectives, identifying and analyzing potential actions, prioritizing mitigation actions, and implementing an action plan.

8.1 MITIGATION GOALS AND OBJECTIVES

The requirements for the local hazard mitigation goals, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Mitigation Strategy – Local Hazard Mitigation Goals

Local Hazard Mitigation Goals

Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Element

- Does the new or updated plan include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards?

Source: FEMA, March 2008.

The Planning Committee reviewed the hazard profiles in Section 5 as a basis for developing mitigation goals. Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide visions. The Planning Team developed 9 goals to reduce or avoid long-term vulnerabilities to the identified hazards (Table 8-1). Avalanche, Drought, Infestation, Landslide and Volcano hazards all rated as low hazards are addressed in Goals One and Two.

Table 8-1: Mitigation Goals

Goal Number	Goal Description
1	Promote increased and ongoing County involvement in hazard-mitigation planning and projects.
2	Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters
3	Reduce the possibility of damage and losses due to earthquakes
4	Reduce the possibility of threat to life and losses due to epidemic
5	Reduce the possibility of damage and losses due to floods
6	Reduce the possibility of damage and losses due to severe weather
7	Reduce the possibility of damage and losses due to wildland fires
8	Reduce the possibility of damage and losses due to hazardous material releases
9	Reduce the possibility of damage and losses due to terrorism

8.2 IDENTIFYING MITIGATION ACTIONS

The requirements for the identification and analysis of mitigation actions, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Mitigation Strategy

Identification and Analysis of Mitigation Actions

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.

Element

- Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?
- Do the identified actions and projects address reducing the effects of hazards on new buildings and infrastructure?
- Do the identified actions and projects address reducing the effects of hazards on existing buildings and infrastructure?
- Does the mitigation strategy identify actions related to the participation in and continued compliance with the NFIP?

Source: FEMA, March 2008.

Mitigation actions are usually grouped into six broad categories: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural projects. As such, Table 8-3 lists the goals and potential actions selected for this HMP by the Planning Committee. The Planning Committee determined that Actions listed under Goals One and Two address the low rated Avalanche, Drought, Infestation, Landslide and Volcano hazards.

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description
Goal 1: *Promote increased and ongoing involvement in hazard-mitigation planning and projects*	1.A	N	Update the Master Plan to be consistent with the hazard area maps and implementation strategies developed in the HMP every 10 years, including Avalanche, Drought, Infestation, Landslide and Volcano hazards. Review & update ordinances & code every 3 years.
	1.B	N/E	Annually review the County's Emergency Operations Plan and identify needed plan updates, including Avalanche, Drought, Infestation, Landslide and Volcano hazards.
	1.C	N/E	Increase GIS and mapping capability to assess the risk in the County.
Goal 2: *Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters*	2.A	N/E	Utilize social media as a communication tool, as well as an education tool for hazard loss prevention.
	2.B	E	Conduct a minimum of one disaster exercise each year.
	2.C	N/E	Annually review EOP & update and integrate w/local Hazard Mitigation Plan.
	2.D	N/E	Prepare, develop, & distribute appropriate public information about hazard mitigation programs and projects at County sponsored events, including Avalanche, Drought, Infestation, Landslide, Volcano hazards.
Goal 3: *Reduce the possibility of damage and losses due to earthquakes*	3.A	N	Continue to enforce the International Building Code (IBC IFC) provisions pertaining to grading and construction relative to seismic hazards. Update County Codes to IBC 2012 when it is released.
	3.B	E	Implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facility and infrastructure, and retrofit buildings, if necessary.
	3.C	E	Implement an Unreinforced Masonry (URM) building program that ground truths existing building inventory.
Goal 4: *Reduce the possibility of threat to life and losses due to epidemic*	4.A		Improve communication, collaboration and integration among stakeholders and promote awareness of epidemic threats.
	4.B		Create & implement a training and exercise program relative to epidemics.
Goal 5: *Reduce the possibility of damage and losses due to floods*	5.A	N/E	Review and update flood plans that would include coordination with adjacent counties, cities, and special districts supporting a regional approach to flood control.
	5.B	E	Install new flood facilities including upgrade of the existing storm drain system to current standards including culverts and channel improvements.
	5.C	E	Protect and enhance existing water conveyance structures, storage, and treatment facilities to reduce impact from flood.

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description
Goal 6: *Reduce the possibility of damage and losses due to Severe Weather*	6.A	E	In areas at risk to severe weather, retrofit public buildings to withstand snow loads and sever winds to prevent roof collapse/damage.
Goal 7: *Reduce the possibility of damage and losses due to wildland fires*	7.A	E	Develop partnerships for a community based vegetation management program including chipping programs.
	7.B	N/E	Work with UNR Cooperative Extension for Fire Prevention Awareness.
Goal 8: *Reduce the possibility of damage and losses due to hazardous materials release*	8.A	N/E	Review zoning ordinances to reduce public health risks from hazardous materials releases.
Goal 9: *Reduce the possibility of damage and losses due to Terrorism*	9.A	N/E	Develop Terrorism Awareness Program.

8.3 EVALUATING AND PRIORITIZING MITIGATION ACTION

The requirements for the evaluation and implementation of mitigation actions, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Mitigation Strategy - Implementation of Mitigation Actions

Implementation of Mitigation Actions
Requirement: §201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(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 benefit review of the proposed projects and their associated costs.
Element
- Does the mitigation strategy include how the actions are prioritized? (For example, is there a discussion of the process and criteria used?)
- Does the mitigation strategy address how the actions will be implemented and administered? (For example, does it identify the responsible department, existing and potential resources, and timeframe?)
- Does the prioritization process include an emphasis on the use of a cost-benefit review (see page 3-36 of *Multi-Hazard Mitigation Planning Guidance*) to maximize benefits?

Source: FEMA, March 2008.

The mitigation actions were finalized during the Planning Committee meeting on September 22, 2016. At this time the Planning Committee evaluated and prioritized each of the actions. To complete this task, the Planning Committee completed the STAPLE+E evaluation criteria using rankings of one for lowest and three for highest priority, acceptance, feasibility etc. The rankings for each action were totaled and the actions with the highest number of points were evaluated by the committee. See Table 8-4 for the evaluation criteria.

Table 8-3: STAPLE+E Evaluation Criteria for Mitigation Actions

Evaluation Category	Discussion "It is important to consider..."	Considerations
Social	The public Support for the overall mitigation strategy and specific mitigation actions	Community acceptance; adversely affects population
Technical	If the mitigation action is technically feasible and if it is the whole or partial solution	Technical feasibility; Long-term solutions; Secondary impacts
Administrative	If the community has the personnel and administrative capabilities necessary to implement the action or whether outside help will be necessary	Staffing: Funding allocation; Maintenance/operations
Political	What the community and its members feel about issues related to the environment, economic development, safety, and emergency management	Political support; Local champion; Public support
Legal	Whether the community has the legal authority to implement the action, or	Local, State, and Federal authority; Potential legal challenge

	whether the community must pass new regulations	
Economic	If the action can be funded with current or future internal and external sources, if the costs seem reasonable for the size of the project, and if enough information is available to complete a FEMA Benefit Cost Analysis	Benefit/cost of action; Contributes to other economic goals; Outside funding required; FEMA Benefit Cost Analysis
Environmental	The impact on the environment because of public desire for a sustainable and environmentally healthy community	Effect on local flora and fauna; Consistent with community environmental goals; Consistent with local, State and Federal laws

Upon review by the Planning Committee, mitigation actions were selected for the County and WRPT that best fulfill the goals of the HMP and were appropriate and feasible to implement during the 5-year lifespan of this version of the HMP. In reviewing the actions the Planning Committee considered the following:

- Actions that strengthen, elevate, relocate, or otherwise improve buildings, infrastructure, or other facilities to enhance their ability to withstand the damaging impacts of future disasters
- Actions in which the benefits (which are the reduction in expected future damages and losses) are greater than the costs considered as necessary to implement the specific action
- Actions that either address multi-hazard scenarios or address a hazard that present the greatest risk to the jurisdiction

The high priority actions are shown in Table 8-5.

8.4 IMPLEMENTING A MITIGATION ACTION PLAN

A Mitigation Action Plan Matrix was prepared for the County and WRPT detailing the mitigation actions and their priority level, how the overall benefit-cost were taken into consideration, and how each mitigation action will be implemented and administered. This matrix is Table 8-4.

Table 8-4: Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
1A.	Update the Master Plan to be consistent with the hazard area maps and implementation strategies developed in the HMP every 10 years, including Avalanche, Drought, Infestation, Landslide and Volcano hazards. Update Ordinances every 3 years.	County Planning	Local Gen. Fund, HUD	24-36 months Staff Time	Protection of lives due to pre-planning.	High
1.B	Annually review the EOP & update & integrate w/local Hazard Mitigation Plan, including Avalanche, Drought, Infestation, Landslide and Volcano hazards.	Emergency Mgr. Fire Dept.	HMGP, PDM, SERC, EMPG, USEPA, NDEP, NDCNR; DHS, Local Gen. Fund	Ongoing Staff Time	Protection of lives and property due to pre-planning.	High
1.C	Increase GIS and mapping capability to assess the risks in the County.	County Planning	Local Gen. Fund	Ongoing Staff Time & $50,000/year	Protection of lives and property due to pre-planning	Medium
2.A	Utilize social media as a communication tool, as well as an education tool for hazard loss prevention.	Emergency Mgmt., Fire Dept., Sherriff, School District, Health Dept.	Local Gen Fund	Ongoing Staff Time	Protection of homes, businesses, infrastructure, and critical facilities.	Medium
2.B	Conduct minimum of one disaster exercise/year.	Emergency Mgr. Fire Dept.	EMPG, SERC, USEPA, NDEP, NDCNR, Local Gen Fund	Ongoing Staff Time	Protection of lives and property due to pre-planning.	High
2.C.	Develop emergency evacuation programs for neighborhoods in flood prone & wildland areas.	Public Works – Flood Plan Mgr. Fire Dept.	EMPG, SERC, USEPA, NDEP, NDCNR, Utility Service Charge	18-24 months Staff Time	Protection of lives due to pre-planning.	Low
2.D	Prepare, develop, & distribute appropriate public information about hazard mitigation programs and projects at County sponsored events, including Avalanche, Drought,	Emergency Mgmt., Fire Dept., Sherriff, School District, Health Dept	Local Gen. Fund	Ongoing Staff Time $30,000	Protection of homes, businesses, infrastructure, and critical facilities.	Medium

Table 8-4: Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
	Infestation, Landslide and Volcano hazards.					
3.A	Continue to enforce the International Building Code (IBC IFC) provisions pertaining to grading and construction relative to seismic hazards. Update County Codes to IBC 2012 when it is released.	County Bldg. Dept. & Planning Dept.	Local Gen Fund	Ongoing Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	High
3.B	Implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facility and infrastructure, and retrofit buildings, if necessary.	County Building, Planning & Public Works	HMGP, PDM, US HUD, Local Gen. Fund	24-48 months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
3.C	Implement an Unreinforced Masonry (URM) building program that surveys and ground truths existing building inventory.	County Building, Planning & Public Works	HMGP, PDM, US HUD, Local Gen. Fund	24-48 months $10,000	Protection of lives, homes, businesses, infrastructure, and critical facilities	High
4.A	Improve communication, collaboration and integration among stakeholders and promote awareness of epidemic threats.	Health Dept.	NV Health & Human Services, CDC	6-12 months Staff Time	Protection of lives due to pre-planning.	Medium
4.B	Create & implement a training and exercise program relative to epidemics.	Health Dept.	NV Health & Human Services, CDC, Mt. Grant Hospital	6-12 months Staff Time	Protection of lives due to pre-planning	Medium
5.A	Review & update flood plans for coordination w/adjacent counties, cities, and special districts supporting a regional approach to flood.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NDRCS, Local, PW	24-36 months Staff Time $50,000 – 100,000	Protection of homes, businesses, infrastructure, and critical facilities while strengthening regional coordination.	High
5.B	Install new flood facilities & update storm drain system.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NDRCS, Local, PW	24-36 months $250,000 – 500,000	Protection of homes, businesses, infrastructure, and critical facilities.	High

Table 8-4: Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
5.C	Protect & enhance existing municipal water conveyance structures, storage & treatment facilities.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NRCS, FEMA, 319(h) grants (Clean Water Act), PW	24-36 months $250,000 - $500,000	Protection of homes, businesses, infrastructure, and critical facilities.	High
6.A	In areas at risk to severe weather, retrofit public buildings to withstand snow loads and severe winds to prevent roof collapse/damage	County Public Works	PDM, HMGP, Local Gen. Fund	12-14 months $10,000 - $50,000	Protection of infrastructure, and critical facilities.	Low
7.A	Develop partnerships for a community based vegetation management program including chipping programs	NV Div. of Forestry, Fire Dept.	NDF, BLM, National Fire Monies, USFS, Local General Fund	6-12 Months Staff Time	Mitigation Project will ensure a greater number of residential structures and critical facilities and infrastructure benefit from actions to protect lives and property from wildfire.	Low
7.B	Work with UNR Cooperative Extension for Fire Prevention Awareness	County Fire Dept.	Local General Fund, UNR	6-12 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Medium
8.A	Review zoning ordinances to reduce public health risks from hazardous materials release	County Bldg. Dept., Fire Dept.	Local General Fund, NDEP, USEPA	12-24 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
9.A	Develop terrorism awareness program	County Bldg. Dept., Fire Dept.	Local General Fund, NDEP, USEPA	12-24 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	High

BLM= Bureau of Land Management
PW = Public Works
DHS= Dept. of Homeland Security
EMPG = Emergency Management Performance Grant
FMA=Flood Management Assistance
HMGP = Hazard Mitigation Grant Program
HUD=Housing & Urban Development
NDEP = Nevada Division of Environmental Protection
NDF = Nevada Department of Forestry
NDRCS=Nevada Dept. Resource Conservation Services
PDM = Pre-Disaster Mitigation
RFC=Resource Finance Corporation
SERC = State Emergency Response Commission
USDA = U.S. Department of Agriculture
USEPA = U.S. Environmental Protection Agency
USFS = U.S. Fire Service
USGS = US Geological Survey

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This section describes a formal plan maintenance process to ensure that the HMP remains an active and applicable document. It includes an explanation of how the County, the WRPT, and the Planning Committee intend to organize their efforts to ensure that improvements and revisions to the HMP occur in a well-managed, efficient, and coordinated manner.

The following three process steps are addressed in detail below:

- Monitoring, evaluating, and updating the HMP
- Implementation through existing planning mechanisms
- Continued public involvement

9.1 MONITORING, EVALUATING, AND UPDATING THE HMP

The requirements for monitoring, evaluating, and updating the HMP, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Monitoring, Evaluating, and Updating the Plan

Monitoring, Evaluating and Updating the Plan
Requirement §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
Element

- Does the new or updated plan describe the method and schedule for monitoring the plan? (For example, does it identify the party responsible for monitoring and include a schedule for reports, site visits, phone calls, and meetings?)
- Does the new or updated plan describe the method and schedule for evaluating the plan? (For example, does it identify the party responsible for evaluating the plan and include the criteria used to evaluate the plan?)
- Does the new or updated plan describe the method and schedule for updating the plan within the five-year cycle?

Source: FEMA 2008.

The County Emergency Manager and the WRPT recognize the need for plan maintenance and wanted to include tools into the plan for maintenance. The HMP was prepared as a collaborative effort between the County, WRPT Emergency Management, the Local Emergency Management Committee (LEPC), and the Nevada Division of Emergency Management. To maintain momentum and build upon this hazard mitigation planning effort, the LEPC will monitor, evaluate, and update the HMP. The LEPC will be responsible for implementing the Mitigation Action Plan. The County Emergency Manager will serve as the primary point of contact and will coordinate all local efforts to monitor, evaluate, and revise the HMP.

While there was no other formal plan maintenance during the 5 years since the previous plan was adopted, the Nevada Division of Emergency Management held a table top exercise in September of 2014 to discuss the status of the plan and mitigation strategies. Because this review was successful, the LEPC will continue to conduct an annual review of the progress in implementing the HMP, particularly the Mitigation Action Plan. Additionally, the Nevada Hazard Mitigation Planning Committee held their quarterly meeting in Mineral County on February 23, 2016, to kick off the plan update process. Dr. Craig dePolo, Geologist, Bureau of Mines & Geology,

briefed the committee on the Mineral County earthquake history and vulnerability. T.C. Knight & Mineral County Flood Plain Manager Mike Fontaine briefed the committee on area hazards.

As shown in Appendix E, the Annual Review Questionnaire and Mitigation Action Progress Report will provide the basis for possible changes in the overall Mitigation Action Plan by refocusing on new or more threatening hazards, adjusting to changes to or increases in resource allocations, and engaging additional support for the HMP implementation. The County Emergency Manager will initiate the annual review one month prior to the date of adoption. The findings from this review will be presented annually to the County Manager, as well as the Tribal Council. The review will include an evaluation of the following:

- Participation of County agencies, WRPT, and others in the HMP implementation.
- Notable changes in the County's and WRPT's risk of natural or human-caused hazards.
- Impacts of land development activities and related programs on hazard mitigation.
- Progress made implementing the Mitigation Action Plan (identify problems and suggest improvements as necessary).
- The adequacy of resources for implementation of the HMP.

The process of reviewing the progress on achieving the mitigation goals and implementing the Mitigation Action Plan activities and projects will also be accomplished during the annual review process. During each annual review, a Mitigation Action Progress Report will be submitted to the Planning Committee and provide a brief overview of mitigation projects completed or in progress since the last review. As shown in Appendix E, the report will include the current status of the mitigation project, including any changes made to the project, the identification of implementation problems and appropriate strategies to overcome them, and whether or not the project has helped achieve the appropriate goals identified in the plan.

In addition to the annual review, the LEPC will update the HMP every five years. To ensure that this occurs, in the third year following adoption of the HMP, the LEPC will undertake the following activities:

- Thoroughly analyze and update the County's and WRPT's risk of natural and man-made hazards.
- Provide a new annual review (as noted above), plus a review of the three previous annual reports.
- Provide a detailed review and revision of the mitigation strategy.
- Prepare a new action plan with prioritized actions, responsible parties, and resources.
- Prepare a new draft HMP and submit it to the County and Tribal Council for adoption.
- Submit an updated HMP to the Nevada State Hazard Mitigation Officer and FEMA for approval.

9.2 IMPLEMENTATION THROUGH EXISTING PLANNING MECHANISMS

The requirements for implementation through existing planning mechanisms, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Incorporation into Existing Planning Mechanisms

Incorporation into Existing Planning Mechanisms
Requirement §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
Element
- Does the new or updated plan identify other local planning mechanisms available for incorporating the requirements of the mitigation plan?
- Does the new or updated plan include a process by which the local government will incorporate the requirements in other plans, when appropriate?

Source: FEMA 2008.

Since the 2012 plan, the County and the WRPT have successfully utilized and integrated hazard profiles, vulnerability and mitigation actions into other planning mechanisms and documents, as well as the regulations and ordinances as mentioned in Table 7-1 and the following:

- Mineral County Master Plan (2012)
- BLM Regional Master Plan
- BLM Drought Assessment Plan (2014)
- Weber Dam Emergency Action Plan (2014)

After the adoption of the HMP, the LEPC will continue to ensure that the HMP, in particular the Mitigation Action Plan, is incorporated into existing planning mechanisms. Each member of the LEPC will achieve this incorporation by undertaking the following activities.

- Conduct a review of the community-specific regulatory tools to assess the integration of the mitigation strategy. These regulatory tools are identified in Table 7-1.
- Work with pertinent divisions and departments to increase awareness of the HMP and provide assistance in integrating the mitigation strategy (including the action plan) into relevant planning mechanisms. Implementation of these requirements may require updating or amending specific planning mechanisms.

9.3 CONTINUED PUBLIC INVOLVEMENT

The requirements for continued public involvement, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Continued Public Involvement

Continued Public Involvement
Requirement §201.6(c)(4)(iii): [The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.
Element

DMA 2000 Requirements: Plan Maintenance Process - Continued Public Involvement

- Does the new or updated plan explain how **continued public participation** will be obtained? (For example, will there be public notices, an ongoing mitigation plan committee, or annual review meetings with stakeholders?)

Source: FEMA 2008.

The County and the WRPT are dedicated to involving the public directly in the continual reshaping and updating of the HMP. Hard copies of the HMP will be provided to each department. In addition, a downloadable copy of the plan and any proposed changes will be posted on the County's Web site. This site will also contain an e-mail address and phone number to which interested parties may direct their comments or concerns.

SERC requires that LEPC's meet at least once per quarter. Mineral County LEPC meetings by committee bylaws are public meetings. These meetings are advertised by posting agendas at County buildings as well as email notifications to all interested parties according to Nevada open meeting law. One meeting per year will be devoted to the LHMP review. With the assistance of the State Hazard Mitigation Officer, the table top exercise developed by the NDEM can be used as the review tool. The public will be encouraged to provide comments on the plan's content and provide feedback on what they feel the plan is accomplishing or not. Any public comments received regarding the LHMP will be collected and included in the annual report and considered during future LHMP updates.

The LEPC will also identify opportunities to raise community awareness about the HMP and the County's hazards. This could include attendance and provision of materials at sponsored events. Any public comments received regarding the HMP will be collected by the County Emergency Manager, included in the annual report to the County Manager and the Tribal Council, and considered during future HMP updates. A press release and public notice by the County will be issued each year before the annual maintenance meeting inviting the public to participate.

The following websites or documents were accessed between February 2016 and November 2016.

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dePolo, C., G. Johnson, J. Price and J Mauldin 2009. *Quatenary Faults in Nevada.* *http://www.nbmg.unr.edu/dox/of099.pdf* .

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Hess R. and C. dePolo 2006. *Loss-Esimtation Modeling of Earthquake Scenarios for Each Co. in Nevada Using HAZUS-MH.* *http://www.nbmg.unr.edu/dox/of061/of061.pdf* .

Price J, G. Johnson, C. Ballard, H. Armeno, I. Seeley, L. Goar, C. dePolo, J. Hastings. *Estimated Losses from Earthquakes near Nevada Communities.* http://www.nbmg.unr.edu/dox/of098/Scenarios/OpenFileReport09-8.pdf .

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FEMA. 2002a. 44 CFR Parts 201 and 206, RIN 3067-AD22, Hazard Mitigation Planning and Hazard Mitigation Grant Program, Interim Final Rule. In Federal Register 67, No. 38. U.S. Department of Homeland Security, Federal Emergency Management Agency. https://www.federalregister.gov/articles/2007/10/31/E7-21264/hazard-mitigation-planning-and-hazard-mitigation-grant-program

FEMA. 2002b. State and Local Plan Interim Criteria Under the Disaster Mitigation Act of 2000 – Final Draft. U.S. Department of Homeland Security, Federal Emergency Management Agency. https://www.fema.gov/pdf/help/fr02-4321.pdf

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FEMA. 2002d. How-To Guide #7: Integrating Human-Caused Hazards Into Mitigation Planning. U.S. Department of Homeland Security, Federal Emergency Management Agency. FEMA 386-7. http://www.fema.gov/media-library-data/20130726-1524-20490-3869/howto7.pdf

FEMA. 2002e. 44 CFR Parts 201 and 206, RIN 3067-AD22, Hazard Mitigation Planning and Hazard Mitigation Grant Program, Interim Final Rule. In Federal Register 67, no. 190. U.S. Department of Homeland Security, Federal Emergency Management Agency. http://www.fema.gov/media-library-data/20130726-1524-20490-9388/67fr61512.txt

FEMA. 2003a. How-To Guide #3: Developing The Mitigation Plan; Identifying Mitigation Actions and Implementing Strategies. U.S. Department of Homeland Security, Federal

Emergency Management Agency. FEMA 386-3. http://www.fema.gov/media-library-data/20130726-1521-20490-5373/howto3.pdf

FEMA. 2003b. How-To Guide #4: Bringing the Plan to Life: Implementing the Hazard Mitigation Plan. U.S. Department of Homeland Security, Federal Emergency Management Agency. FEMA 386-4. http://www.fema.gov/media-library-data/20130726-1521-20490-9008/fema_386_4.pdf

Mineral County Yucca Mountain Oversight Program http://www.mcnucprojects.com/]

National Climatic Data Center (NCDC). 2015. www.ncdc.noaa.gov.

National Drought Mitigation Center. 2016. U.S. Drought Monitor: Nevada. Available at http://droughtmonitor.unl.edu.

Nevada Bureau of Mines and Geology. 2000. *Living With Earthquakes: A Nevadan's Guide to Preparing for, Surviving, and Recovering from an Earthquake.* Special Publication.

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United States Census Bureau. 2000. American Fact Finder Fact Sheet. http://factfinder.census.gov , http://quickfacts.census.gov/qfd/states/32/32021.html.

United States Drought Monitor. 2005. http://www.drought.unl.edu/dm/monitor.html

Walker River Paiute Tribe, http://www.wrpt.us/tribal_govern.htm

Western Regional Climate Center. 2005. Historical Climate Information. http://www.wrcc.dri.edu/CLIMATEDATA.html .

Appendix A
Adoption Resolution

Resolution # 12-002

WHEREAS Mineral County has historically experienced severe damage from natural and human-caused hazards such as flooding, wildfire, drought, thunderstorms/high winds, and hazardous materials incidents on many occasions in the past century, resulting in loss of property and life, economic hardship, and threats to public health and safety;

WHEREAS the Mineral County Hazard Mitigation Plan (the Plan) has been developed after more than one year of research and work by the Mineral County Office of Emergency Management in association and cooperation with the Mineral County Local Emergency Planning Committee (LEPC) and the State of Nevada Division of Emergency Management for the reduction of hazard risk to the community;

WHEREAS the Plan specifically addresses hazard mitigation strategies and plan maintenance procedures for Mineral County;

WHEREAS the Plan recommends several hazard mitigation actions/projects that will provide mitigation for specific natural and human caused hazards that impact Mineral County with the effect of protecting people and property from loss associated with those hazards;

WHEREAS a public meeting was held to present the Plan for comment and review as required by law;

NOW THEREFORE BE IT RESOLVED

by the Mineral County Board of Commissioners, that:

1. The Plan is hereby adopted as an official plan of Mineral County.

2. The respective officials identified in the mitigation strategy of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them.

3. Future revisions and Plan maintenance required by the Disaster Mitigation Act of 2000 and FEMA, are hereby adopted as a part of this resolution for a period of five (5) years from the date of this resolution.

4. An annual report on the progress of the implementation elements of the Plan shall be presented to the Mineral County Board of Commissioners by October 31st of each calendar year.

PASSED by the Mineral County Board of Commissioners, this 4th day of April, 2012.

Chairman James Essenpreis — Date: 4-4-2012

Vice Chairman Nancy Black — Date: 4/4/2012

Commissioner Jerrie Tipton — Date: 4/4/2012

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Appendix B
Figures

Mineral County Location

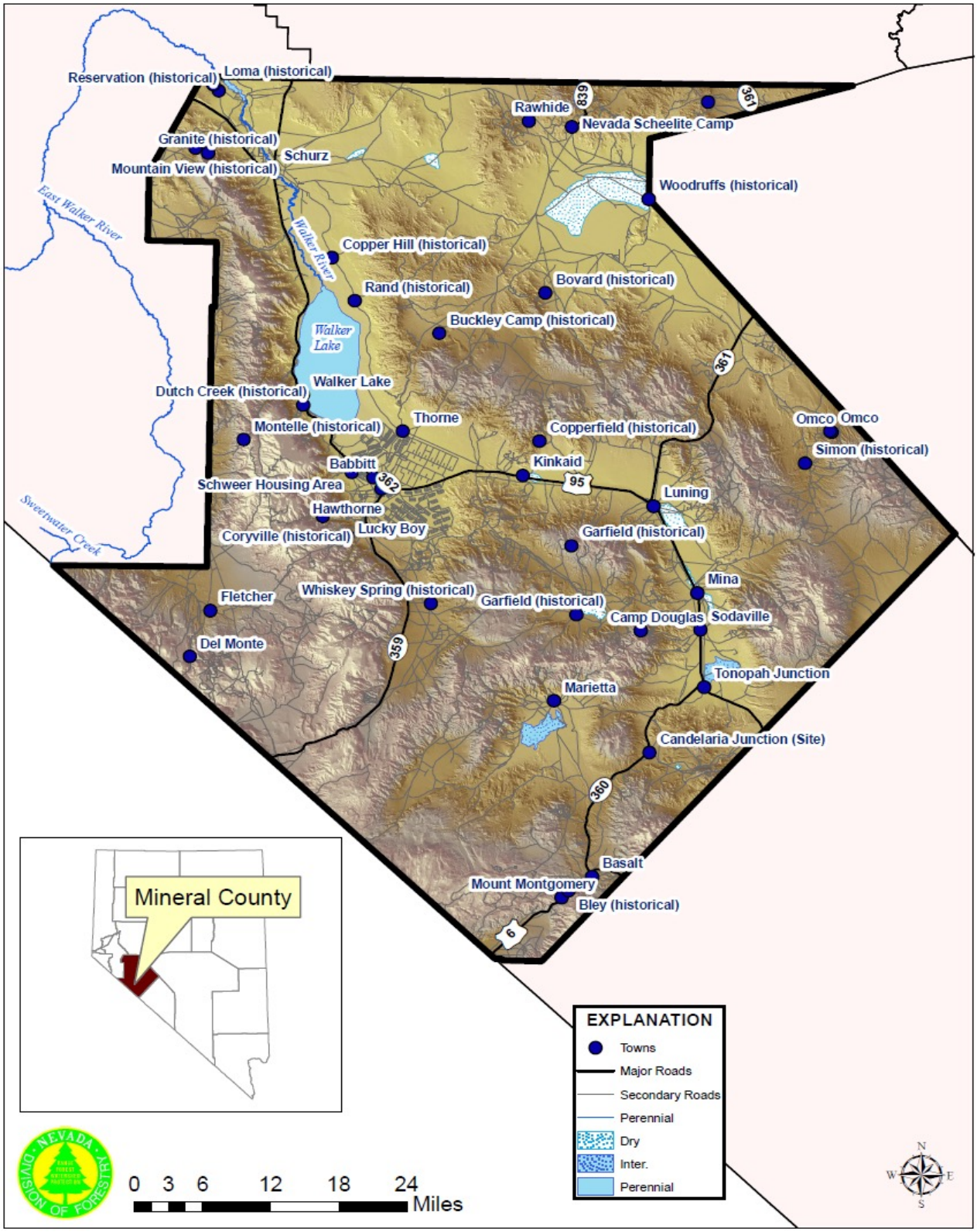


Figure B-1

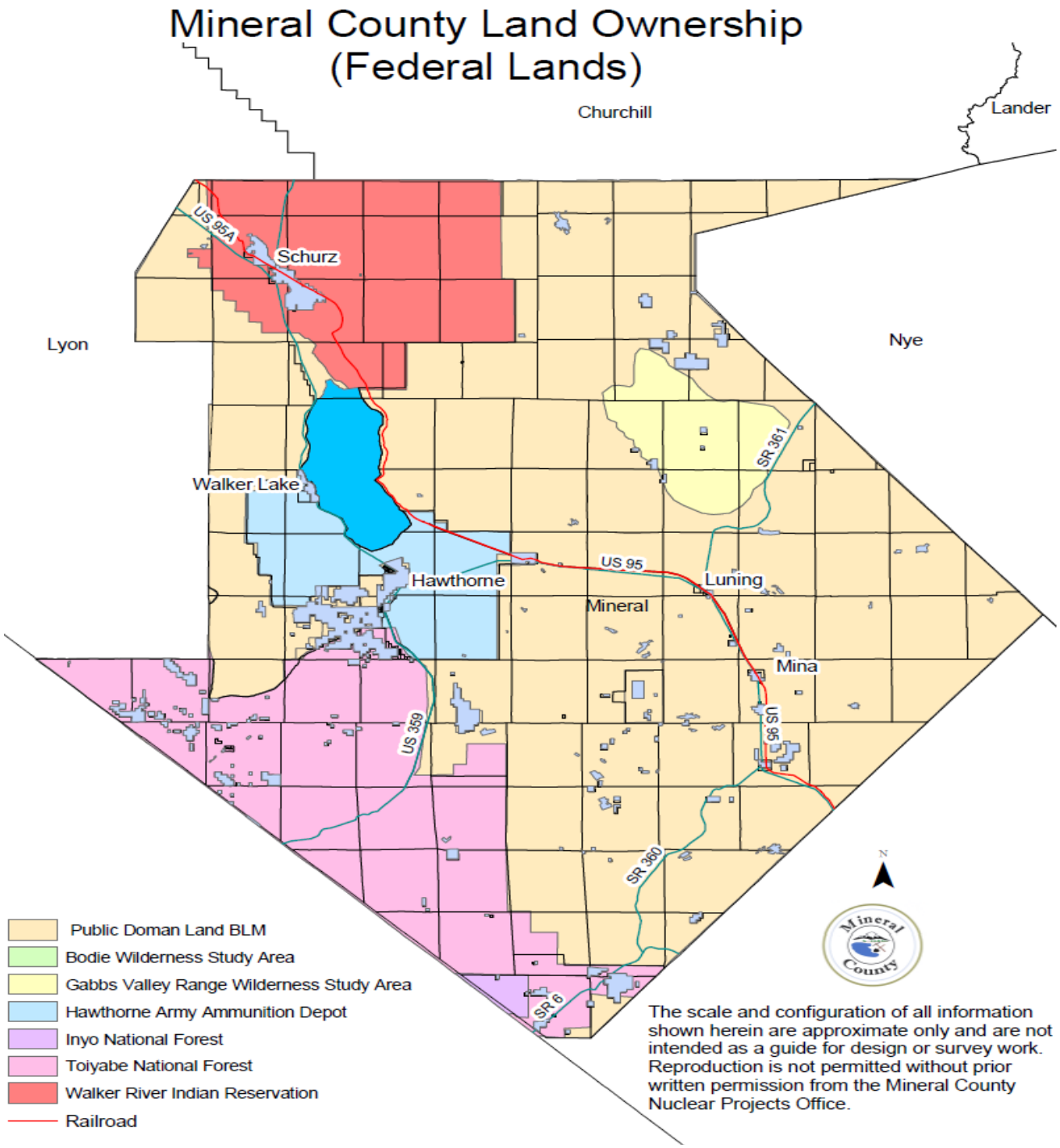

Mineral County Land Ownership
(Federal Lands)
Churchill
Lander
Lyon
Nye
Schurz
Walker Lake
Hawthorne
Luning
Mineral
Mina
US 95A
US 95
US 359
SR 361
SR 360
SR 6
Public Doman Land BLM
Bodie Wilderness Study Area
Gabbs Valley Range Wilderness Study Area
Hawthorne Army Ammunition Depot
Inyo National Forest
Toiyabe National Forest
Walker River Indian Reservation
Railroad
N
Mineral County
The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Mineral County Nuclear Projects Office.

Figure B-2

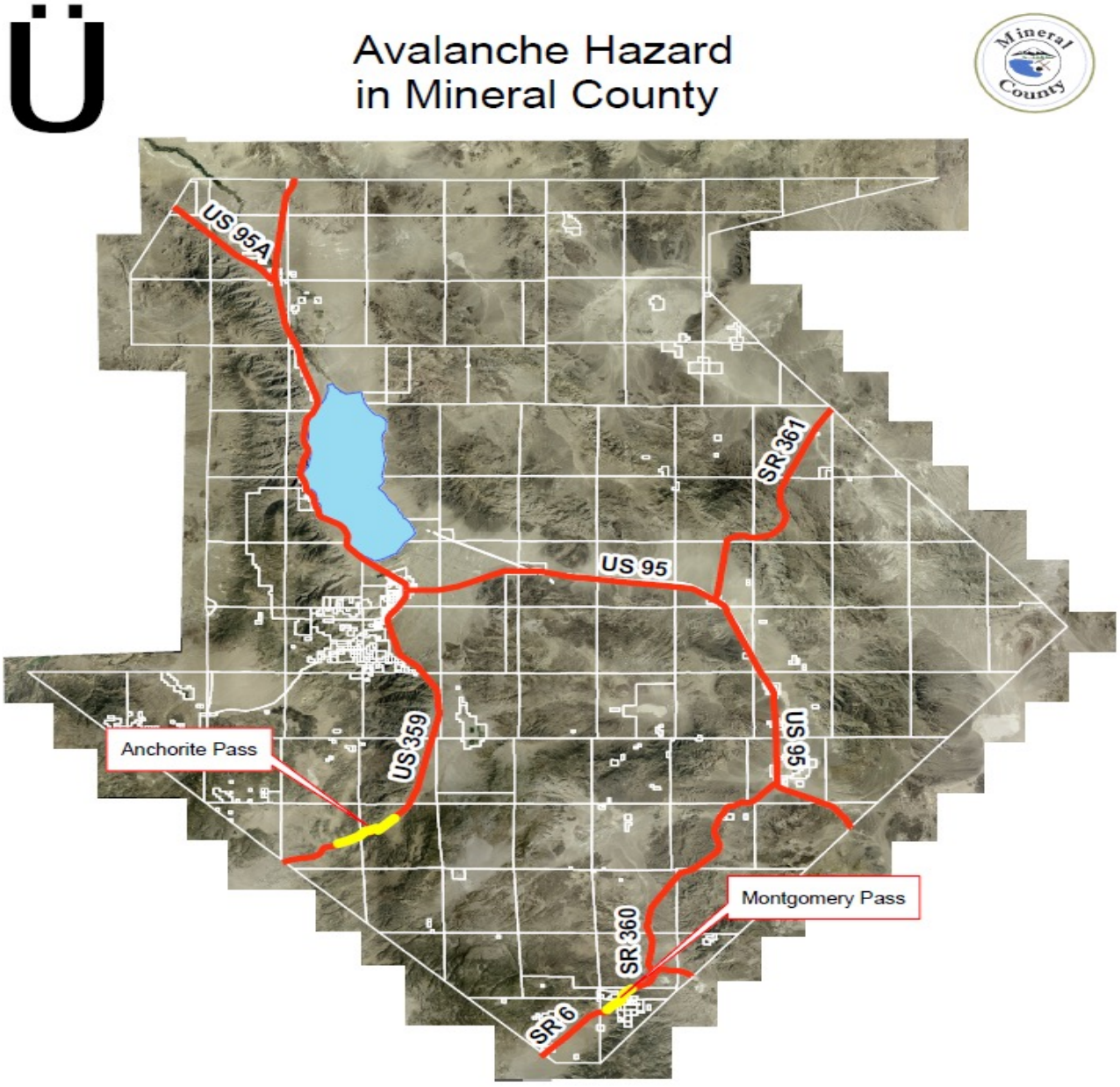

Ü
Avalanche Hazard
in Mineral County
Mineral County
US 95A
SR 361
US 95
US 359
US 95
Anchorite Pass
Montgomery Pass
SR 360
SR 6
The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Mineral County Nuclear Projects Office.
0 5 10 20 Miles

Figure B-3

Earthquake Fault Lines
Mineral County

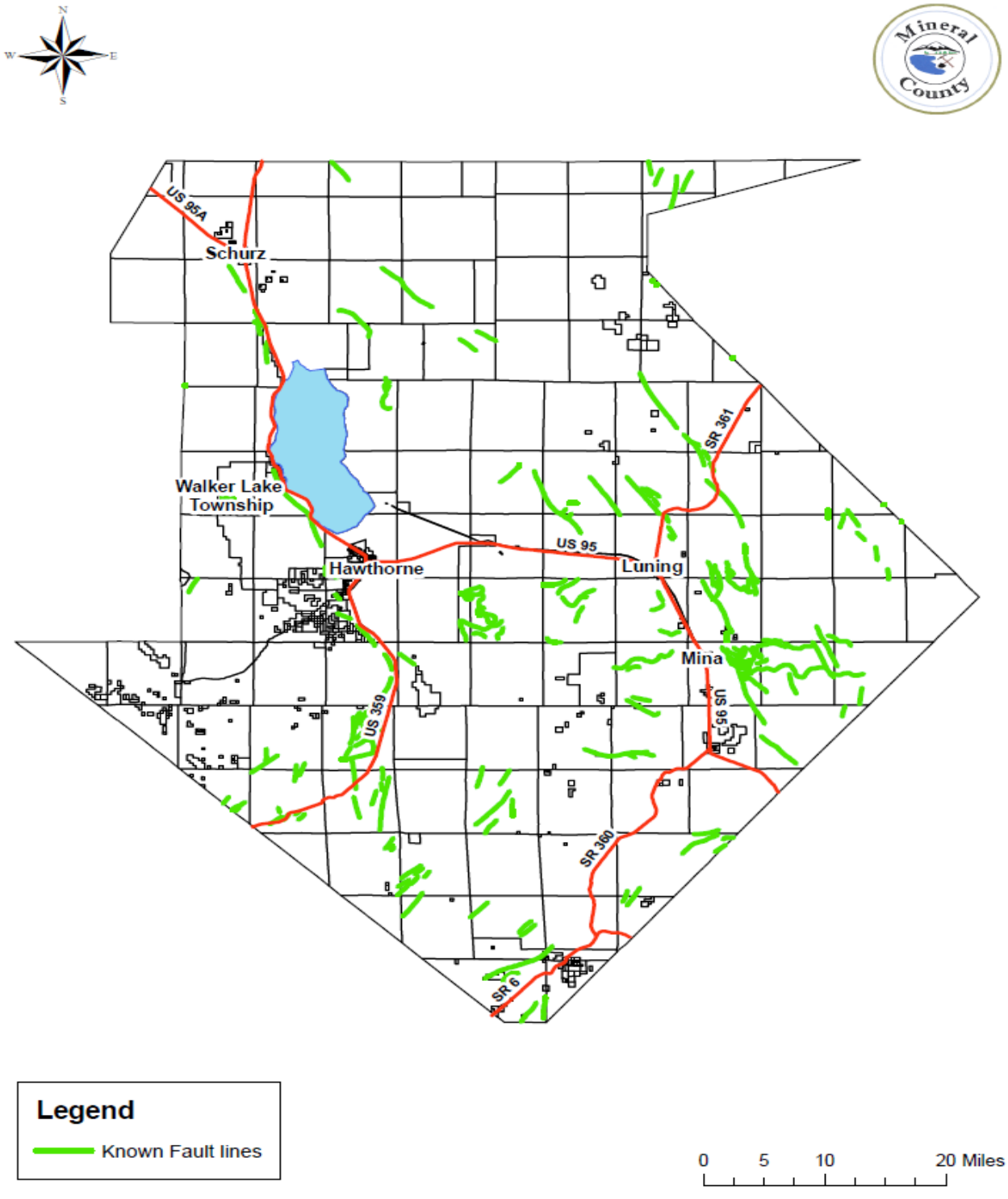
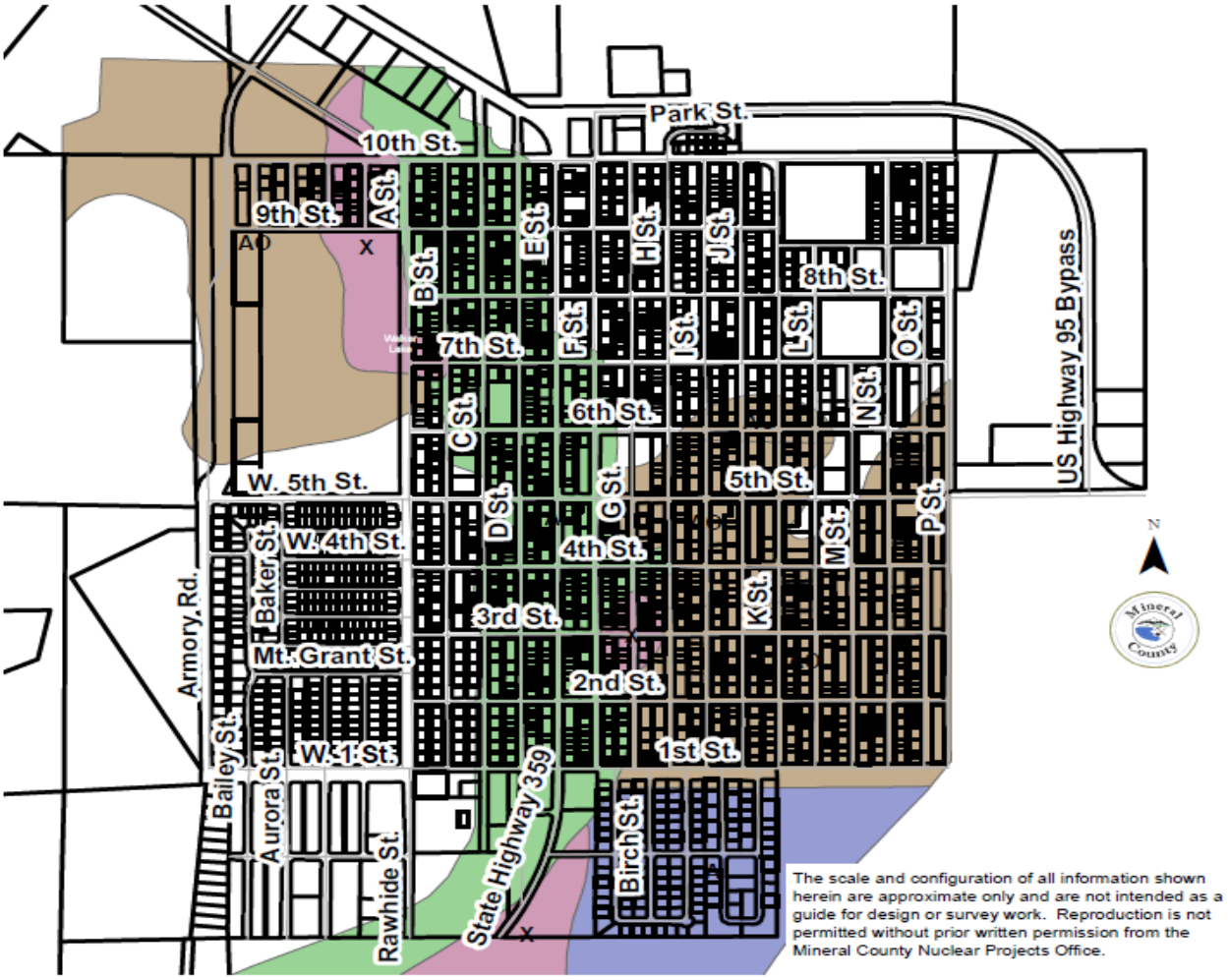


Figure B-4

Hawthorne Flood Zones



Legend

FEMA 100 year Floodzones

A	No base flood elevations determined
AE	Base flood elevations determined
AH	Flood depths of 1-3 ft. (areas of ponding)
AO	Flood depths of 1-3 ft.
X	Areas determined to be out of 500 yr flood plain

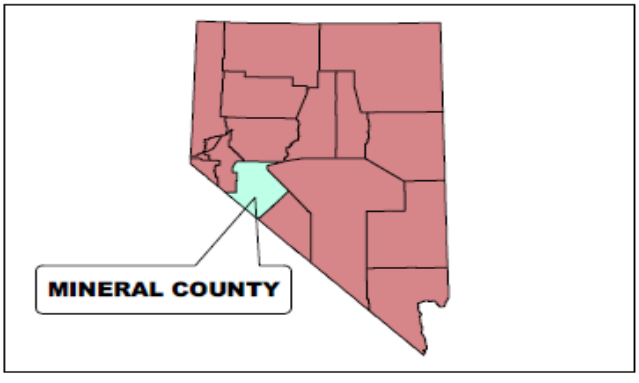
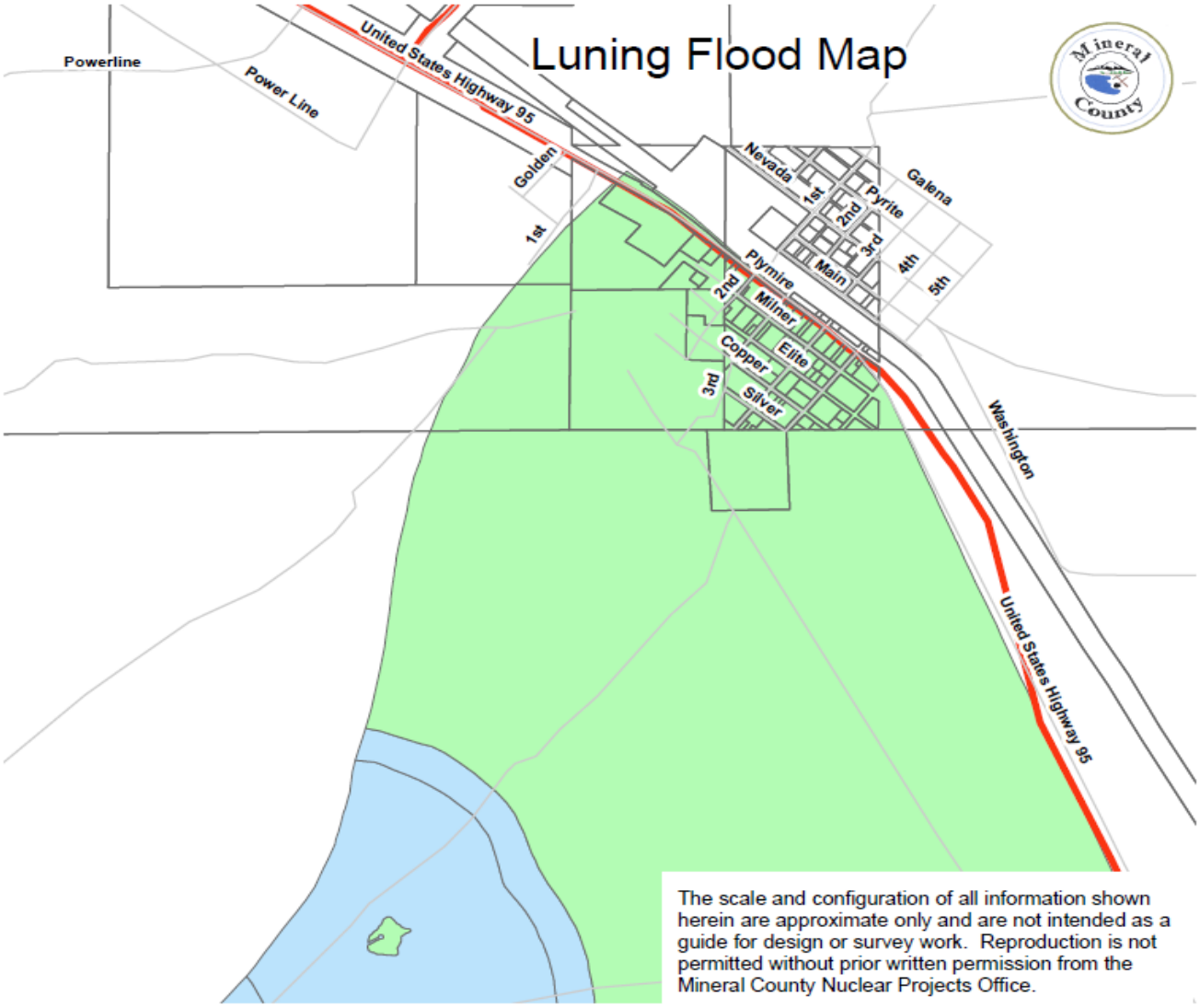


Figure B-5


Luning Flood Map
Mineral County
Powerline
Power Line
United States Highway 95
Golden
1st
Nevada
1st
2nd
Pyrite
Galena
3rd
4th
5th
Main
Plymire
2nd
Milner
Elite
Copper
3rd
Silver
Washington
United States Highway 95
The scale and configuration of all information shown herein are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Mineral County Nuclear Projects Office.
0 0.1 0.2 0.4 Miles
N
Legend
FEMA 100 year Floodzones
A No base flood elevations determined
AE Base flood elevations determined
AH Flood depths of 1-3 ft. (areas of ponding)
AO Flood depths of 1-3 ft.
X Areas determined to be out of 500 yr flood plain
US 95A
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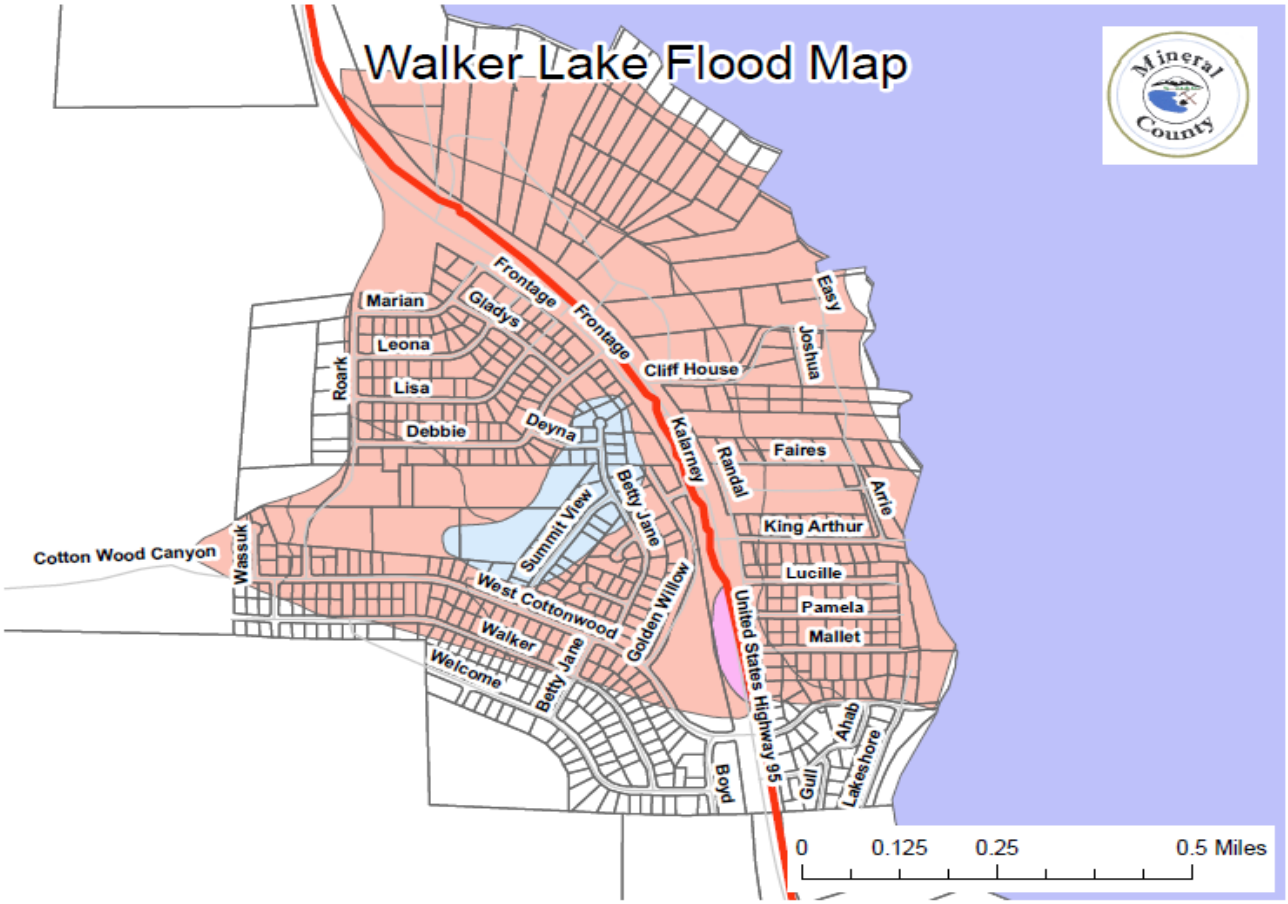
SR 361
US 95
US 95
US 359
SR 360
SR 6

Figure B-6



N

Legend FEMA 100 year Floodzones

	A	No base flood elevations determined
	AE	Base flood elevations determined
	AH	Flood depths of 1-3 ft. (areas of ponding)
	AO	Flood depths of 1-3 ft.
	X	Areas determined to be out of 500 yr flood plain

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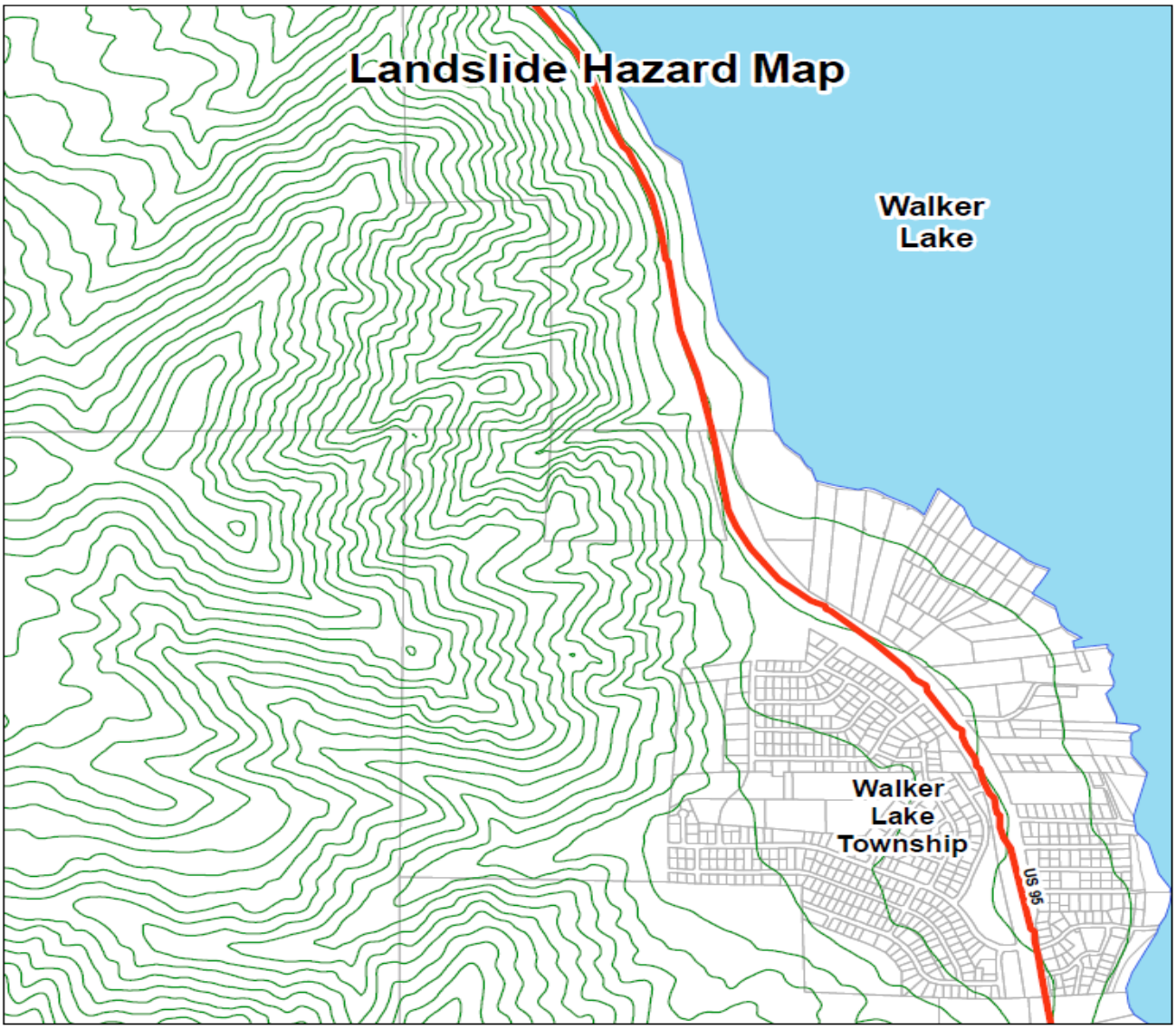
Figure B-7



Ü

Legend

100 foot Contours

0 0.15 0.3 0.6 Miles

Mineral County

Figure B-8

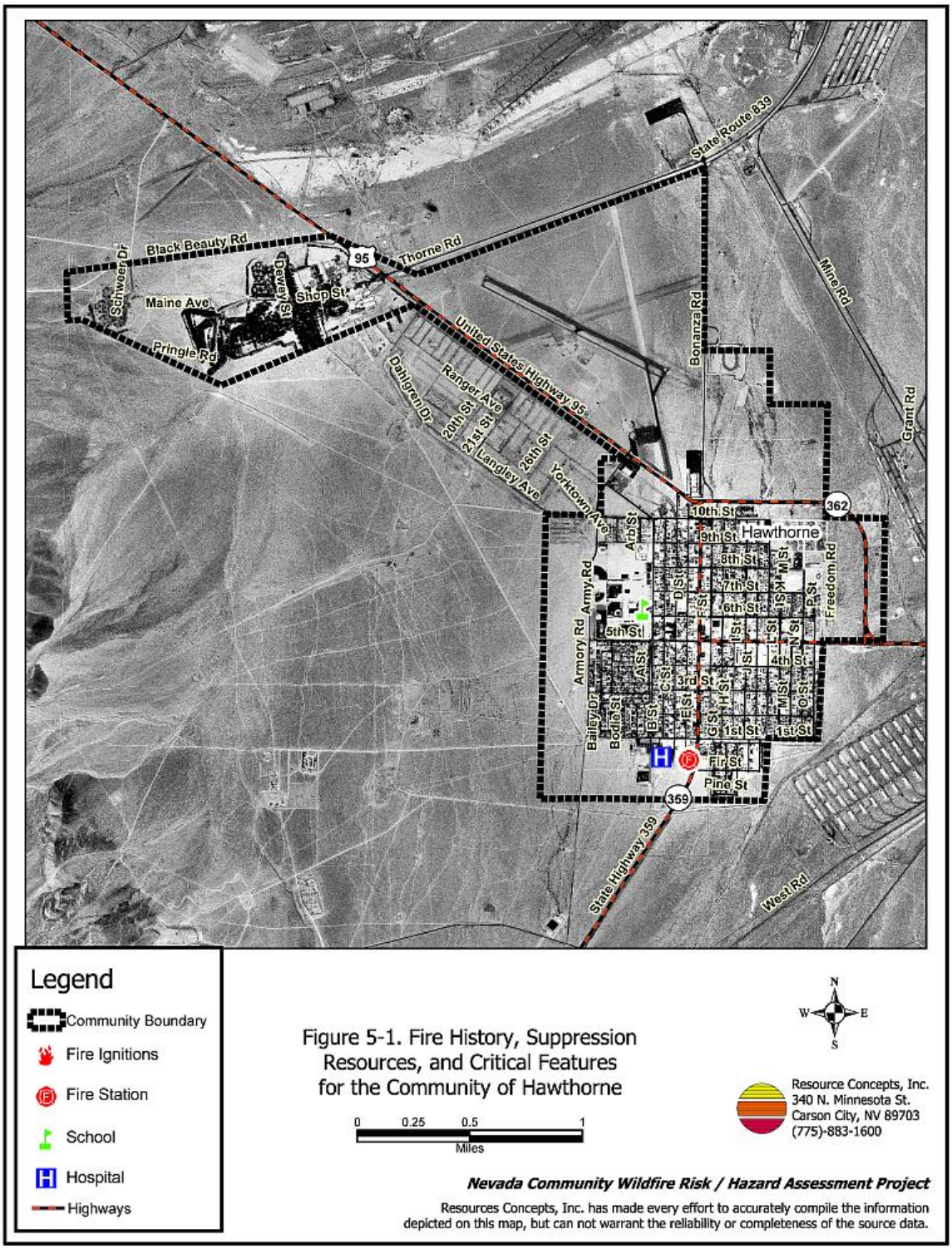
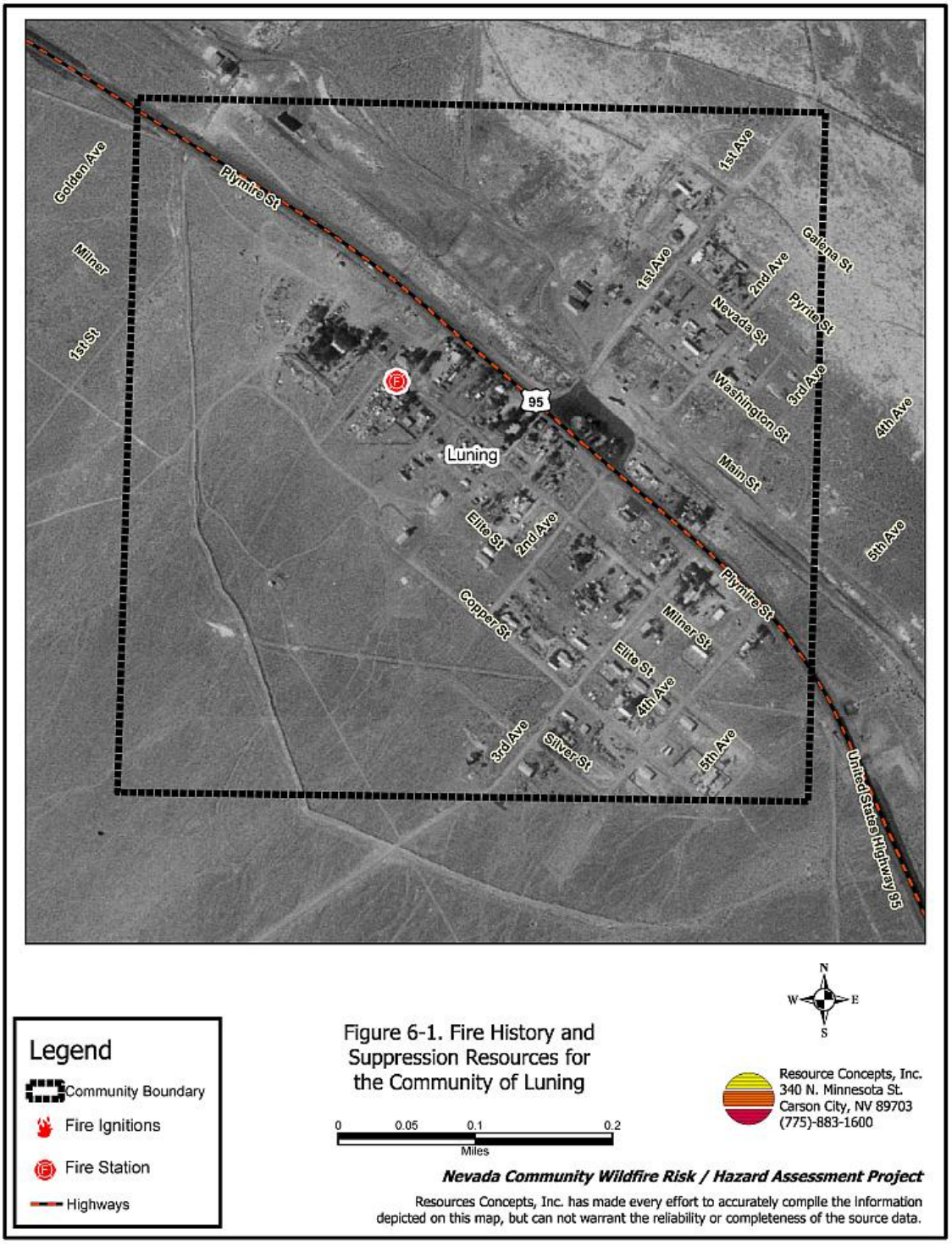

Legend
Community Boundary
Fire Ignitions
Fire Station
School
Hospital
Highways
Figure 5-1. Fire History, Suppression Resources, and Critical Features for the Community of Hawthorne
0 0.25 0.5 1
Miles
N
W
E
S
Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.
Black Beauty Rd
Schweer Dr
Maine Ave
Pringle Rd
Shop St
Thorne Rd
95
State Route 839
Bonanza Rd
Mine Rd
Grant Rd
United States Highway 95
Dahlgren Dr
Ranger Ave
20th St
21st St's
Langley Ave
26th St
Yorktown Ave
362
10th St
9th St
Hawthorne
8th St
7th St
6th St
5th St
4th St
3rd St
2nd St
1st St
Army Rd
Bailey Dr
Bond St
Arb St
A St
B St
C St
D St
E St
F St
G St
H St
I St
K St
L St
M St
N St
O St
P St
Freedom Rd
Fir St
Pine St
359
State Highway 359
West Rd

Figure B-9


Golden Ave
Plymire St
Milner
1st St
1st Ave
Galena St
2nd Ave
Nevada St
Pyrite St
3rd Ave
Washington St
4th Ave
95
Luning
Main St
Elite St
2nd Ave
5th Ave
Plymire St
Copper St
Milner St
Elite St
4th Ave
3rd Ave
Silver St
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Fire Ignitions
Fire Station
Highways
Figure 6-1. Fire History and Suppression Resources for the Community of Luning
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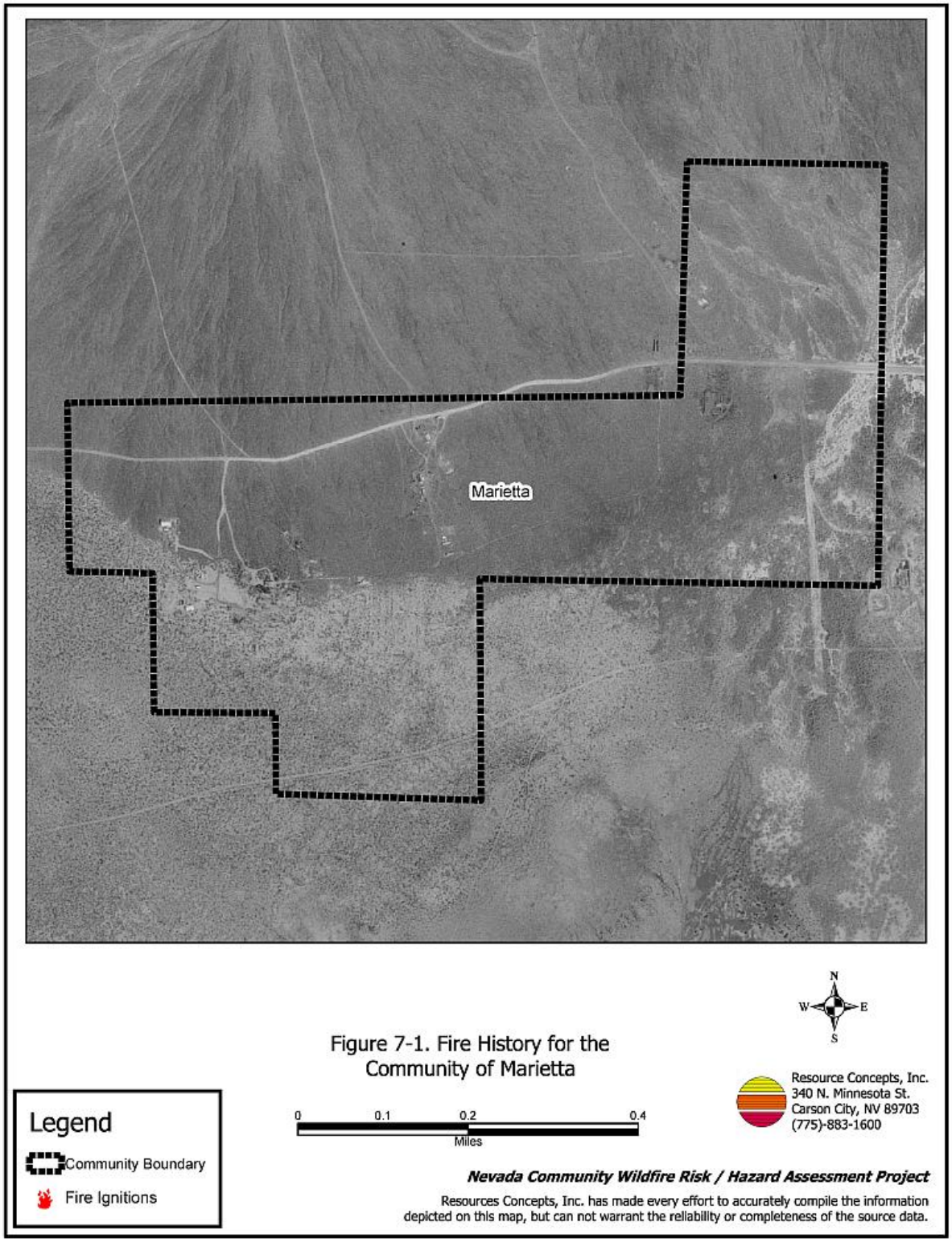
Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.

Figure B-10


Marietta
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S
Figure 7-1. Fire History for the
Community of Marietta
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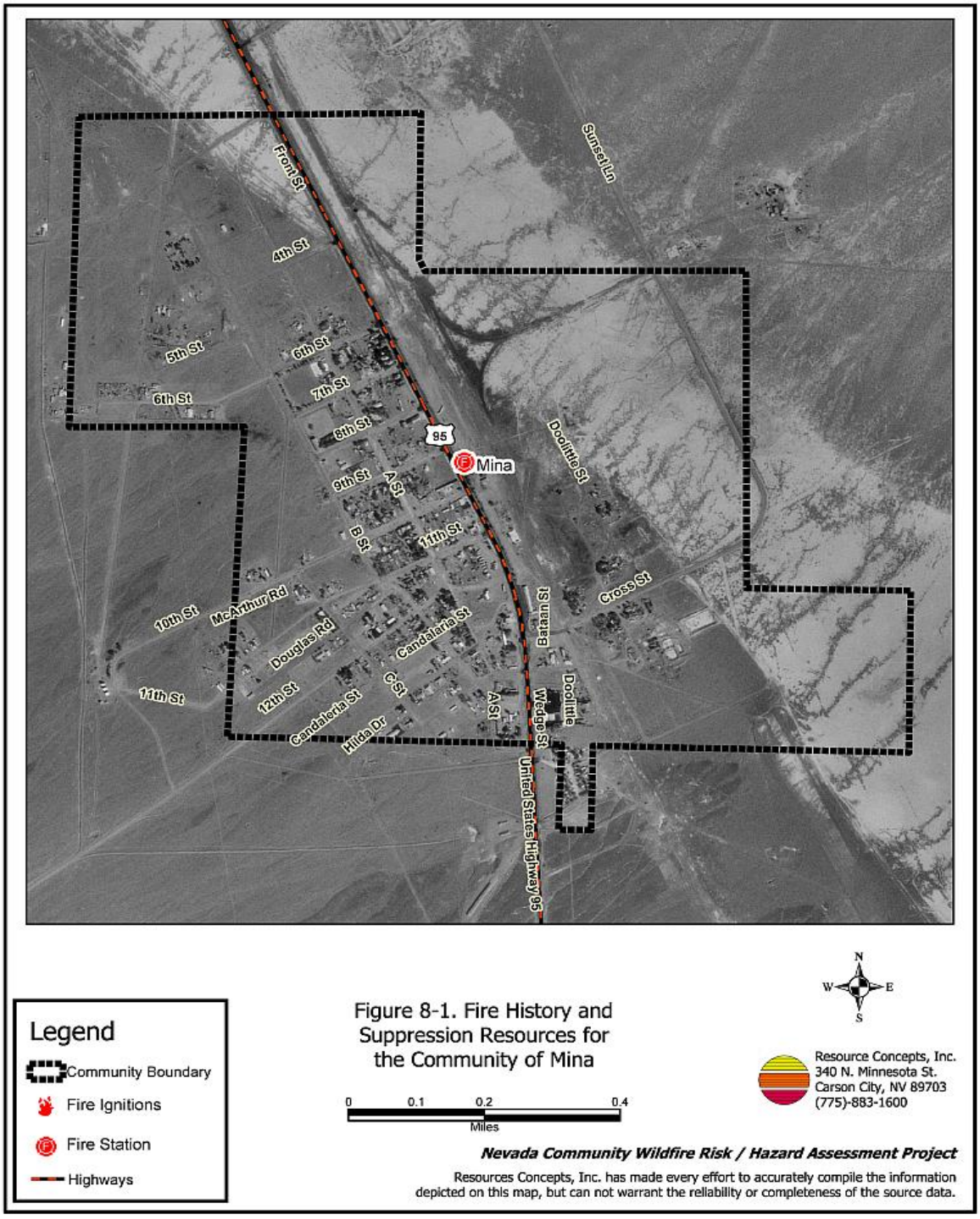
Legend
Community Boundary
Fire Ignitions
Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.

Figure B-11


Front St
Sunset Ln
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5th St
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95
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9th St
A St
B St
11th St
Doolittle St
Cross St
10th St
McArthur Rd
Douglas Rd
Candelaria St
Bataan St
11th St
12th St
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A St
Wedge St
Doolittle
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United States Highway 95
Legend
Community Boundary
Fire Ignitions
Fire Station
Highways
Figure 8-1. Fire History and Suppression Resources for the Community of Mina
0 0.1 0.2 0.4
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Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.

Figure B-12

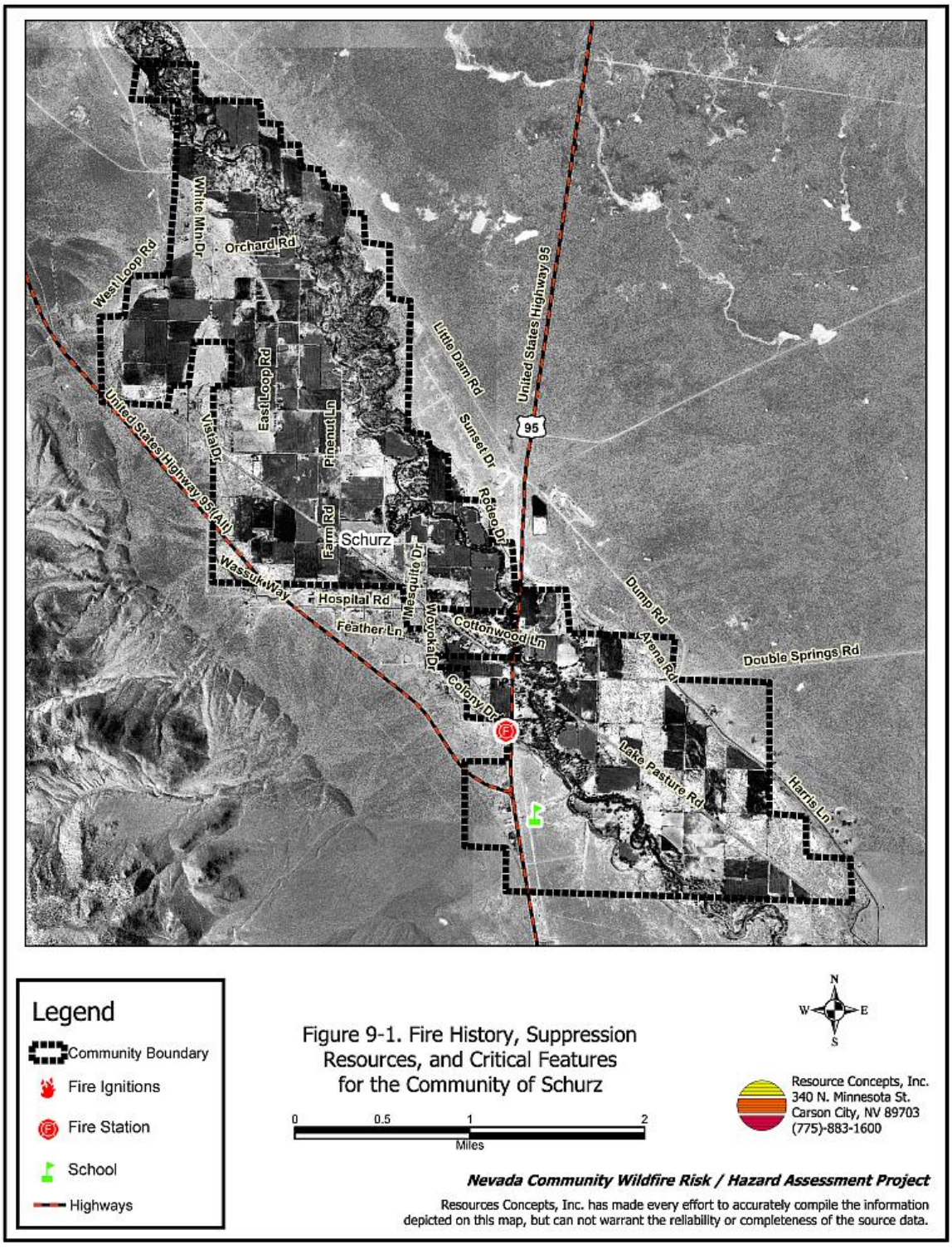
White Mtn Dr
Orchard Rd
West Loop Rd
East Loop Rd
Vista Dr
Pinenut Ln
United States Highway 95 (Alt)
Little Dam Rd
United States Highway 95
95
Sunset Dr
Rabe Dr
Farm Rd
Schurz
Mesquite Dr
Wassuk Way
Hospital Rd
Feather Ln
Wovoka Dr
Cottonwood Ln
Colony Dr
Dump Rd
Yerington Rd
Double Springs Rd
Lake Pasture Rd
Harris Ln
Legend
Community Boundary
Fire Ignitions
Fire Station
School
Highways
Figure 9-1. Fire History, Suppression Resources, and Critical Features for the Community of Schurz
0
0.5
1
2
Miles
N
W
E
S
Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.

Figure B-13

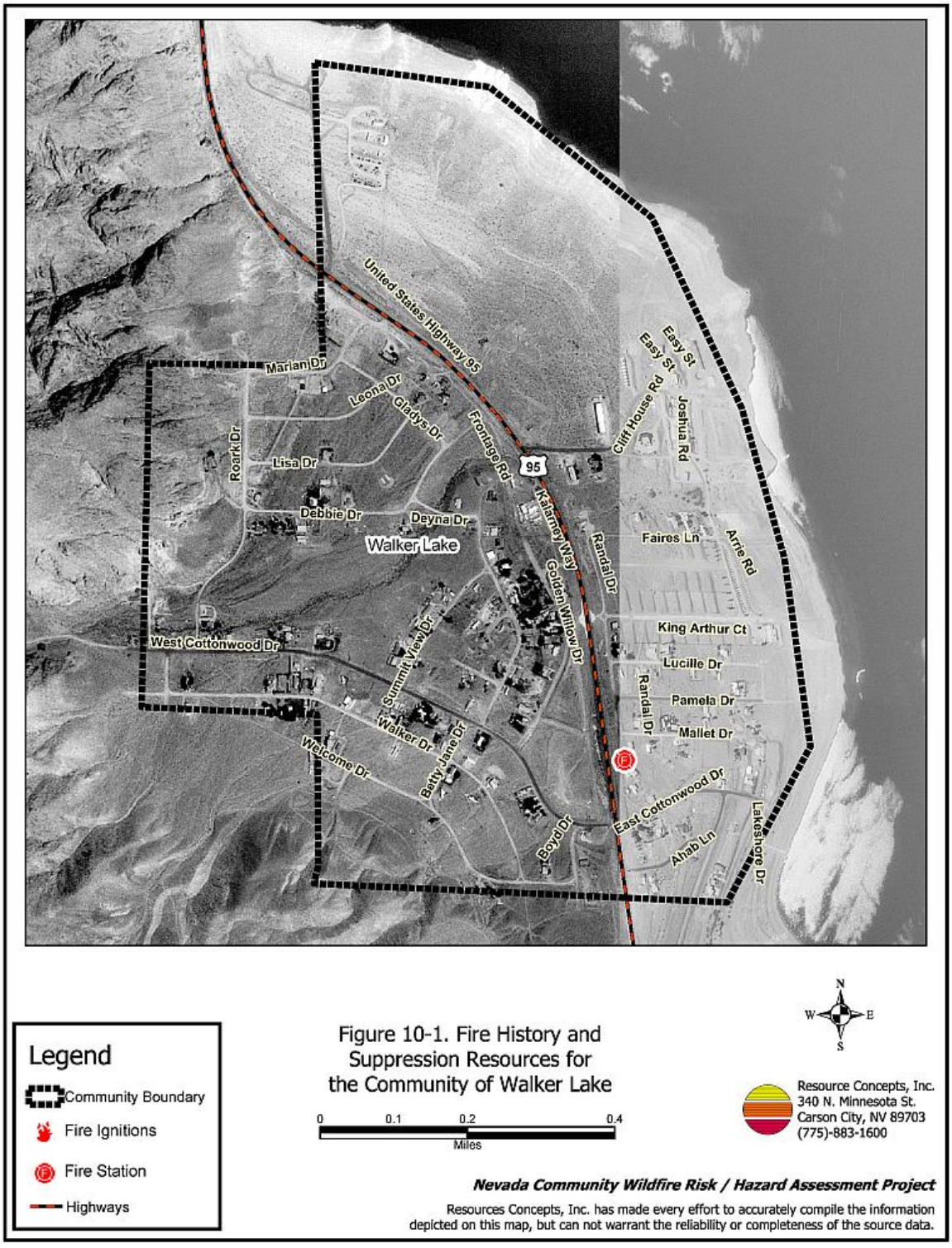
United States Highway 95
Marian Dr
Leona Dr
Gladys Dr
Roark Dr
Lisa Dr
Debbie Dr
Deyna Dr
Walker Lake
Frontage Rd
95
Kalamey Way
Golden Willow Dr
Randal Dr
Cliff House Rd
Easy St
Easy St
Joshua Rd
Faires Ln
Arrie Rd
King Arthur Ct
Lucille Dr
Pamela Dr
Mallet Dr
Randal Dr
West Cottonwood Dr
Summit View Dr
Walker Dr
Welcome Dr
Betty Jane Dr
Boyd Dr
East Cottonwood Dr
Ahab Ln
Lakeshore Dr
Legend
Community Boundary
Fire Ignitions
Fire Station
Highways
Figure 10-1. Fire History and Suppression Resources for the Community of Walker Lake
0
0.1
0.2
0.4
Miles
N
W
E
S
Resource Concepts, Inc.
340 N. Minnesota St.
Carson City, NV 89703
(775)-883-1600
Nevada Community Wildfire Risk / Hazard Assessment Project
Resources Concepts, Inc. has made every effort to accurately compile the information depicted on this map, but can not warrant the reliability or completeness of the source data.

Figure B-14

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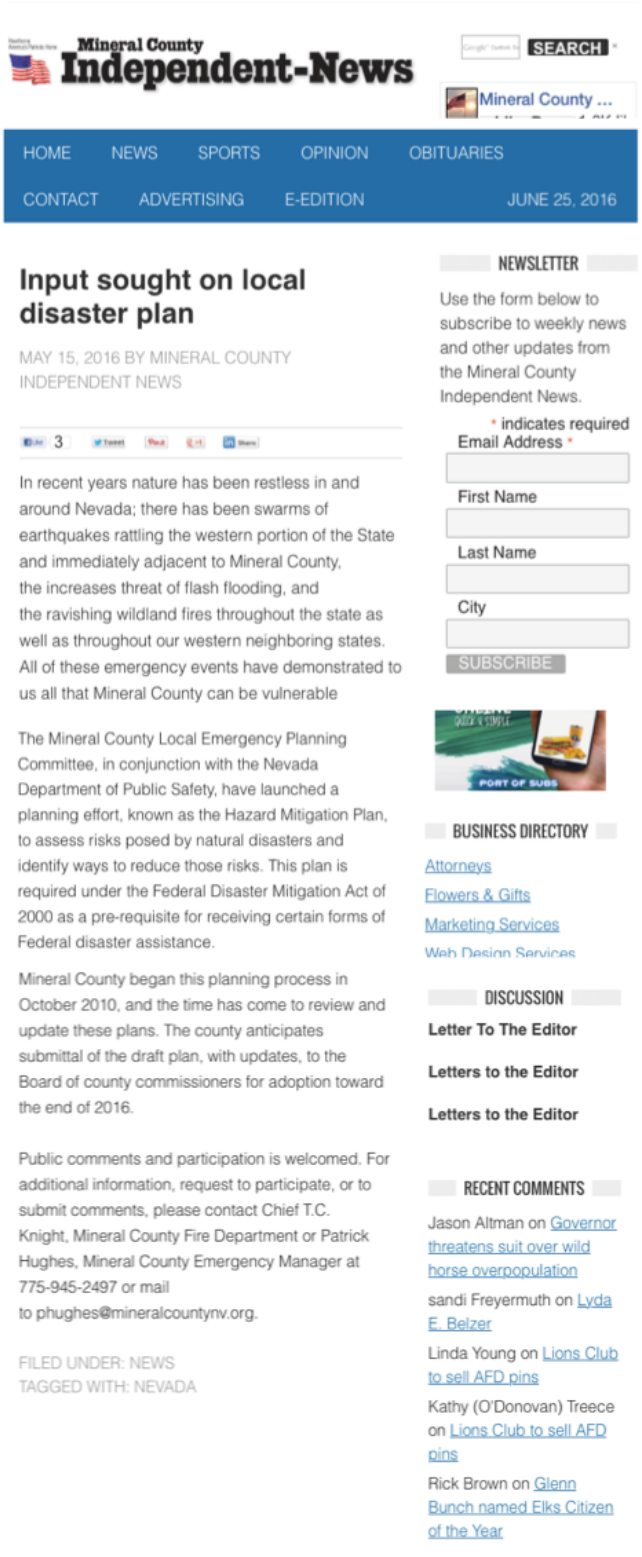
Appendix C
Public Information

Press Release



Mineral County Independent-News

SEARCH

Mineral County ...

HOME NEWS SPORTS OPINION OBITUARIES

CONTACT ADVERTISING E-EDITION JUNE 25, 2016

Input sought on local disaster plan

MAY 15, 2016 BY MINERAL COUNTY INDEPENDENT NEWS

In recent years nature has been restless in and around Nevada; there has been swarms of earthquakes rattling the western portion of the State and immediately adjacent to Mineral County, the increases threat of flash flooding, and the ravishing wildland fires throughout the state as well as throughout our western neighboring states. All of these emergency events have demonstrated to us all that Mineral County can be vulnerable

The Mineral County Local Emergency Planning Committee, in conjunction with the Nevada Department of Public Safety, have launched a planning effort, known as the Hazard Mitigation Plan, to assess risks posed by natural disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a pre-requisite for receiving certain forms of Federal disaster assistance.

Mineral County began this planning process in October 2010, and the time has come to review and update these plans. The county anticipates submittal of the draft plan, with updates, to the Board of county commissioners for adoption toward the end of 2016.

Public comments and participation is welcomed. For additional information, request to participate, or to submit comments, please contact Chief T.C. Knight, Mineral County Fire Department or Patrick Hughes, Mineral County Emergency Manager at 775-945-2497 or mail to phughes@mineralcountynv.org.

FILED UNDER: NEWS
TAGGED WITH: NEVADA

NEWSLETTER

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DISCUSSION

Letter To The Editor
Letters to the Editor
Letters to the Editor

RECENT COMMENTS

Jason Altman on Governor threatens suit over wild horse overpopulation
sandi Freyermuth on Lyda E. Belzer
Linda Young on Lions Club to sell AFD pins
Kathy (O'Donovan) Treece on Lions Club to sell AFD pins
Rick Brown on Glenn Bunch named Elks Citizen of the Year

Mineral County Independent-News

P.O. Box 1270 – 420 Third St., Ste B, Hawthorne, NV 89415
Phone: (775) 945-2414 Fax: (775) 945-1270

BATTLE BORN MEDIA, LLC

AFFIDAVIAT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF MINERAL)

On this ___7th ___ day of July, 2016, before me, County Clerk in and for the County of Mineral, State of Nevada, personally appeared Amanda Holland, of the ***Mineral County Independent-News***, who being first duly sworn, on her oath, states:

That she is an employee of ***Mineral County Independent-News***, a weekly newspaper of general circulation in Mineral County, Nevada and generally circulated throughout the state of Nevada, published in the Town of Hawthorne, Mineral County, Nevada. That she is in charge of the affidavits of publication for said newspaper.

That the attached Legal Notice was published in the said ***Mineral County Independent-News*** _One__ consecutive issues, in the regular weekly and in each of the following issues thereafter: the date of the last publication being July 7th, 2016.

Amanda Holland

Subscribed and sworn to before me, this
___7th___ day of July, 2016

ATTEST:

Christopher Nepper, Mineral County Clerk

(SEAL IMPRESSION)

Mineral County and the Local Emergency Planning Committee

In recent years, nature has been restless in and around Nevada; there has been swarms of earthquakes rattling the western portion of the State and immediately adjacent to Mineral County, the increases threat of flash flooding, and the ravishing wildland fires throughout the state as well as throughout our western neighboring States. All of these emergency events have demonstrated to us all that Mineral County can be vulnerable to disasters, including earthquakes, floods, and wildland fires. The risks posed by these hazards will continue to increase as the County's population continues to grow.

The Mineral County Local Emergency Planning Committee, in conjunction with the Nevada Department of Public Safety, have launched a planning effort, known as the Hazard Mitigation Plan, to assess risks posed by natural disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a pre-requisite for receiving certain forms of Federal disaster assistance.

Questionnaire

MINERAL COUNTY HAZARD MITIGATION QUESTIONNAIRE

This questionnaire is designed to help the Mineral County Hazard Mitigation Planning Committee identify the community's concerns about natural and human-caused hazards. The questionnaire should be completed by an adult, preferably the homeowner or the head of the household and returned to the address at the bottom of the page. All individual responses are strictly confidential and for research purposes only. ***Questions call Patrick Hughes at (775) 945-2497.***

GENERAL HOUSEHOLD INFORMATION

1. RESIDENT (Y/N)? _____ # YEARS IN COUNTY? 0-1 ____ 2-5_____ 6-10_____ 11 or more_____

2. Have you experienced any of the natural hazards listed below?

Natural				Human Caused	
	Floods		Avalanche		Hazardous Materials Release
	Wild Fire		Health Alert/Mass Disease		Terrorism
	Earthquake		Landslide		
	Severe Weather		Infestation		
	Drought		Volcano		

3. What is the most effective way for you to receive information about how to make your home safer from natural disasters? ***(Check all that apply)***

□ Newspaper □ Internet □ Radio □ Public Meetings
□ Television □ Utility Bill □ Mail □ Billboard

4. In the following list, please check those activities that apply.

Have you or someone in your household:	Check all that apply
Attended meetings or received written information on natural disasters or emergency preparedness?	
Talked with family members about what to do in case of a disaster or emergency?	
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	
Prepared a "Disaster Supply Kit" (extra food, water, medications, batteries, first aid items and other emergency supplies)?	
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	

5. Is your property located in or near a FEMA designated floodplain? _____Do you carry flood insurance?_____

Please return questionnaire via EMAIL to phughes@mineralcountynv.org or MAIL to
MINERAL COUNTY EMERGENCY MANAGER, P.O. Box 1095, 418 Mineral Way, Hawthorne, Nevada 89415 by August 1, 2016.

6. What modifications for earthquakes and/or floods have you made to your home? (***Check all that apply)***

	Nonstructural		Structural
	Anchor bookcases, cabinets to wall		Secure home to foundation
	Secure water heater to wall		Brace inside of cripple wall with sheathing
	Install latches on drawers/cabinets		Brace unreinforced chimney
	Fit gas appliances with flexible connections		Brace unreinforced masonry & concrete walls and foundations
	Flood proof		Elevate home
	Other _____		

7. Do you support policies to restrict or prohibit development in designated hazard zones?

Communitywide Strategies	Check one
Development should be prohibited in these zones	
Development should be restricted in these zones.	
Development should be restricted only where "severe risk" exists	
Development should NOT be restricted in hazard zones	
I don't know.	

8. Please rank how prepared you feel you and your household are for the probable impacts of natural hazard events. Rank on a scale of **1 to 5** with 5 being the most prepared. _____

9. Other Comments:

Please return questionnaire via EMAIL to phughes@mineralcountynv.org or MAIL to MINERAL COUNTY EMERGENCY MANAGER, P.O. Box 1095, 418 Mineral Way, Hawthorne, Nevada 89415 by August 1, 2016.

Mineral County Quesstionnaire Results

1. Responses from Residents - Years in County	35								
		<2	2-5 Years	6-10 Years	11+	Non Resident			
		5	2	4	22	1			
2. Natural Hazard Experienced	Flood	WF	EQ	SW	Drought	Infestation	Health	Land Slide	Haz Mat	Terrorism
	13	10	22	18	17	4	2	2	8	3
3. Information Dispersal	Newspaper	TV	Internet	Utility Bill	Mail	Radio	Meeting	Billboard		
	17	23	24	7	11	8	6	2		
4. Have you or someone in your household...	Yes								
A. Attended meetings on disasters?	18								
B. Talked with family...what to do?	23								
C. Developed household E Plan?	15								
D. Prepared Disaster Supply Kit?	13								
E. Trained in First Aid/CPR?	11								
5. Is Property...									
A. In or near flooplain?	Yes	No							
	11	12							
B. Have flood insurance?	Yes	No							
	5	19							
6. Modifications for Earthquake or Flood									
Non-structural									
A. Anchore bookcases, cabinets?	7								
B. Secure water heater to wall?	17								
C. Install latches on drawers/cabinets?	4								
D. Fit gas appliances w/flexible hose?	17								
E. Flood proof?	2								
Structural									
A. Secure home to foundation?	10								
B. Brace inside of cripple wall w/sheathing?	2								
C. Brace unreinforced chimney?	3								
D. Brace unreinforced masonry, concrete & foundations?	2								
E. Elevate home?	4								
7. Support policies to restrict deelopment in hazard zones?									
A. Should be prohibited in zones?	9								
B. Should be restricted in zones?	8								
C. Should be restricted where "severe risk" exists?	9								
D. Should NOT be restricted in zones?	2								
E. I don't know.	4								
8. Rank how prepared you and your household are for impact.	1	2	3	4	5				
	2	8	8	8	2				

Comments:

Went to an earthquake class through the county.

Problem with development in hazard zones is then you find the gov (or some clerk in the gov) using this as a way to get soemthing else as in more restricted areas in Nevada.

Appendix D
Meeting Agendas & Handouts

Members of the Nevada Hazard Mitigation Planning Committee
Febuary 23, 2016 MEETING – Hawthorne, NV

1

1. Clark County Emergency Management
Ryan Turner
City of Henderson Emergency Mgmt.
240 Water Street
Henderson, NV 89015
(702) 267-2212
Fax: (702) 267-2223
Ryan.Turner@cityofhenderson.com

2. Washoe County Emergency Management
Aaron Kenneston
Emergency Manager
5195 Spectrum Blvd.
Reno, NV 89512
775-337-5898
775-742-6944 (cell)
akenneston@washoecounty.us

3. Rural County Emergency Management
Vance Payne
Nye County Emergency Manager
1510 E. Siri Lane, Suite 100
Pahrump, NV 89060
775-751-4278
775-209-6861 (cell)
vpayne@co.nye.nv.us

4. Local or Multi-Jurisdictional Emergency Management
Rick Diebold
Las Vegas OEM
7551 Sauer
Las Vegas, NV 89128
702-229-0067
702-429-3814 cell
rdiebold@lasvegasnevada.gov

5. Local or Multi-Jurisdictional Floodplain Management – Northern Nevada
Robert D. Fellows, P.E.
Senior Project Manager,
Chief Stormwater Engineer,
Floodplain, CRS & NPDES Manager
Carson City Public Works
3505 Butti Way
Carson City, NV 89701
775-283-7370
fax 775-887-2164
Rfellows@carson.org

6. Local or Multi-Jurisdictional Floodplain Management – Southern Nevada
Andrew Trelease
Clark County Regional Flood Control District
600 South Grand Central Parkway, #300
Las Vegas, NV 89106-4511
702-685-0000
702-683-5467 cell
ATrelease@regionalflood.org

7. Nevada Bureau of Mines and Geology
Craig dePolo
Nevada Bureau of Mines and Geology
University of Nevada, Reno/MS 178
Reno, Nevada 89557-0088
775-682-8746
Fax: 775-784-1709
cdepolo@unr.edu
eq_dude@sbcglobal.net

8. Nevada Department of Conservation and Natural Resources/Division of Forestry
VACANT
Jean and Three Lakes Valley Camps
4747 West Vegas Dr.
Las Vegas, NV 89108

(cell)
@forestry.nv.gov

9. Nevada Department of Conservation and Natural Resources/Division of Water Resources
Vacant
Floodplain Manager
901 S. Stewart St., Suite 2002
Carson City, NV 89701
775-624-2847
rkpalmer@water.nv.gov

10. Nevada Department of Transportation
Rob Palmer
NDOT, Maintenance and Operations Division
1263 South Stewart St Room 211
Carson City, NV 89712
775-888-7862
Fax: 775-888-7211

Grey shade = updates made last meeting

(continued on next page)

F:\Shared\PROGRAMS SECTION\MITIGATION\NHMPC\Members\2016\NHMPC List Feb 2016.doc
Rev 9-Feb-16

Nevada Hazard Mitigation Planning Committee

Meeting of: February 23, 2016 - MEETING – Hawthorne, NV

Guests

NAME	Organization	Email	Phone Number
Jeremy Hynds	City of Henderson	Jeremy.hyndse cityofhenderson.com	702-267-2339
Stephanie Hicks	RO Anderson	shicks@roandersoncem	775-215-5042
Adam Krause	WRSTeam	AKrause@washoecounty.us	775 742-6944
Rick MARTIN	NDEM	rmartin@dps.state.nv.us	775. 687.0306
Joyce Brown	Soc MCLEAC	joycebrownolz@hotmail	775-945-3725
Bunny Bishop	NDWR	bbishop@water.nv.gov	775 684-2834
Cynthia Oceguera	WRPT	Cynthiaoceguera8a@gmail.com	972.890.7302
Michael Taylor	Mineral County	MCpublichlie@ATT.NET	775-945-3897
Tony Hughes	MCSN	tshutterbug@sbcglobal.net	7754945-255
T.C. Knight	Mineral County Fire	firechief@mineralcountynv.org	775-945-2497
Wanda Nixon	MC-CHH	WNixon@health.nv.gov	775 945-3657
Larry Grant	Hawthorne Utilities	lg89415@gmail.com	775-945-0582
Timothy E Rutherford	Hawthorne Army Depot Fire	timothy.rutherford@soc-usa.com	775 316 0724
Robert Weaver	Mineral Fire	FireCaptainWeaver@Gmail.com	775 315677 0

Nevada Hazard Mitigation Planning Committee

Meeting of: February 23, 2016 - MEETING – Hawthorne, NV

Guests

NAME	Organization	Email	Phone Number
Mike Fontaine	MC Building Official	mfontaine@mineralcountynv.org	775-316-0145
Mike Trujillo	MC Public Works Dir	MCPublicWorks@att.net	775-945-3897
Bill Fogarty	MCSO	bfogarty@MineralCountyNV.org	775-945-1047

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: Tuesday, February 23, 2016 10:00 am

Print Name	Signature
Joyce Brown	Joyce Brown
Bunky Bishop	
Cynthia Ocegueda	WORT
Michael Trujillo	
Tony Hughes	
T.S. Knight	
W. Nixon RN.	
Larry Grant	
Timothy F Rutherford	
Michael Henderson	
Stephanie A. Hicks	Stephanie A Hicks
Rick Diebold	(City of Lovelock)
Terri Garside	
Andrew Trujillo	
Robert Fellows	
Robin Palmer (NDOT)	
Ron Lynn	
Craig DePolo	
Dan Houlihan	
B. Jim Reagan	
Aaron Kenneston	
Mike Fontaine	
Rick Martin	
Bill Ferguson	

STATE OF NEVADA
MEETING NOTICE AND AGENDA
NEVADA HAZARD MITIGATION PLANNING COMMITTEE

Name of Organization: **NEVADA HAZARD MITIGATION PLANNING COMMITTEE**

Date and Time of Meeting: **Tuesday, February 23, 2016 at 9:00am**

Location
Mineral County Fire Department
418 Mineral Road
Hawthorne, NV

The Committee may take action on items marked "For Possible Action." Items may be taken out of the order presented on the agenda at the discretion of the chairperson. Items may be combined for consideration by the Committee at the discretion of the chairperson. Items may be pulled or removed from the agenda at any time.

Please Note: Witnesses wishing to have their complete testimony/handouts included in the permanent record of this meeting should provide a written or electronic copy to the Nevada Hazard Mitigation Planning Committee (NHMPC) administrative support staff. Minutes of the meeting are produced in a summary format and are not verbatim.

1. **CALL TO ORDER, INTRODUCTIONS AND ESTABLISH QUORUM**– Chair, Dr. Craig dePolo

2. **PUBLIC COMMENT** – No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments may be limited to 3 minutes per person at the discretion of the Chair. Comments will not be restricted based on viewpoint.

3. **APPROVAL OF MINUTES** – (Discussion/For Possible Action) – Chair, Dr. Craig dePolo. This agenda item will discuss whether to approve the minutes of the November 19, 2015 Nevada Hazard Mitigation Planning Committee meeting.

4. **CHANGE TO BY LAWS** – (Discussion & Possible Action) – Dr. Craig dePolo. The Committee will review the By-Law wording change to add a Tribal Representative to the membership and allow a non-Committee member Chair a Sub-Committee.

5. **REPORT ON THE STATUS OF OPEN PRE-DISASTER MITIGATION AND HAZARD MITIGATION GRANT PROGRAM ALLOCATED NEVADA GRANTS** - (Discussion only) – Karen Johnson, Nevada Division of Emergency Management – Ms. Johnson will provide an update on the status of open pre-disaster mitigation and hazard mitigation grant programs to the committee.

6. **UNR, BUREAU OF MINES & GEOLOGY PRESENTATION REGARDING EARTHQUAKE VULNERBILITY -** (Discussion Only) – Dr. Craig dePolo, Geologist, Bureau of Mines & Geology. Dr. DePolo will brief the committee on the Mineral County earthquake history and vulnerability.

7. **MINERAL COUNTY HAZARD PRESENTATION** – (Discussion Only) – Emergency Manager - Mr. Patrick Hughes & Mineral County Flood Plain Manager - Mike Fontaine - will brief the committee on area hazards.

8. **STATUS OF MINERAL COUNTY HAZARD MITIGATION PLAN** – (Discussion Only) – Karen Johnson, NV Division of Emergency Management – Ms. Johnson will provide a status of the current HMP and discuss the process to update the plan.

9. **NEVADA EARTHQUAKE SAFETY COUNCIL REPORT** – (Discussion Only) – Ron Lynn, Nevada Earthquake Safety Council, Chair – Mr. Lynn will provide a report on the Nevada Earthquake Safety Council for the committee.

10. **ANNOUNCEMENT OF FUTURE MEETINGS** – (Discussion Only) – Chair, Dr. Craig dePolo
    Battle Mountain – May 5, 2016
    Las Vegas – TBD
    Ely – November 3, 2016

11. **PUBLIC COMMENT** – No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments may be limited to 3 minutes per person at the discretion of the Chair. Comments will not be restricted based on viewpoint.

12. **ADJOURN** – (Discussion/For Possible Action)

This is a public meeting. In conformance with the Nevada Public Meeting Law, this agenda was posted or caused to be posted on or before 9:00 a.m. on 2/17/2015 at the following locations:

Clark County Department of Development Services, 4701 West Russell Road, Las Vegas, NV;
Clark County Government Center, 500 South Grand Central Parkway, Las Vegas, NV;
Nevada Bureau of Mines and Geology, 1664 North Virginia Street, Reno, NV;
Nevada Division of Emergency Management, 2478 Fairview Drive, Carson City, NV;
Posted to the NV Department of Public Safety Division of Emergency Management and Homeland Security web site located at: http://www.dem.nv.gov
Mineral County Fire Department, 418 Mineral Road, Hawthorne, NV;

We are pleased to make reasonable accommodations for members of the public who are disabled. If special arrangements for the meeting are necessary, or if there is a need to obtain copies of any supporting meeting materials, please contact Karen Johnson at the Nevada Division of Emergency Management, (775) 687-0300. 24-hour advance notice is requested. Thank you.

Meeting Minutes
Nevada Hazard Mitigation Planning Committee

Attendance	**DATE**	Tuesday, February 23, 2015
	TIME	9:00 AM
	LOCATION	Mineral Fire Station 418 Mineral R. Hawthorne, NV
	METHOD	
	RECORDER	Karen Johnson

Committee Members	**Present**	**Staff and Others**	**Present**
Ryan Turner		Rick Martin (NDEM Staff)	X
Aaron Kenneston	X	Karen Johnson (NDEM Staff)	X
Vance Payne	10.1	Bunny Souza (NDWR)	X
Rick Diebold	10.2 X	Jeremy Hynds (Henderson EM)	X
Robb Fellows	10.3 X	Dan Hourihan (ITERC)	X
Andrew Trelease	10.4 X	Stephanie Hicks	X
Craig dePolo	10.5 X	Joyce Brown (Mineral LEPC sec)	X
Rob Palmer	10.6 X	Cynthia Oceguera (Walker River Paiute Tribe)	X
NDWR Vacant	10.7	Michael Trujillo (Mineral Public Works)	X
Ron Lynn	10.8 X	Tony Hughes (Mineral Fire)	X
Jim Reagan	10.9 X	TC Knight (Mineral Fire)	X
Terri Garside	10.10 X	Wanda Nixon (Mineral Health)	X
	10.11	Larry Grant (Hawthorne Utility)	X
	10.12	Timothy Rutherford (Army Depot Fire)	X
	10.13	Mike Fontaine (Mineral Building)	X
	10.14	Ron Utns	X
	10.15	Robert Weaver (Mineral Fire)	X
	10.16	Bill Ferguson (Mineral School District)	X
	10.17	Henna Rasul, AG's Office, Reno	PHONE

1. CALL TO ORDER, INTRODUCTIONS AND ESTABLISH QUORUM -

Chair, Craig dePolo, called the NHMPC meeting to order. Roll call was performed. Quorum was established for the meeting.

2. PUBLIC COMMENT

Craig dePolo opened the meeting for public comment. No comment.

3. APPROVAL OF MINUTES

Craig dePolo asked for a motion to approve the meeting minutes from the Nevada Hazard Mitigation Planning Committee (NHMPC) meeting held November 19, 2015. Ron Lynn moved and Rick Diebold seconded. Craig dePolo requested UNR, Bureau of Mines be changed to Nevada Bureau of Mines & Geology. The motion passed unanimously.

4. CHANGE TO BY LAWS

Craig discussed the two changes; Section III Membership - adding a 15th member representing the Tribes and Section VI Subcommittees – deleting the requirement that a subcommittee chair be a member of the NHMPC. Ron Lynn suggested they separate the two items for discussion and motioned with Aaron Kenneston seconding. A vote was taken to separate the items and approved unanimously. Motion to take up first item by Ron Lynn with Rob Fellows seconding. Discussion ensued on the positive aspects of having the Tribes involved. Dan provided his back ground and welcomed the opportunity to represent the Tribes on the Committee. A vote was taken to add a Tribal membership and passed unanimously.

Section VI Subcommittee - Ron Lynn made a motion and Terri Garside seconded to modify the draft language to allow a non NHMPC member but to require at least one NHMPC member to be a member of the Subcommittee to be appointed by the Chair. This would allow NHMPC to have a direct liaison. Craig dePolo stated this allowed Jim Walker to remain as Chair but the subcommittee will still have representation from NHMPC. Karen Johnson stated she would provide an update to the State HMP schedule at the next meeting. A vote was taken with one nay (Aaron Kenneston) and the rest approved. Motion carried.

5. REPORT ON THE STATUS OF OPEN PRE-DISASTER MITIGATION AND HAZARD MITIGATION GRANT PROGRAM ALLOCATED NEVADA GRANTS

Karen Johnson, Nevada Division of Emergency Management, gave an overview and update of the open pre-disaster mitigation and hazard mitigation grants (see attached). Ms. Johnson gave an update on the status of each open grant.

An update of the HMA Tri-fold was provided to the committee and the timeline was discussed. PDM & FMA 2016 program priorities were provided along a timeline. A list of the possible grant applications/projects that NDEM is currently in discussions with jurisdictions within NV was discussed and is attached. Karen Johnson invited Mineral Co. to work with her on any projects they may want to get funded.

Reminder of the May 5th meeting in Battle Mountain. Craig suggested June 7th, Tuesday to meeting in Reno or Las Vegas to hear presentation on applications and prioritize the applications. Ron Lynn will not be able to attend.

6. NEVADA BUREAU OF MINES & GEOLOGY (NBMG) PRESENTATION REGARDING EARTHQUAKE VULNERABILITY (Discussion only)

Chairman dePolo briefed the committee on the Mineral County earthquake history and current vulnerability.

NHMPC is about reducing risk in NV. Earquake activity is up in the last year, 17000-19000. Twice the recent norm. NV is an earthquake active state, with about 220,000 earthquakes recorded in the State. Earthquakes are considered one of the highest hazards in the State.
For this area, I looked at My Hazard/My Plan website, where you can click on individual sites for detail. If he just views the 4.0 magnitude and greater, Mineral County is quite active. The larger earthquakes appear in belts generally. The belts define the tectonics. 1954 Dixie Valley Fairview Peaks earthquake appeared on the belt. The Walker Lane and Central Valley belts with Mineral Co. right in the middle of both.

Three major earthquakes in NV 1915, 1932 and 1954. We just celebrated the centennial of the biggest earthquake in Nevada in 1915 Oct. 2nd, which mostly affected rural NV with ranches having major damage. 1932 may have caused damage to Mineral Courthouse.

Craig dePolo showed maps of recent seismic activity in the County and historical swarms. The area is active currently and more active than other areas in NV. Due to activity Mineral would be in top 5 areas of the State that is more at risk to a larger earthquake. Craig dePolo provided definition of dip/slip faults and strike/slip faults. Planning for future and not building on top of faults will reduce risk and damage.

Retrofitting buildings or changing occupancy is a long term discussion with the community to reduce damage. Placing a plaque on the building may allow people to move away from a dangerous building during an earthquake.

We haven't had a major one in a while, since 1960 (except for Wells earthquake). A comment made at the NESC indicates that earthquakes are generational, but that's not necessarily true. We have had earthquakes year after year, some with high magnitudes, and are in an active earthquake state, similar to the number in California. But we haven't had a significant one in a while and this provides a situation of low belief in our top hazard and this reduces the awareness of the danger. The safety leaders are responsible to motivate society and decision makers to provide messaging. The number one is Drop Cover and Hold. The second is check on your neighbors which may reduce the number of 911 calls. Be prepared for 5 days of being on your own. Participate in the Great NV Shakeout.

Five step earthquake safety; 1. Take care of content hazards (move the heavy objects to lower areas). 2. Prepare disaster kit. 3. Prepare a disaster plan. 4. Retrofit buildings

Mineral has a 6% chance of having an earthquake and that is elevated and should motivate you to take action. Influence people to take action by taking action yourself. Champion the action. Talk with a consistent message. Repeat your message at least 9 times (participate in the Great NV Shakeout).

7. **MINERAL COUNTY HAZARD PRESENTATIONS** (Discussion Only)

TC Knight provided a discussion of the identified primary hazard concerns. The population is approx. 3,800 +. Earthquake is the only high risk. Moderate risks are drought, flood severe weather, volcano and wildfire. Low risk is Hazardous materials are traveling along the 95 corridor and they would pose a risk to the County as well. Very low risk is land subsidence and infestation. Last August Hawthorne had a severe wind event along with some flooding events.

Mike Fontaine, Flood Plain Manager gave a presentation on the flood risk and his work at enforcing the building code. Two types of flood in the area, sheet flow in town due to slope of town and concrete without storm drains and flash floods. There has been road damage due to flash floods. Cars are at danger to 6" of water flowing quickly. The roads are the drainage system so the flood waters go onto the roads. The finished floors of houses are 1' higher than crown of road. NFIP requires homeowners to certify home elevation through surveys. These cost approximately $600-$1500 and are out of the financial resources of homeowners. FEMA mapping is not correct and Mineral is in the process of requesting FEMA to re-map the area. He suggests being prepared, don't drive through flood waters and tie down the propane tank to reduce damage. Be aware and be smart.

TC Knight states that flood insurance increased and people don't buy into the flood maps. They requested FEMA to ground truth Hawthorne. People don't have faith in the system when the area required to pay flood insurance is different than the area that floods every year. The date of FEMA maps is 2011.

Rob Palmer stated that NV Division of Water Resources requested that Hawthorne be a priority to be remapped/studied.

Karen Johnson stated that the Mineral Hazard Mitigation Plan

8. **Status of Mineral County Hazard Mitigation Plan –** (Discussion only)—

Karen Johnson state the current plan will expire in 2017 and introduced Stephanie Hicks who is working for NDEM and will assist Mineral in updating the hazard mitigation plan. She reminded Mineral Co. that mitigation action which the County may want to apply for funding needs to be included in the mitigation actions in the plan.

9. NEVADA EARTHQUAKE SAFETY COUNCIL REPORT– (Discussion only)—

Ron Lynn, Nevada Earthquake Safety Council (NESC), Chair—Mr. Lynn provided a report on the NESC for the committee**.** The Feb 10th meeting was a joint meeting with the States of Utah and Idaho present. Vigilant Guard 17 is being held in November. Ron Lynn and Graham Kent went to Napa to review damage. Business testimony (small businesses) not significant building damage but sprinklers ruptured and keys to turn off were not available and devastated businesses. New policy under discussion regarding schools used as critical facilities after an event. If using a school as a facility for response then the school should be new or retrofitted. Contents should be reviewed to make sure they are not harmful.

UNR, Seismo Lab is looking at adding equipment for information on earthquakes by adding a camera and partnering with fire folks for early warning systems. Ron Lynn says changing building is a more sustainable way of protecting people.

Seismic Society American Conference meeting will be held in April in Reno.

Living with Earthquakes in Nevada provides information on what can be done to lower risk. Contents retrofit was done in Clark County Building Dept. and cost approximately $0.29/sq. ft. Clark Co. used the records from Assessor's office on Un-reinforced masonry (URM) buildings. Less than half were determined to be URMs. Ron Lynn recommends using a placard on the building for first responders to be aware of danger after an earthquake.

10. ADJOURN

Craig dePolo adjourned the meeting.

Eligible Activities	HMGP	PDM	FMA
1. Mitigation Projects	✔	✔	✔
Property Acquisition and Structure Demolition	✔	✔	✔
Property Acquisition and Structure Relocation	✔	✔	✔
Structure Elevation	✔	✔	✔
Mitigation Reconstruction	✔	✔	✔
Dry Floodproofing of Historic Residential Structures	✔	✔	✔
Dry Floodproofing of Non-Residential Structures	✔	✔	✔
Generators	✔	✔	
Localized Flood Risk Reduction Projects	✔	✔	✔
Non-Localized Flood Risk Reduction Projects	✔	✔	
Structural Retrofitting of Existing Buildings	✔	✔	✔
Non-Structural Retrofitting of Existing Buildings and Facilities	✔	✔	✔
Safe Room Construction	✔	✔	
Wind Retrofit for One- and Two-Family Residences	✔	✔	
Infrastructure Retrofit	✔	✔	✔
Soil Stabilization	✔	✔	✔
Wildfire Mitigation	✔	✔	
Post-Disaster Code Enforcement	✔		
Advance Assistance	✔		
5 Percent Initiative Projects	✔		
Miscellaneous/Other	✔	✔	✔
2. Hazard Mitigation Planning	✔	✔	✔
Planning-Related Activities	✔		
3. Technical Assistance			✔
4. Management Costs	✔	✔	✔

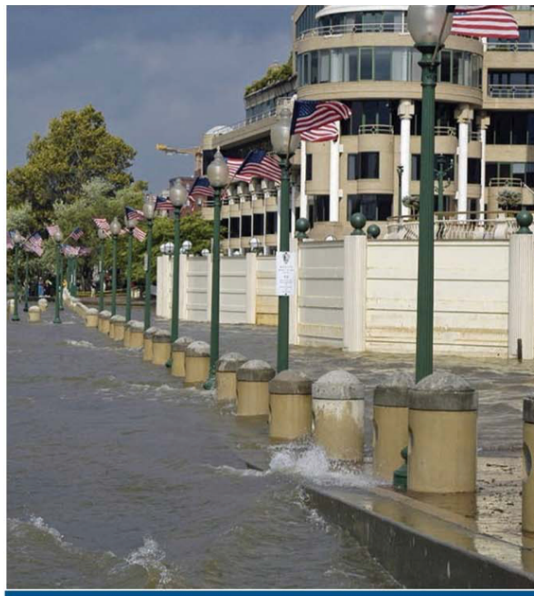
NevadaContact:PDM,HMGP,FMA
Karen Johnson
Nevada Division of Emergency Management
(775) 687.0373 - Kijohnson@dps.state.nv.us

Dates & Deadlines HMA 2016 TBD

February 2016	FEMA publication of HMA Guidelines (all future dates dependent on publication date)
February 2016	FEMA application period opens
March 1, 2016	Notice of Interest forms due to NDEM
March 1, 2016	Establish eGrants access
March 15, 2016	Complete SOW & BCA
TBD	NHMPC meeting - Presentation to NHMPC & Ranking
June 1, 2016	Full Application Package with backup documentation in eGrants
June 14, 2016	State submits application in eGrants to FEMA, application period closes

NDEM Mitigation: http://dem.nv.gov/About/RandM/
HMA Helpline: 1-866-222-3580
FEMA eGrants Helpdesk: 1-855-228-3362
Benefit-Cost Analysis Helpline: BCHelpline@fema.dhs.gov

www.NevadaFloods.org



Hazard Mitigation Assistance Program in Nevada

HMGP HAZARD MITIGATION GRANT PROGRAM
PDM PRE-DISASTER MITIGATION
FMA FLOOD MITIGATION ASSISTANCE

FEMA

Hazard Mitigation Assistance (HMA)

The Federal Emergency Management Agency's (FEMA) HMA programs provide funds for projects that reduce the risk to individuals and property from natural hazards. These programs enable mitigation measures to be implemented before, during, and after disaster recovery.

Hazard Mitigation Grant Program (HMGP)
The HMGP provides funding for long-term hazard mitigation measures following major disaster declarations.
Funding is available to implement projects in accordance with State, territorial, federally-recognized tribal, and local priorities.

Pre-Disaster Mitigation (PDM) The PDM program provides funds on an annual basis for hazard mitigation planning and the implementation of mitigation projects. FEMA provides funding for measures to reduce or eliminate overall risk from natural hazards.

Flood Mitigation Assistance (FMA) The FMA program provides funds on an annual basis so that measures can be taken to reduce or eliminate the risk of flood damage to buildings insured under the National Flood Insurance Program (NFIP). The long-term goal of FMA is to reduce or eliminate claims under the NFIP through mitigation activities.

What are the roles of local communities, federally-recognized tribes, territories, States, and FEMA?

Local jurisdictions develop projects that could reduce property damage from future disasters, and submit applications to the State, territory, or federally-recognized tribes.

The States, territories, and federally-recognized tribes (acting as Applicants) establish their mitigation priorities, facilitate the development of applications, and submit applications to FEMA based on State, territorial, or federally-recognized tribal criteria and available funding.

FEMA conducts a final eligibility review to ensure compliance with Federal regulations. Projects must comply with Federal environmental laws and regulations, be cost-effective, technically feasible, and meet additional program criteria.

What are the roles of home and business owners?

Individuals, property and business owners may not apply directly to the State, territory, or FEMA, but eligible local governments may apply on their behalf.

FEMA encourages property and business owners interested in implementing mitigation activities to contact their local community planning, emergency management, or hazard mitigation office for more information.

www.fema.gov/government/grant/pdm/index.shtm

Living With Fire

Who is eligible to apply?

Local governments, State entities, and Federally Recognized Tribal Entities

Certain private nonprofit organizations

Cost Sharing

HMA program funds are cost-shared. The total cost to implement approved mitigation activities is generally funded by a combination of Federal and non-Federal sources.

Program Cost Share Requirements	Mitigation Activity Award (Percent of Federal/ Non-Federal Share)
HMGP	75 / 25
PDM	75 / 25
PDM (sub recipient is small impoverished community)	90 / 10
PDM (federally-recognized tribal Recipient is small impoverished community)	90 / 10
FMA (Insured properties and planning grants)	75 / 25
FMA (repetitive loss property with repetitive loss strategy)	90 / 10
FMA (severe repetitive loss property with repetitive loss strategy)	100 / 0

www.NevadaFloods.org

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman	**Robert Mathias/Member**	**Timothy Rutherford, SOC/**
Patrick Hughes, MC Emergency Mgr	**Mike Trujillo/Eric Hamrey**	**Ast. Chief on Duty**
Paul Macbeth, Cmsnr Liaison	**Larry Grant/George Dean**	
M. J. Dykshoorn	**Tony Hughes/Heidi Bunch**	
William Ferguson/Brian Dillard	**Wanda Nixon**	

MEETING AGENDA
POSTED
April 5, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Tuesday, April 12, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:
Update sheets: to members to be filled out and returned.

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of March 8, 2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
3. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
4. **Mineral County Hazard Mitigation Plan Update, Karen Johnson, NV Division of Emergency Management and Stephanie Hicks, NV Division of Emergency Management:** will provide a review of the Planning Process, review and discussion of the Community Profile and Earthquake sections of the Hazard Mitigation Plan with possible action on updating said plan, new events/mapping/priorities/grant opportunities/projects in plan and justifications for each. (Public Comment)
5. **Grant submission**: for review, discussion and possible action on any and all grants to including setting new priorities for grant submissions, report on action by MC Board of Commissioners concerning returning of grant purchased Vehicle from Building Inspector. (Public Comment)

6. **Confirmation and/or changes to meeting day/date/time:** discussion and possible action. (Public Comment)
7. **Public Comment**
8. **Adjournment**

Public Comment: (Non-action item) No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments are limited to three minutes unless the Committee elects to extend the comment for purposes of further discussion. Comments will not be restricted based on viewpoint.

Note: Persons attending the meeting who are disabled and require special accommodations or assistance are requested to notify the County Clerk's Office, P O Box 1450, Hawthorne, NV, 89415 or by calling 775-945-2446 no later than three (3) days before the meeting.

In accordance with Federal law and the U. S. Department of Agriculture policy, Mineral County is prohibited from discriminating on the basis of race, color, national origin, sex, religion, age, disability (not all prohibited bases apply to all programs). To file a complaint of discrimination, write to USDA, Director, Office of Civil rights, 1440 Independence Avenue, S. W., Washington DC 20250-9410 or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider, employer and lender.

Posted: Lobby of Mineral County Courthouse, Hawthorne, NV, Mineral County Fire Dept., 418 Mineral Way, Hawthorne, NV, Hawthorne Post Office, Mineral County Independent News, Fifth and D. St., Hawthorne, NV, Hawthorne Utilities Office.

Respectfully submitted by Joyce Brown, Secretary, MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
April 12, 2016

Draft waiting for approval

Call to order: Meeting called to order by TC Knight at 9:00 am.

Introductions and roll call:
MCLEPC Members present: Chairman Knight, Mike Trujillo, Wanda Nixon, Paul Macbeth, Patrick Hughes, Tony Hughes, Brian Dillard, Tim Rutherford, Larry Grant (prospective member-Adam Greenfield and Joyce Brown, Secretary.
Members absent: Rob Mathias, MJ Dykshoorn, and Bill Ferguson
Guest Speakers: Karen Johnson, NDEM and Cynthia Oceguera, WRPT

Approval of Minutes for March 8, 2016: No corrections were tendered and a motion to approve the minutes of March 8, 2016 was made by Larry Grant, seconded Mike Trujillo, with no public comment the motion was passed 9 yeas, 0 nays.

Correspondence and LEPC Reports: Patrick Hughes: a. Notification of a Poker Run for Art Johnson; b. Continuation of work on Environmental Protection project at Walker Lake test range—Tim Rutherford will get more information; c. Application to become a member of MCLEPC by Adam Greenfield, qualifications and experience read, discussion and the following motion was made by Mike Trujillo, seconded by Larry Grant, motion carried 8 yeas, 0 nay and 1 abstention by Paul MacBeth:

The MCLEPC recommend approval by the Mineral County Board of Commissioners of the application by Adam Greenfield to become a member of the MCLEPC, filling the "First Aid" slot in membership.

*May meeting: determine "roll—First Aid" qualifications and proxy, report--Tim Rutherford.

Approval of Accounts Payable, Vouchers, Purchase Orders and Auditor's Cash Report by Fund: Joyce Brown's Secretarial voucher for the first quarter was submitted for approval, discussion as to whether it had to be approved by the Committee was brought up, reasoning being that it was already part of the contract, Paul MacBeth wanted the process simplified. Patrick Hughes stated he would look into it. Motion made to approve voucher made by Mike Trujillo, Wanda Nixon seconded it, motion carried 8 yeas, 0 nays and 1 abstention by Paul MacBeth.
*Agenda May meeting.

Presentation by Karen Johnson and Cynthia Oceguera—MC Hazard Mitigation Plan Update: Plan was passed out to members for review, include Schurz in title. In order to qualify for FEMA grants, county must have a plan; grants can be for prevention or funding public works, roads etc. Project(s) must be identified in the plan. Concerns were addressed about the "levy." Karen went over

areas of the plan and some changes were suggested. Cynthia Oceguera representing Schurz explained changes EMS federal regulations and grants relationship with the BIA. The partnership between Mineral County emergency services and those of the Schurz Tribe should be properly documented. Analysis and discussions on 3-1, 5-3, suggestions: under each hazard explain relationship with or effect of climate change; also include a benefit vs cost analysis. Members were asked to review the plan and there would be further meetings to go over the plan.
(Brian Dillard left at 10:10 am)

Grant Submission: Patrick Hughes—discussion as to where the second sign should be placed and have the best effect, suggestions were Library, by Safeway, by Airport and by where the "Babbitt Landmark" is to be placed. The sign needed power and an easement. Suggestions for placement be explored further and brought to next meeting. Priorities for grants to be standing agenda item.
*Agenda May meeting.

Public Comment: Larry Grant asked to bring to the May meeting—Far West Engineering GIS to explain a system to identify any "address/location" of an emergency.
*Agenda May meeting
Adjournment: Motion to adjourn made by Mike Trujillo, seconded by Larry Grant, motion carried 8 yeas to 0 nays.

Respectfully submitted by Joyce Brown, Secretary MCLEPC

MINERAL COUNTY BUILDING DEPARTMENT
PO BOX 2220, HAWTHORNE NV 89415-2220

Phone: 775-945-3671
Cell: 775-316-0493

John W. Stroud, CFM
BUILDING INSPECTOR

Fax: 775-945-0702
Email: jstroud@mineralcountynv.org

Dear Community Member,

Over the next few months, Mineral County will create its Multi-Hazard Mitigation Plan, and I am requesting your participation in this process.

This plan will be developed with the intention of complying with federal requirements and to also provide a tool to local government, industry, and private individuals. The plan examines the potential threats that residents of our community may face. It also addresses mitigation efforts that can take place in both public and private venues that can help reduce the impact of the individual threats.

To date, the development of this plan has helped our community develop infrastructure to lessen damage caused by flooding, wildland fires, and earthquakes, as well as other potential disasters.

The federal government requires that this plan be updated and resubmitted for federal approval every five years. One of the major components of plan development is having a good cross-section of community input, and that is the reason for this invitation. I am hoping that you will agree to be included on the planning team. The level of commitment will involve a few meetings, plus a review of the components of the plan as they are written. I anticipate averaging a meeting a quarter, but generally the work can be done via e-mail.

I am hoping that you can participate as a representative of your profession. If you are willing to join our group, please RSVP to Mary Stroud, LEPC Secretary at her e-mail address of mary.stroud@att.net so you can be notified of scheduled meetings updates and agendas.

Sincerely,

John W. Stroud, CFM, Mineral County

Building Inspector

Floodplain Administrator

Assistant Emergency Manager

Press Release

MINERAL COUNTY
EMERGENCY MANAGEMENT PRESS RELEASE

February 17, 2011

In recent years nature has been restless in Nevada; there has been a swarm of earthquakes rattling the western portion of the State immediately adjacent to Mineral County as well as the levee breech in Fernley not to mention the ravishing wildland fires surrounding the Reno area as well as throughout the State. All of these emergency events have demonstrated to us all that Mineral County can be vulnerable to disasters, including earthquakes, floods, and wildland fires. The risks posed by these hazards will continue to increase as the County's population continues to grow.

Mineral County and Nevada have launched a planning effort, known as the *Hazard Mitigation Plan*, to assess risks posed by natural disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a pre-requisite for receiving certain forms of Federal disaster assistance.

Mineral County began this planning process in October 2010 and is sending out a questionnaire with the Hawthorne Utilities Landfill Assessment by March 1, 2011 for public input. The County anticipates submittal of the draft plan to the Board of County Commissioners for adoption during 2011.

Public comments and participation is welcomed. For additional information, request to participate, or to submit comments, please contact John Stroud, Mineral County Building Dept. at (775) 945-3671 or jstroud@mineralcountynv.org .

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: Tuesday, May 10, 2016

Print Name	Signature
TC Knight, M C Fire Chief	
Patrick Hughes, M C Emergency Manager	
Paul Macbeth, M C Commissioner	
William Ferguson, MCSO	
Wanda Nixon, M C Health Nurse	
Larry Grant, Hawthorne Utilities	
Mike Trujillo, M C Road Dept.	
Tony Hughes, MCIN	
MJ Dykshoorn, Hawthorne Van Cordintr for VA	
Timothy Rutherford, Fire Chief SOC LLC	
Robert Mathias, Member at Large	
Brian Dillard, Proxy MCSO	
George Dean, Proxy Hawthorne Utilities	
Eric Hamrey, Proxy MC Road Dept	
Heidi Bunch, Proxy MCIN	
Richard Schumann, Proxy Ast Fire Chief SOC	
Douglas Homestead, Proxy Ast Fire Chief SOC	
Michael Heidemann, Proxy Ast Fire Chief SOC	
Joyce Brown, Sec. LEPC	
Adam Greenfield, Walker Lake Fire Chief	

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman	**Robert Mathias/Member**	**Timothy Rutherford, SOC/**
Patrick Hughes, MC Emergency Mgr	**Mike Trujillo/Eric Hamrey**	**Ast. Chief on Duty**
Paul Macbeth, Cmsnr Liaison	**Larry Grant/George Dean**	
M. J. Dykshoorn	**Tony Hughes/Heidi Bunch**	
William Ferguson/Brian Dillard	**Wanda Nixon**	

MEETING AGENDA
POSTED
May 3, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Tuesday, May 10, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of April 12, 2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
3. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
4. **Approval of proxy/member slot designation for Adam Greenfield, Walker Lake Fire Chief:** for discussion, review and possible action on proxy designate, qualifications and slot designation and any all pertinent information.
5. **Sign location designation:** for review and possible action concerning second sign location. (Public Comment)
6. **Mineral County Hazard Mitigation Plan Update, Karen Johnson, NV Division of Emergency Management:** (Telephonic conference)-- review and update the Hazard Mitigation Plan/Planning Process to include new events/mapping/priorities/grant opportunities/projects in plan and justifications for each. (Public Comment)
7. **Grant submission**: for review, discussion and possible action on any and all grants to including setting new priorities for grant submission. (Public Comment)

8. **Confirmation and/or changes to meeting day/date/time:** discussion and possible action. (Public Comment)
9. **Public Comment**
10. **Adjournment**

Public Comment: (Non-action item) No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments are limited to three minutes unless the Committee elects to extend the comment for purposes of further discussion. Comments will not be restricted based on viewpoint.

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Posted: Lobby of Mineral County Courthouse, Hawthorne, NV, Mineral County Fire Dept., 418 Mineral Way, Hawthorne, NV, Hawthorne Post Office, Mineral County Independent News, Fifth and D. St., Hawthorne, NV, Hawthorne Utilities Office.

Respectfully submitted by Joyce Brown, Secretary, MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
May 10, 2016

Draft waiting for approval

Call to order: Meeting called to order by TC Knight at 9:00 am.

Introductions and roll call:
MCLEPC Members present: Chairman TC Knight, Patrick Hughes, Mike Trujillo, Tony Hughes, Brian Dillard, Doug Homestead, Adam Greenfield, Rob Mathias and Joyce Brown, Secretary.
Members absent: Paul Macbeth, MJ Dykshoorn, Wanda Nixon, Timothy Rutherford, Larry Grant and Bill Ferguson
Guests: Karen Johnson, NDEM (telephone) and Cynthia Oceguera, WRPT

Approval of Minutes for April 12, 2016: No corrections were tendered and a motion to approve the minutes of April 12, 2016 was made by Rob Mathias, seconded by Tony Hughes, with no public comment the motion was passed 8 yeas, 0 nays.

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Mineral County Hazard Plan Update—Karen Johnson (telephone conference) *change in order of discussion: Discussion of the " Press Release" dates changed, update to fit County and have Patrick Hughes put it in the paper. Motion to accept the revisions was made by Rob Mathias, seconded by Adam Greenfield, motion carried 8 yeas and 0 nays.
The Hazard Mitigation Questionairre was distributed and filled out by the members. The Questionairre needed to be put out to the public the cheapest way possible. Suggestions were: county website, MC Library, and Care and Share. A motion to place questionairre at those locations was made by Rob Mathias, seconded by Tony Hughes and carried 8 yeas to 0 nays.
The Committee and Karen Johnson discussed the Hazard Analysis handout—again the inaccuracy of the FEMA map was brought up and the difficulty of getting it corrected. There were changes in the history section as to the flooding: Marietta, Powell Canyon, Ryan Canyon, highway 95 North by Weber Resevoir in 2015 and 2016, Highway 361 to Gabbs in 2015, Redlick Summit 2015, Finger Rock 2015. Homework for next meeting, try to remember where and when other incidences occurred. Review page #4. (Rob Mathias left, had another meeting).
Review and discussion of Hazardous Materials information needed concerning Mercury, Rob Mathias could supply that information at the next meeting.

Correspondence: TC Knight informed the Committee that the FY 2017 United We Stand grant is back, $25,000, concerns Terrorism. Members are to send suggestions for requested items for grant to Patrick Hughes. These will be discussed at the next meeting and the grant application must be sent in by June 16, 2016. Cynthia Oceguera offered to help write grant.
*Agenda item for June.

Approval of a proxy designate for Adam Greenfield: Adam stated that there would not be one.

Sign Location designation—The area suggested by Larry Grant was not found and he will be asked to be more specific at the next meeting.
*Place on next agenda.

Grant Submission: SERC is operational, HMEP fill out and get back in. Patrick Hughes suggested additional signs as a priority for the United We Stand grant. Needs to be on county property so no disputes as to ownership of land.

Day/date/time of meeting: Adam Greenfield made a motion to keep meeting day, second Tuesday of the month, at 9:00 am, seconded by Mike Trujillo, motion passed 7 yeas to 0 nays.

Public Comment: None

Adjournment: Motion to adjourn made by Tony Hughes, seconded by Doug Homestead, motion carried 7 yeas to 0 nays.

Respectfully submitted by Joyce Brown, Secretary MCLEPC

Name:_____ Date: _____

Agency:_____ Specialty: _____

Hazard Profiling Worksheet

Legend: 1 = lowest; 5 = highest

Hazard Type	Probability/Frequency	Magnitude/Severity	Warning Time	Duration of loss of critical facilities and services	Total
Natural Hazards					
Avalanche					
Drought					
Earthquakes					
Epidemic					
Floods					
Hazardous Materials Events					
Infestation					
Landslides					
Severe Weather					
Terrorism					
Volcanic Activity					
Wildland Fire					

State Enhanced Hazard Mitigation Plan 2013 Update

HAZARD PRIORITIZATION CRITERIA			
Criterion	Value	Category	Description
Probability/Frequency	1	Very Low	Occurs less than once in 1000 years.
	2	Low	Occurs less than once in 100 to once in 1000 years.
	3	Medium	Occurs less than once in 10 to once in 100 years.
	4	High	Occurs less than once in 5 to once in 100 years.
	5	Very High	Occurs more frequently than once in 5 years.
Magnitude/Severity (includes Economic Impact, Area Affected and Vulnerability)	1	Very Low	• Negligible property damages (less than 5% of all buildings and infrastructure). • No deaths and injuries/illnesses treatable with first aid and do not require hospitalization. • Negligible loss of quality of life. • Economic and geographic effects are localized.
	2	Low	• Slight property damages (5% to 15%) of all buildings and infrastructure). • No deaths and few injuries/illnesses require hospitalization. • Slight loss of quality of life. • Economic and geographic effects felt at the city or community.
	3	Medium	• Moderate property damages (15% to 30% of all buildings and infrastructure). • Fewer than 5 deaths and multiple injuries/illnesses require hospitalization. • Some loss of quality of life. • Economic and geographic effects felt countywide.
	4	High	• Moderate property damages (30% to 50% of all buildings and infrastructure). • More than 5 deaths and considerable injuries/illnesses require hospitalization in multiple facilities with some resulting in permanent disability. • Moderate loss of quality of life. • Economic and geographic effects felt statewide.
	5	Very High	• Moderate property damages (30% to 50% of all buildings and infrastructure). • Significant number of deaths and injuries/illnesses requiring hospitalization in multiple facilities with some resulting in permanent disability. • Significant loss of quality of life. • Economic and geographic effects felt at the Region IX level.
Warning Time	1	Very Low	Greater than 48 hrs
	2	Low	24 to 48 hrs
	3	Medium	12 to 24 hrs
	4	High	6 to 12 hrs
	5	Very High	Less than 6 hrs
Duration of Loss of Critical Facilities and Services	1	Very Low	1 to 3 days
	2	Low	4 to 7 days
	3	Medium	8 to 14 days
	4	High	15 to 20 days
	5	Very High	More than 20 days

MINERAL COUNTY HAZARD MITIGATION QUESTIONNAIRE

This questionnaire is designed to help the Mineral County Hazard Mitigation Planning Committee identify the community's concerns about natural and human-caused hazards. The questionnaire should be completed by an adult, preferably the homeowner or the head of the household and returned to the address at the bottom of the page. All individual responses are strictly confidential and for research purposes only. ***Questions call Patrick Hughes at (775) 945-2497.***

GENERAL HOUSEHOLD INFORMATION

1. RESIDENT (Y/N)? _____ # YEARS IN COUNTY? 0-1 ____ 2-5_____ 6-10_____ 11 or more_____

2. Have you experienced any of the natural hazards listed below?

Natural				Human Caused	
	Floods		Avalanche		Hazardous Materials Release
	Wild Fire		Health Alert/Mass Disease		Terrorism
	Earthquake		Landslide		
	Severe Weather		Infestation		
	Drought		Volcano		

3. What is the most effective way for you to receive information about how to make your home safer from natural disasters? ***(Check all that apply)***

□ Newspaper □ Internet □ Radio □ Public Meetings
□ Television □ Utility Bill □ Mail □ Billboard

4. In the following list, please check those activities that apply.

Have you or someone in your household:	Check all that apply
Attended meetings or received written information on natural disasters or emergency preparedness?	
Talked with family members about what to do in case of a disaster or emergency?	
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	
Prepared a "Disaster Supply Kit" (extra food, water, medications, batteries, first aid items and other emergency supplies)?	
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	

5. Is your property located in or near a FEMA designated floodplain? _____Do you carry flood insurance?_____

Please return questionnaire via EMAIL to phughes@mineralcountynv.org or MAIL to MINERAL COUNTY EMERGENCY MANAGER, P.O. Box 1095, 418 Mineral Way, Hawthorne, Nevada 89415 by August 1, 2016.

6. What modifications for earthquakes and/or floods have you made to your home? (***Check all that apply)***

	Nonstructural		Structural
	Anchor bookcases, cabinets to wall		Secure home to foundation
	Secure water heater to wall		Brace inside of cripple wall with sheathing
	Install latches on drawers/cabinets		Brace unreinforced chimney
	Fit gas appliances with flexible connections		Brace unreinforced masonry & concrete walls and foundations
	Flood proof		Elevate home
	Other _____		

7. Do you support policies to restrict or prohibit development in designated hazard zones?

Communitywide Strategies	Check one
Development should be prohibited in these zones	
Development should be restricted in these zones.	
Development should be restricted only where "severe risk" exists	
Development should NOT be restricted in hazard zones	
I don't know.	

8. Please rank how prepared you feel you and your household are for the probable impacts of natural hazard events. Rank on a scale of **1 to 5** with 5 being the most prepared. _____

9. Other Comments:

Please return questionnaire via EMAIL to phughes@mineralcountynv.org or MAIL to MINERAL COUNTY EMERGENCY MANAGER, P.O. Box 1095, 418 Mineral Way, Hawthorne, Nevada 89415 by August 1, 2016.

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: June 14, 2016

Print Name	Signature
TC Knight, M C Fire Chief	
Patrick Hughes, M C Emergency Manager	
Paul Macbeth, M C Commissioner	
William Ferguson, MCSO	
Wanda Nixon, M C Health Nurse	
Larry Grant, Hawthorne Utilities	
Mike Trujillo, M C Road Dept.	
Tony Hughes, MCIN	
MJ Dykshoorn, Hawthorne Van Cordintr for VA	
Timothy Rutherford, Fire Chief SOC LLC	
Robert Mathias, Member at Large	
Brian Dillard, Proxy MCSO	
George Dean, Proxy Hawthorne Utilities	
Eric Hamrey, Proxy MC Road Dept	
Heidi Bunch, Proxy MCIN	
Richard Schumann, Proxy Ast Fire Chief SOC	
Douglas Homestead, Proxy Ast Fire Chief SOC	
Michael Heidemann, Proxy Ast Fire Chief SOC	
Joyce Brown, Sec. LEPC	
Adam Greenfield, Walker Lake Fire Chief	
Karen Johnson	telephone
Cynthia Oregnera WPT	

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman	**Robert Mathias/Member**	**Timothy Rutherford, SOC/**
Patrick Hughes, MC Emergency Mgr	**Mike Trujillo/Eric Hamrey**	**Ast. Chief on Duty**
Paul Macbeth, Cmsnr Liaison	**Larry Grant/George Dean**	
M. J. Dykshoorn	**Tony Hughes/Heidi Bunch**	
William Ferguson/Brian Dillard	**Wanda Nixon**	

MEETING AGENDA
POSTED
June 7, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Tuesday, June 14, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of May 10, 2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
3. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
4. **Sign location designation:** for review and possible action concerning second sign location. (Public Comment)
5. **Mineral County Hazard Mitigation Plan Update:**-- review and update the Hazard Mitigation Plan/Planning Process to include new events/mapping/priorities/grant opportunities/projects in plan and justifications for each. (Public Comment)
6. **Grant submission**: for review, discussion and possible action on any and all grants to including setting new priorities for grant submission. (Public Comment)
7. **Confirmation and/or changes to meeting day/date/time:** discussion and possible action. (Public Comment)
8. **Public Comment**
9. **Adjournment**

Public Comment: (Non-action item) No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments are limited to three minutes unless the Committee elects to extend the comment for purposes of further discussion. Comments will not be restricted based on viewpoint.

Note: Persons attending the meeting who are disabled and require special accommodations or assistance are requested to notify the County Clerk's Office, P O Box 1450, Hawthorne, NV, 89415 or by calling 775-945-2446 no later than three (3) days before the meeting.

In accordance with Federal law and the U. S. Department of Agriculture policy, Mineral County is prohibited from discriminating on the basis of race, color, national origin, sex, religion, age, disability (not all prohibited bases apply to all programs). To file a complaint of discrimination, write to USDA, Director, Office of Civil rights, 1440 Independence Avenue, S. W., Washington DC 20250-9410 or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider, employer and lender.

Posted: Lobby of Mineral County Courthouse, Hawthorne, NV, Mineral County Fire Dept., 418 Mineral Way, Hawthorne, NV, Hawthorne Post Office, Mineral County Independent News, Fifth and D. St., Hawthorne, NV, Hawthorne Utilities Office.

Respectfully submitted by Joyce Brown, Secretary, MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
June 14, 2016

Draft waiting for approval

Call to order: Meeting called to order by TC Knight at 9:02 am.

Introductions and roll call:
MCLEPC Members present: Chairman TC Knight, Patrick Hughes, Mike Trujillo, Tony Hughes, Bill Ferguson, Tim Rutherford, Adam Greenfield, Rob Mathias, Rick Schumann, Wanda Nixon (9:15 am) and Joyce Brown, Secretary.
Members absent: Paul Macbeth, MJ Dykshoorn, Larry Grant
Guests: None

Approval of Minutes for May 10, 2016: No corrections were tendered and a motion to approve the minutes of May 10, 2016 was made by Rob Mathias, seconded by Bill Ferguson, with no public comment the motion was passed 9 yeas, 0 nays.

Presentation of Correspondence and LEPC Reports: TC Knight--(1)Modification of the 21st Century Environmental Management of NV LLC, of Fernley. Copy is available for anyone to read the entire contents. (2)Nevada Division of Environmental Protection May 18, 2016, Hawthorne Amy Depot, May 2016, removal of munitions from Walker Lake Test Range. The review is finished, the NDEP concurs with the draft document. This document is available for review.

Approval of Accounts payble, vouchers, purchase orders and auditor's cash report, Patrick Hughes—TC Knight the Secretary's voucher for the first quarter was pending due to modification of SERC grant, secretary's expense $1,000 to $2,000. Needed word back from State that money had been shifted. Second Quarter voucher was submitted.

Sign location designation –TC Knight—Comments: Why talk about second sign when disposition of the first sign has not been discussed, Larry Grant not here so further discussion of the second sign is a moot point. Members wanted to know how the first sign worked before the place and need for the second sign was discussed. Billy Ferguson made a motion to move the purchasing and placement of a second sign down to the bottom of the priority list, Mike Trujillo seconded, motion passed 10 yeas to 0 nays. Wanda Nixon 9:15 am voted on measure.
******Agenda item for July—update on first sign.*

Mineral Co. Hazard Mitigation Plan Update—TC Knight stated that at the last meeting there was discussion concerning flood events in Mineral County and how they were not captured very well. Bill Ferguson contacted NDOT concerning Flood Events and received a spread sheet of flood events, when this occurred, what highway, water over road way, man hours, amount of debris removed. Mr. Ferguson got with Mike Trujillo and got the information on flooding events, damage etc. to be included in the

report. TC Knight wants to get the Flood Plain Manager, Mike Fontaine to come to the next meeting to discuss FEMA processes, how flood plain designation is determined etc. Maps are totally inaccurate, the ten foot berms on the base surrounding the town are not even shown. Mike Trujillo was asked if he had a record of all the incidents caused by flooding, what, when and where. Patrick Hughes explained what was proposed to alleviate the flooding problem but this is not recognized by FEMA. Tim Rutherford explained what work has been done on the base and will look into what can be certified. **Agenda item for July Flood Plain Manager, question and answers.*

Grant Submission—Funding available for UWS $25,000 this year, two proposals submitted: Sheriff's office is asking for night vision goggles (2) $6,190, Emergency Management $17337.98 DSLR drone used in multiple applications besides terrorism. Patrick Hughes explained the package, options, usage and benefits and how all departments that might use this has to be trained and certified. Since so many Drone companies are here there is a possibliity of having someone from one of those to help with the instruction for certification. Tim Rutherford explained how this could benefit the base. The drone comes with four batteries, rapid charge, and an auto-return feature. After discussion the following motion was made by Rob Mathias, seconded by Mike Trujillo, no public comment, vote 10 yeas and 0 nays:

The MCLEPC approves the Drone and Night Vision Goggles as submissions for the UWS Grant.

Public Comment: Agenda Request by Rob Mathias—update on first sign; TC Knight—new priorities for grants (covered under standing item of Grant submission). TC Knight-New ERG manuals out, old ones must be thrown out, if caught with one it is a $10,000 fine; 70 of these were ordered and must be picked up from Carson City.

Day/date/time of meeting: No change

Adjournment: Motion to adjourn made by Mike Trujillo, seconded by Rob Mathias, motion carried 10 yeas to 0 nays. (10:00 am)

Respectfully submitted by Joyce Brown, Secretary MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: Tuesday, July 12, 2016

Print Name	Signature
TC Knight, M C Fire Chief ey	
Patrick Hughes, M C Emergency Manager	
Paul Macbeth, M C Commissioner	
William Ferguson, MCSO ab	
Wanda Nixon, M C Health Nurse	
Larry Grant, Hawthorne Utilities	
Mike Trujillo, M C Road Dept.	
Tony Hughes, MCIN	
MJ Dykshoorn, Hawthorne Van Cordintr for VA	
Timothy Rutherford, Fire Chief SOC LLC	
Robert Mathias, Member at Large ey	
Brian Dillard, Proxy MCSO	
George Dean, Proxy Hawthorne Utilities	
Eric Hamrey, Proxy MC Road Dept	
Heidi Bunch, Proxy MCIN	
Richard Schumann, Proxy Ast Fire Chief SOC	
Douglas Homestead, Proxy Ast Fire Chief SOC	
Michael Heidemann, Proxy Ast Fire Chief SOC	
Joyce Brown, Sec. LEPC	
Adam Greenfield, WLVFD	
Karen Johnson, NDEM	
Cynthia Cisneros WRPT	
Mike Fruitstone MCSO	

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman	**Robert Mathias/Member**	**Timothy Rutherford, SOC/**
Patrick Hughes, MC Emergency Mgr	**Mike Trujillo/Eric Hamrey**	**Ast. Chief on Duty**
Paul Macbeth, Cmsnr Liaison	**Larry Grant/George Dean**	**Adam Greenfield, Walker Lake**
M. J. Dykshoorn	**Tony Hughes/Heidi Bunch**	**Fire Chief**
William Ferguson/Brian Dillard	**Wanda Nixon**	

MEETING AGENDA
POSTED
July 6, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Tuesday, July 12, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of June 14, 2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
3. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
4. **Update on Sign at the Hawthorne Utilities, Larry Grant:** discussion, and update on the progress concerning the sign at the Utilities office and possible action. (Public Comment)
5. **Mineral County Hazard Mitigation Plan Update: Karen Johnson--**review and update the Hazard Mitigation Plan/Planning Process to include new events/mapping/priorities/grant opportunities/projects in plan and justifications for each. (Public Comment)
6. **FLOOD PLAIN, Mike Fontaine—**questions and answer session concerning FEMA procedures/processes, and any and all related information up for discussion and possible action. (Public Comment)
7. **Grant submission**: for review, discussion and possible action on any and all grants to including setting new priorities for grant submission. (Public Comment)
8. **Confirmation and/or changes to meeting day/date/time:** discussion and possible action.

(Public Comment)

9. **Public Comment**
10. **Adjournment**

Public Comment: (Non-action item) No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments are limited to three minutes unless the Committee elects to extend the comment for purposes of further discussion. Comments will not be restricted based on viewpoint.

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Posted: Lobby of Mineral County Courthouse, Hawthorne, NV, Mineral County Fire Dept., 418 Mineral Way, Hawthorne, NV, Hawthorne Post Office, Mineral County Independent News, Fifth and D. St., Hawthorne, NV, Hawthorne Utilities Office.

Respectfully submitted by Joyce Brown, Secretary, MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
July 12, 2016

Draft waiting for approval

Call to order: Meeting called to order by Patrick Hughes at 9:05 am.

Introductions and roll call:
MCLEPC Members present: Patrick Hughes, Mike Trujillo, Tony Hughes, Tim Rutherford, Adam Greenfield, MJ Dykxhoorn, Wanda Nixon, Paul Macbeth, Larry Grant and Joyce Brown, Secretary.
Members absent: TC Knight (ex), Robert Mathias (ex), William Ferguson
Guests: Karen Johnson, Cynthia Oceguera and Mike Fontaine

Approval of Minutes for June 14, 2016: No corrections were tendered and a motion to approve the minutes of June 14, 2016 was made by Tony Hughes, seconded by Wanda Nixon, with no public comment the motion was passed 9 yeas, 0 nays.

Presentation of Correspondence and LEPC Reports: Patrick Hughes—Application for membership on the LEPC Committee submitted by Cynthia Oceguera. *(Placed on Agenda for August).* Email from SERC, new time line for submission of grants. In discussion no problems, objections or concerns. HMEP-Fire Shows, selection of members to go has to be done, United We Stand, submitted. Journal from the EPA is available for anyone to review.

Approval of Accounts payble, vouchers, purchase orders and auditor's cash report, Patrick Hughes—Vouchers for Secretary Brown waiting on a Commissioner's approval.

Sign location designation –Vinnies Electric completed the wiring, bracket to set sign on pole done, will ask Wade Barton to help with the electronics for programming.

Mineral Co. Hazard Mitigation Plan Update, Karen Johnson—Section Six, it was asked of the Committee if there were any updates for this section that were verifiable? Bill Ferguson and TC Knight had put together a complication from information received from NDOT; Mike Trujillo and Bill Ferguson had done one for county responses to flood damage specifically 10th Street, the State Park, 5th Street along Football Field. Larry Grant asked about "diversions" for flood water to the desert flood basins? Karen Johnson stated that if the water was collected it had to be treated, if allowed to sink back into the ground it does not. Census figures need to be updated, add new businesses for Hawthorne: Dollar General, Family Dollar and Golden Gate Truck Stop, JPO on Armory is now a Boys and Girls Club. Cynthia Oceguera will update the census for Schurz. It was mentioned that Ormat is working on the third phase of the Gabbs Valley geothermal project. Next time discuss FEMA drought—have priorities/actions/specific projects/areas/structures/value of each item. Karen Johnson stated that she would not be available to be here for the August meeting, and would not be able to come on Tuesday, September 13. The following motion was made by Larry Grant, seconded by Wanda Nixon, with no

further discussion or public comment the motion was approved 9 yeas and 0 nays:
The regular monthly meeting for September 13, 2016 will be rescheduled for Thursday, September 22, 2016.

Mike Fontaine, Flood Plain Manager—Mike had to leave but stated that the designations of flood plain areas specifically in Hawthorne were incorrect and he was requesting an inperson inspection by FEMA.
Grant Submission—Patrick Hughes again went over what grants had been submitted/waiting for materials and/or approval.

Public Comment: None
Day/date/time of meeting: No change for August, September meeting moved.

Adjournment: Motion to adjourn made by Larry Grant, seconded by Wanda Nixon, motion carried 9 yeas to 0 nays. (10:00 am)

Respectfully submitted by Joyce Brown, Secretary MCLEPC

2016 Hazard Ranking Results

Mineral County		
High Risk	**Medium Risk**	**Low Risk**
Earthquake Flood Wildland Fire	Drought Epidemic Hazardous Materials Landslide Severe Weather Terrorism Volcano	Avalanche Infestation
Walker River Paiute Tribe		
High Risk	**Medium Risk**	**Low Risk**
Flood Severe Weather	Drought Earthquake Wildland Fire	Avalanche Epidemic Hazardous Materials Infestation Landslide Terrorism Volcano

2016 Combined Hazard Ranking

High Risk	Medium Risk	Low Risk
Flood	Drought Earthquake Hazardous Materials Severe Weather Terrorism Wildland Fire	Avalanche Epidemic Infestation Landslide Volcano

2012 Hazard Ranking

High Risk	Moderate Risk	Low Risk	Very Low Risk
Earthquake	Drought Flood Severe Weather Volcano Wildfire	Epidemic Hazardous Materials Terrorism	Avalanche Infestations Land subsidence

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: Tuesday, August 9, 2016

Print Name	Signature
TC Knight, M C Fire Chief	absent ex
Patrick Hughes, M C Emergency Manager	Patrick Hughes
Paul Macbeth, M C Commissioner	P. MacBeth
William Ferguson, MCSO	
Wanda Nixon, M C Health Nurse	W. Nixon
Larry Grant, Hawthorne Utilities	absent ex
Mike Trujillo, M C Road Dept.	M. Trujillo
Tony Hughes, MCIN	
MJ Dykxhoorn, Hawthorne Van Cordintr for VA	
Timothy Rutherford, Fire Chief SOC LLC	
Robert Mathias, Member at Large	Robert Mathias
Brian Dillard, Proxy MCSO	
George Dean, Proxy Hawthorne Utilities	
Eric Hamrey, Proxy MC Road Dept	
Heidi Bunch, Proxy MCIN	
Richard Schumann, Proxy Ast Fire Chief SOC	
Douglas Homestead, Proxy Ast Fire Chief SOC	
Michael Heidemann, Proxy Ast Fire Chief SOC	
Joyce Brown, Sec. LEPC	Joyce Brown
Adam Greenfield, Walker Lake Fire Chief	
Cynthia Oceguera	

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman
Patrick Hughes, MC Emergency Mgr
Paul Macbeth, Cmsnr Liaison
M. J. Dykshoorn
William Ferguson/Brian Dillard
Robert Mathias/Member
Mike Trujillo/Eric Hamrey
Larry Grant/George Dean
Tony Hughes/Heidi Bunch
Wanda Nixon
Timothy Rutherford, SOC/ Ast. Chief on Duty
Adam Greenfield, Walker Lake Fire Chief

MEETING AGENDA
POSTED
August 2, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Tuesday, August 9, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of July 12**, **2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Application for Membership, Cynthia Oceguera—**for consideration and possible action on the application of Cynthia Oceguera for membership on the MCLEPC/position designation/proxy. (Public Comment)
3. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
4. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
5. **Update on Sign at the Hawthorne Utilities, Larry Grant:** discussion, and update on the progress concerning the sign at the Utilities office and possible action. (Public Comment)
6. **Mineral County Hazard Mitigation Plan Update: --(request by Karen Johnson)** review and update the Hazard Mitigation Plan/Planning Process concerning the ranking of hazards, her recommendations are attached. (Public Comment)
7. **Robert Mathias, 911 Memorial Mt. Grant Challenge Event, September 10, 2016—**for consideration and possible action on a request by Robert Mathias for support of Emergency Services during this event. (Public Comment)

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
August 9, 2016

Draft waiting for approval

Call to order: Meeting called to order by Patrick Hughes at 9:05 am.

Introductions and roll call:
MCLEPC Members present: Patrick Hughes, Mike Trujillo, Tim Rutherford, Mike Heidemann, Adam Greenfield, Wanda Nixon (9:25 am), Paul Macbeth, Robert Mathias, George Dean and Joyce Brown, Secretary.
Members absent: TC Knight (ex), William Ferguson, Tony Hughes, MJ Dykxhoorn, Larry Grant.
Guests:

Approval of Minutes for July 12, 2016: No corrections, motion to approve the minutes of July 12, 2016 was made by Robert Mathias, seconded by Adam Greenfield, with no public comment the motion was passed 7 yeas, 0 nays.

Membership application, Cynthia Oceguera—Patrick Hughes, Vice Chairman read Cynthia Oceguera's application. Comments: Rob Mathias—in favor of her application, he believes that it would be beneficial to have a member of the Tribe on the Committee, she worked with and was familiar with the environmental concerns of the Tribe and that she would be an asset; Paul Macbeth, MC Commissioner stated that he has worked with her and she is a team player; Patrick Hughes explained that she would have to be a member at large. With no further discussion, the following motion was made by Mike Trujillo, seconded by Robert Mathias, carried 6 yeas, 0 nays, Paul Macbeth abstained:

The MCLEPC has approved the application of Cynthia Oceguera, the application will be forwarded to the MC Board of Commissioners for approval.

Presentation of Correspondence and LEPC Reports: Patrick Hughes—SERC 2017--$25,000 for a command vehicle; United We Stand 2017—there were two sets of night vision goggles, and the drone. Pat stated that there was a problem with the software for the drone, it downloaded to China, another company for drones sent an email to him. Mike Trujillo suggested that since there is training and certification required for flying the drone that Pat contact the drone companies that come here to test for training.

Approval of Accounts payble, vouchers, purchase orders and auditor's cash report, Patrick Hughes—Everything is up to date.

Sign location designation –George Dean said that everything is up and running, and any messages to be put on the sign go through Anna Fitzgerald. He also stated that there was some questioning about who paid for the sign and Rob Mathias suggested that the information be put in the paper and on the

2016 Hazard Ranking Results

Mineral County		
High Risk	Medium Risk	Low Risk

Earthquake Flood Wildland Fire	Epidemic Hazardous Materials Severe Weather Terrorism Volcano	Avalanche Drought Infestation Landslide
Walker River Paiute Tribe		
High Risk	**Medium Risk**	**Low Risk**
Flood Severe Weather	Drought Earthquake Wildland Fire	Avalanche Epidemic Hazardous Materials Infestation Landslide Terrorism Volcano

2016 Combined Hazard Ranking

High Risk	Medium Risk	Low Risk
Flood	Earthquake Epidemic Hazardous Materials Severe Weather Terrorism Wildland Fire	Avalanche Drought Infestation Landslide Volcano

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
Meeting Sign in Sheet

Meeting Location: Mineral County Fire Station, 418 Mineral Way, Hawthorne, NV

Date of Meeting: — September 22, 2016 —

Print Name	Signature
TC Knight, M C Fire Chief	
Patrick Hughes, M C Emergency Manager	
Paul Macbeth, M C Commissioner	
William Ferguson, MCSO	
Wanda Nixon, M C Health Nurse	
Larry Grant, Hawthorne Utilities	
Mike Trujillo, M C Road Dept.	
Tony Hughes, MCIN	
MJ Dykxhoorn, Hawthorne Van Cordintr for VA	
Timothy Rutherford, Fire Chief SOC LLC	
Robert Mathias, Member at Large	
Brian Dillard, Proxy MCSO	
George Dean, Proxy Hawthorne Utilities	
Eric Hamrey, Proxy MC Road Dept	
Heidi Bunch, Proxy MCIN	
Richard Schumann, Proxy Ast Fire Chief SOC	
Douglas Homestead, Proxy Ast Fire Chief SOC	
Michael Heidemann, Proxy Ast Fire Chief SOC	
Joyce Brown, Sec. LEPC	
Adam Greenfield, Walker Lake Fire Chief	
Cynthia Oceguera	
Tarell Woodward	
Karen Johnson	

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
BOX 1095
HAWTHORNE, NEVADA 89415

T.C. Knight, Chairman	**Robert Mathias/Member**	**Timothy Rutherford, SOC/**
Patrick Hughes, MC Emergency Mgr	**Mike Trujillo/Eric Hamrey**	**Ast. Chief on Duty**
Paul Macbeth, Cmsnr Liaison	**Larry Grant/George Dean**	**Adam Greenfield, Walker Lake**
M. J. Dykshoorn	**Tony Hughes/Heidi Bunch**	**Fire Chief**
William Ferguson/Brian Dillard	**Wanda Nixon**	**Cynthia Oceguera/member**

MEETING AGENDA
POSTED
September 12, 2016

AGENDA for Mineral County Local Emergency Planning Committee
PLACE OF MEETING: Mineral County Fire Station, 418 Mineral Way, Hawthorne, Nevada
DATE AND TIME OF MEETING: Thursday, September 22, 2016, commencing at 9:00 am

CALL TO ORDER
INTRODUCTIONS & ROLL CALL:

ACTION ITEMS

NOTIFICATIONS: (1) Unless otherwise stated or scheduled for a specific time, items may be taken out of order listed. (2) The Committee may combine any two or more items for consideration and/or action. (3) The Committee may remove any item or delay discussion relating to any item at any time. (4) The Committee may take action on any item scheduled for review or consideration immediately following such review and/or consideration and public comment.

Action Items/Public Hearing (Public Comment to follow each item before action is taken.)

1. **Approval of Minutes of August 9, 2016**—for review and possible action to approve said minutes. (Public Comment)
2. **Influenza Pod 10/27/16, Wanda Nixon**—for review/discussion and possible action on the upcoming Influenza Pod scheduled for10/27/2016. (Public Comment)
3. **Presentation of Correspondence and LEPC Reports**: For review, discussion and possible action. (Public Comment)
4. **Approval of Accounts Payable, Vouchers, Purchase Orders, and Auditor's Cash Report by Fund**: for consideration and possible action. (Public Comment)
5. **Mineral County Hazard Mitigation Plan Update: --(request by Karen Johnson)** review/discussion and possIble action to update the Hazard Mitigation Plan/Planning Process. (Public Comment)
6. **Robert Mathias, 911 Memorial Mt. Grant Challenge Event, September 10, 2016**—after action report on said event (Public Comment)
7. **Grant submission**: for review, discussion and possible action on any and all grants to including setting new priorities for grant submission. (Public Comment)
8. **Confirmation and/or changes to meeting day/date/time:** discussion and possible action. (Public Comment)

9. **Public Comment**
10. **Adjournment**

Public Comment: (Non-action item) No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action may be taken. Public comments are limited to three minutes unless the Committee elects to extend the comment for purposes of further discussion. Comments will not be restricted based on viewpoint.

Note: Persons attending the meeting who are disabled and require special accommodations or assistance are requested to notify the County Clerk's Office, P O Box 1450, Hawthorne, NV, 89415 or by calling 775-945-2446 no later than three (3) days before the meeting.

In accordance with Federal law and the U. S. Department of Agriculture policy, Mineral County is prohibited from discriminating on the basis of race, color, national origin, sex, religion, age, disability (not all prohibited bases apply to all programs). To file a complaint of discrimination, write to USDA, Director, Office of Civil rights, 1440 Independence Avenue, S. W., Washington DC 20250-9410 or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider, employer and lender.

Posted: Lobby of Mineral County Courthouse, Hawthorne, NV, Mineral County Fire Dept., 418 Mineral Way, Hawthorne, NV, Hawthorne Post Office, Mineral County Independent News, Fifth and D. St., Hawthorne, NV, Hawthorne Utilities Office.

Respectfully submitted by Joyce Brown, Secretary, MCLEPC

MINERAL COUNTY LOCAL EMERGENCY PLANNING COMMITTEE
P. O. BOX 1095
MINERAL COUNTY FIRE STATION, 418 MINERAL WAY
HAWTHORNE, NEVADA 89415

MINUTES OF TUESDAY
September 22, 2016

Draft waiting for approval

Call to order: Meeting called to order by Chairman TC Knight at 9:15 am.

Introductions and roll call:
MCLEPC Members present: TC Knight, Mike Trujillo, Mike Heidemann, Adam Greenfield, Wanda Nixon, Larry Grant, Tony Hughes, William Ferguson, Cynthia Oceguera and Joyce Brown, Secretary.
Members absent: Patrick Hughes (ex), MJ Dykxhoorn, Paul Macbeth and Rob Mathias.
Guests: Karen Johnson and Janell Woodward.

Approval of Minutes for August 9, 2016: No corrections, motion to approve the minutes of August 9, 2016 was made by William Ferguson, seconded by Tony Hughes, with no public comment the motion was passed 8 yeas, 0 nays, TC Knight abstained.

Influenza Pod, 10/27/2016, Wanda Nixon—The date of the pod was changed to October 20, 5:00 pm to 8:00 pm. Mrs. Nixon stated that she would need the Pod Trailer and need help from MC Fire and SOC Fire and those to administer shots. Also needed were lights with generators—two from LEPC grants, SOC has two, Larry Grant can go get them and Mike Trujillo will get hold of SOC. County employees can get shots for free. TC Knight said that it is an element of Hazmat exercise in event of a biohazard release. Wanda will call and ask about how this applies to Hazmat.There are enough people to administer shots but there are questions concerning official creditials of people to administer shots off base. TC Knight said that the next step up would be to know how many people would be available to administer shots in case of an emergency. At the end of the discussion the following motion was made by Larry Grant, seconded by William Ferguson, motion carried 9 yeas and 0 nays:

MCLEPC will participate in the Influenza Pod scheduled for October 20, 2016.

Presentation of Correspondence and LEPC Reports: Pamphlets that were sent out, were forwarded to State. The open grant concerning the drone and goggles was sent back with concerns—software downloaded in China. Chairman Knight said that there was a vendor here, Drone America. The drone will be made to our specifications/needs and may cost a little more. People operating the drone need training and the drone will be registered to the MC Sheriff's Office. Question concerning whether the person(s) operating the drone has to be a pilot? Larry Grant stated that a pilots license is required for bigger drones over a certain weight. Mike Trujillo questioned the threshhold of the thermal imaging (infrared) and was told that it could be adjusted for human beings. He stated that the drone would be made in Reno, camera else where and it downloads to Reno. Cynthia Oceguera stated that Drone America came to the tribe concerning the drone and was going to provide training, but that fell through.

Approval of Accounts payble, vouchers, purchase orders and auditor's cash report: No bills or

action.

Mineral Co. Hazard Mitigation Plan Update, Karen Johnson—Karen introduced Janell Woodward, State Hazard Mitigation Officer. Ms Johnson passed out the handouts and began by going over WRPT's current mitigation programs, projects and plans in a table-- changes were made from information provided by Cynthia Oceguera. She will try to get more information and send it in. Ms Johnson said that what she received by the deadline would be published. Section 9 was updated. TC Knight stated that there was much more incidents from info provided by NDOT. Ms. Johnson stated that after this is action plan was adopted and carried through, it needed to be incorporated in County's Master Plan and Emergency action plan. The concerns were that County doesn't allow building or development on faults, or in a flood prone areas. Use documents to get funding from grants. "Staple +E Evaluation Table" was gone over as a group and prioritized. Karen asked Wanda Nixon to overview the Epidemic portion. TC Knight stated that there is definitely a need for curbs.. It was asked if the Tribe has a Master Plan—it has an old one and it was rated as a 3 with a note that economics is a factor. Some buildings have been earthquake proofed, quite a few still not done, this also includes inspections. After the ratings, Ms Johnson that there are printed materials available that can be sent out. The Mitigation Plan will be updated with the info provided and sent out to be approved and adopted by MCLEPC, review after a year.

(Wanda Nixon left at 10:00 am, Adam Green left at 10:29 am and Larry Grant 10:45 am)* No quorum.

Rob Mathias, 911 Memorial Mt. Grant Callenge Event, Sept. 10, 2016— Rob was not present, carried over to next meeting.

Grant Submission—next meeting.

Public Comment: None

Day/date/time of meeting: Tuesday, October 11, 2016, 9:00 am

Adjournment:

Respectfully submitted by Joyce Brown, Secretary MCLEPC

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Appendix E
Plan Maintenance Documents

Sample Press Release for

Annual Maintenance Meeting

Mineral County, Nevada is meeting to review and maintain its Hazard Mitigation Plan to assess risks posed by natural and manmade disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a prerequisite for receiving certain forms of Federal disaster assistance. The plan can be found on the County's website at www.mineralcountynv.us .

Public comments and participation are welcomed. For additional information or to request to participate, or to submit comments, please contact John Stroud, Mineral County Emergency Management, at (775) _____ or jstroud@mineralnv.gov .

Annual Review Questionnaire

PLAN SECTION	QUESTIONS	YES	NO	COMMENTS
PLANNING PROCESS	Are there internal or external organizations and agencies that have been invaluable to the planning process or to mitigation action?			
	Are there procedures (e.g., meeting announcement, plan updates) that can be done more efficiently?			
	Has the Steering committee undertaken any public outreach activities regarding the HMP or implementation of mitigation actions?			
HAZARD PROFILES	Has a natural and/or human-caused disaster occurred in this reporting period?			
	Are there natural and/or human-caused hazards that have not bee addressed in this HMP and should be?			
	Are additional maps or new hazards studies available? If so, what have they revealed?			
VULNERABILITY ANALYSIS	Do any new critical facilities or infrastructure need to be added to the asset lists?			
	Have there been changes in development patterns that could influence the effects of hazards or create additional risks?			
MITIGATION STRATEGY	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?			
	Are the goals still applicable?			
	Should new mitigation actions be added to a community's Mitigation Action Plan?			
	Do existing mitigation actions listed in a community's Mitigation Action Plan need to be reprioritized?			
	Are the mitigation actions listed in a community's Mitigation Action Plan appropriate for available resources?			

Mitigation Action Progress Report

Progress Report Period:_____ to _____
(date) (date)

Project Title:_____ Project ID#_____

Responsible Agency:

Address:_____

City:_____
_

Contact
Person:_____

Phone # (s): _____ email address:_____

List Supporting Agencies and Contacts:

Total Project Cost: _____

Anticipated Cost Overrun/Underrun:
_____

Date of Project Approval: _____ Start date of the project: _____

Anticipated completion date:
_____

Description of the Project (include a description of each phase, if applicable, and the time frame for completing each phase): _____

Milestones	Complete	Projected Date of Completion

Plan Goal(s) Address

Goal: _____

Indicator of Success: _____

_____

_____

_____

Project Status

☐ Project on schedule

☐ Project completed

☐ Project delayed*

*explain _____

_____

☐ Project Cancelled

_____

Project Cost Status

☐ Cost unchanged

☐ Cost overrun*

*explain_____

_____

☐ Cost underrun*

*explain_____

Summary of progress on project for this report:

A. what was accomplished during this reporting period?

_____

_____

_____

B. What obstacles, problems, or delays did you encounter, if any?

_____

_____

_____

C. How was each problem resolved?

Next Steps: What are the next step(s) to be accomplished over the next reporting period?

Other Comments:

Appendix F
Mitigation Action

Mineral Co. – Sep. 2014

PLAN SECTION	QUESTIONS	YES	NO	COMMENTS
PLANNING PROCESS	Are there internal or external organizations and agencies that have been invaluable to the planning process or to mitigation action?		x	New Master Plan adopted in 2012 BLM Regional Master Plan in process
	Are there procedures (e.g., meeting announcement, plan updates) that can be done more efficiently?		x	Use Plan in revision 2014 BLM Drought Assessment in progress 2014
	Has the Steering committee undertaken any public outreach activities regarding the HMP or implementation of mitigation actions?		x	
HAZARD PROFILES	Has a natural and/or human-caused disaster occurred in this reporting period?	x		Dec 2, 2012 Severe Wind event 2013, Flood Redlick Summit South of Luning took out part of Hwy. 95. Summer 2014 Gabs Valley Flood Drought – Well at Walker Lake Dry
	Are there natural and/or human-caused hazards that have not bee addressed in this HMP and should be?		x	
	Are additional maps or new hazards studies available? If so, what have they revealed?		x	
VULNERABILITY ANALYSIS	Do any new critical facilities or infrastructure need to be added to the asset lists?		x	New water & sewer pipes $10M
	Have there been changes in development patterns that could influence the effects of hazards or create additional risks?		x	
MITIGATION STRATEGY	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?		x	Assessor has GIS
	Are the goals still applicable?	x		
	Should new mitigation actions be added to a community's Mitigation Action Plan?	x		URM site analysis/ground truthing
	Do existing mitigation actions listed in a community's Mitigation Action Plan need to be reprioritized?		x	
	Are the mitigation actions listed in a community's Mitigation Action Plan appropriate for available resources?	x		

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description	Status
Goal 1: *Promote increased and ongoing involvement in hazard-mitigation planning and projects*	1.A	N	Update the Master Plan to be consistent with the hazard area maps and implementation strategies developed in the HMP every 10 years. Review & update ordinances & code every 3 years.	Master Plan Adopted in 2012 IBC 2009 adopted. Reviewing 2012 Flood Ordinance? New FPM – Michael Fontaine, CFM
	1.B	N/E	Annually review the County's Emergency Operations Plan and identify needed plan updates	New EOP 2012
	1.C	N/E	Increase GIS and mapping capability to assess the risk in the County	Moving GIS to assessor's office, pictometry online
Goal 2: *Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters*	2.A	N/E	Utilize social media as a communication tool, as well as an education tool for hazard loss prevention	Base has mass notification system. County working on system mass notification.
	2.B	E	Conduct a minimum of one disaster exercise each year	Completed in 2012, October 2013 and May 2014
	2.C	N/E	Prepare, develop, & distribute appropriate public information about hazard mitigation programs and projects at County sponsored events	Completed in 2012 & 2014 at Schools. Developing a library resource for hazard information. Armed Forces weekend 2012, 2013, 2014. School Fire Prevention Week.

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description	Status
Goal 3 *Reduce the possibility of damage and losses due to drought*	3.A	N/E	Zero scaping project at water plant and public awareness	Public Works completed in 2014.
Goal 4: *Reduce the possibility of damage and losses due to earthquakes*	4.A	N	Continue to enforce the International Building Code (IBC) provisions pertaining to grading and construction relative to seismic hazards. Update County Codes to IBC 2012 when it is released.	Adopted IBC 2012 in 2014.
	4.B	E	Implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facility and infrastructure, and retrofit buildings, if necessary	Completed need ground truthing.
	4.C	E	Implement an Unreinforced Masonry (URM) building program that determines the structural safety of existing building inventory, and retrofit buildings, if necessary	

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description	Status
Goal 5: *Reduce the possibility of threat to life and losses due to epidemic*	5.A		Improve communication, collaboration and integration among stakeholders and promote awareness of epidemic threats	POD events in 2012, 2013, 2014
	5.B		Create & implement a training and exercise program relative to epidemics	Pandemic plan for County in progress.
Goal 6: *Reduce the possibility of damage and losses due to floods*	6.A	N/E	Review and update flood plans that would include coordination with adjacent counties, cities, and special districts supporting a regional approach to flood control	Fire Chief provided FEMA contact. Contacting USACE to review flood and burm around town for a flood plan.
	6.B	E	Install new flood facilities including upgrade of the existing storm drain system to current standards including culverts and channel improvements	Army Road & 10th St. culverts & Airport maintenance and inspected.
	6.C	E	Protect and enhance existing water conveyance structures, storage, and treatment facilities to reduce impact from flood	Fenced & 1 Camera

Table 8-2 – Mitigation Goals and Actions

Goals	Action	New or Existing Bldgs	Description	Status
Goal 7: *Reduce the possibility of damage and losses due to Severe Weather*	7.A	E	In areas at risk to severe weather, retrofit public buildings to withstand snow loads and sever winds to prevent roof collapse/damage	2014 - New roofs from wind event in 2012 County Courthouse, Care & Share, Gymnasium, Museum.
Goal 8: *Reduce the possibility of damage and losses due to wildland fires*	8.A	E	Develop partnerships for a community based vegetation management program including chipping programs	Wildfire – UNR Cooperative Ext. Wildfire Awareness Week. Annual pickup in 2012, 2013 & 2014. New ordinance on nuisance for real property.
Goal 9: *Reduce the possibility of damage and losses due to hazardous materials release*	9.A	N/E	Enforce zoning ordinances to reduce public health risks from hazardous materials releases	Annual pickup includes hazardous waste. Fire Dept. inspection includes hazardous materials. Clean up scheduled for October each year.
Goal 10: *Reduce the possibility of damage and losses due to Terrorism*	10.A	N/E	Enforce zoning ordinances to reduce public health risks from terrorism	Public awareness letter for situational awareness.

A.1 COMMUNITY PROFILE

A.1.1 Geography

The Walker River Paiute Reservation is located within three counties in rural Midwestern Nevada about 100 miles southeast of Reno, Nevada with the population of approximately 720 residing within the boundaries of the Walker River Paiute Tribe. The land base consists of about 325,000 acres in a river valley, mostly used for grazing and some ranching. The present Reservation encompasses a high desert land base and is surrounded by mountains, desert lakes, and marshland/wetlands. The current Reservation was a traditional wintering grounds for the Walker River Paiute Numu (people) due to the mild winters. The Numu (people) then migrated back to the Sierras for summer camps. The riparian areas of the Reservation have mostly been converted to farm land with alfalfa being the major crop. The only town on the Reservation is Schurz, Nevada where the intersection of U.S. Highway 95 and 95-A (major routes running north and south) meet. Fallon, Nevada is 39 miles North, Yerington, Nevada is 25 miles West and Hawthorne, Nevada is 33 miles to the South.

The Tribe is organized under the provisions of the Indian Reorganization Act of June 18, 1934, exercising rights of home rule and responsibility for the general welfare of its membership. The Walker River Paiute Council, a seven-member body, serves as the local authority for purposes of authorizing any planning program for the Tribe's future. The town of Schurz, Nevada, is considered the hub of the reservation land, with tribal administration offices and community services located there.

A.1.2 Population

The overall tribal population approaches 3,540 individual members with approximately 720 tribal and non-tribal members residing on the reservation.

A.1.3 History

Organization

The WRPT Tribal Government is a federally-recognized tribe and, as such, is associated with the U.S. Bureau of Indian Affairs. The WRPT government is a seven-member tribal council that functions under tribal sovereignty where land use decisions associated with the reservation must be coordinated through the tribal council and in concert with U.S. federal and state governments.

The WRPT government provides public services to its residents similar to those that local governments provide for their residents. Services include, but are not limited to, housing, education, cultural resources, environmental services, and general Native American services.

Walker River Paiute Tribe – Key Officials

Chairman	Member	Development Coordinator
Vice-Chairman	Environmental Director	Resident Services Coordinator
Treasurer	Housing Executive Director	Fisheries Director
Secretary	Economic Development Coordinator	Education Director
Member	Health Director	Roads Project Manager
Member	Human Resources Manager	TERO Director

Walker River Paiute Tribe Departments

Civil Court	Fire Department	Roads Department
Cultural Department	Fisheries Program	Taxation Department
Economic Development	Housing	TERO Program
Education Department	Human Resources	Health Clinic
Environmental	Police Department	

A.1.4 Economy

The Walker River Tribe's Economic Development Department handles an array of projects which include Cell Tower Leases, Oversight of the Four Seasons Market, the Four Seasons Smoke Shop, and year round fireworks sales.

The Walker River Paiute Tribe are in the process of developing a Fisheries Program and have been working with the U.S. Fish & Wildlife Service and the Nevada Department of Wildlife on several different Lahontan Cutthroat Trout activities.

A.1.5 Planning Process

The planning process for the Mineral County MJHMP began in February 2016 and continued through November 2016. Patrick Hughes, Mineral County's Emergency Manager, formed the advisory body, known as the Planning Committee, utilizing staff from the Local Emergency Planning Committee (LEPC), relevant County and community organizations. The Planning Committee members are listed in **Table 4-2**. The Planning Committee meetings are described in section 4.2.2. Meeting agendas and handouts are provided in **Appendix C**.

The County and all participating jurisdictions were adeptly represented in the regional planning effort by team members who perform multiple functions within the local jurisdiction. In most cases one or more representatives for each jurisdiction attended the MJHMP meetings.

For the Walker River Paiute Tribe, Cynthia Oceguera, provided information on the hazard profiles and the Walker River Paiute Tribe Annex. She met with Tribal Directors and Tribal Fire Chief Galen Costillo to review elements of the plan. Additionally, representatives from the Walker River Paiute Tribe reported back to their local departments and worked within their local government structures to collect data, identify mitigation actions and implementation strategies, and review and provide data on plan drafts. Several meetings with Tribal personnel were held. DEM coordinated with Ms. Oceguera via phone and email, in addition to the Planning Committee meetings, in order to prepare the Annex.

A.2 HAZARD PROFILES AND VULNERABILITY ASSESSMENT

The intent of this section is to assess the Walker River Paiute Tribe's vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 6 Vulnerability Assessment in the main plan.

Data Deficiencies

For this update, there were several data limitations including building valuations and GIS information for the vulnerability analysis. The best information available for the Tribe was provided. Future iterations of the plan will work towards resolving this issue.

A.2.1 Hazard Identification

The Tribe's planning team identified the hazards that affect the community and summarized their geographic location, probability of future occurrence, potential magnitude or severity, and planning significance specific to the Tribe (see **Table A-3**). In the context of the countywide planning area, there are no hazards that are unique to the Walker River Paiute Tribe. Only those hazards rated with a planning significance of medium and high are profiled in this annex.

Table A-3: Walker River Paiute Tribe – Hazard Summary

High Risk	Medium Risk	Low Risk

Flood Severe Weather	Drought Earthquake Wildland Fire	Avalanche Epidemic Hazardous Materials Infestation Landslide Terrorism Volcano

A.2.2 Community Asset Inventory

This section defines and quantifies populations, buildings, critical facilities, and other community assets at risk to natural and manmade hazards in the Walker River Paiute Tribe.

Table A-4 shows the total population, number of residential buildings, number of nonresidential buildings and the total value of buildings in the Walker River Paiute Tribe.

Table A-4: Estimated Population and Building Inventory

Population	Residential Buildings		Nonresidential Buildings	
2015 Population	Total Building Count	Total Value of Buildings (in millions)	Total Building Count	Total Value of Buildings (in millions)
720	280	NA	8	NA

Source: Walker River Paiute Tribe and Walker River Paiute Tribe Housing Department; http://www.wrpt.us/housing.htm

A critical facility is defined as a public or private facility that provides essential products and services to the general public, such as preserving the quality of life in the Tribe and fulfilling important public safety, emergency response, and disaster recovery functions. They are identified in **Table A-5**.

Similar to critical facilities, critical infrastructure is defined as infrastructure that is essential to preserve the quality of life and safety in the Tribe. Critical infrastructure is identified in **Table A-5**.

Table A-5: Walker River Paiute Critical Facilities and Infrastructure

Category	Type	Number	Estimated Value Total (millions of $)
Walker River Paiute			
Critical Facilities	Walker River Paiute Tribal Administration Building	1	NA
	Walker River Tribal Health Clinic	1	NA
	Walker River Tribal Housing Authority	1	NA
	Walker River Paiute Tribe Police Department	1	NA
	Schurz Volunteer Fire Department	1	NA
	Schurz Post Office	1	NA
	Schurz Elementary School	1	NA
	Four Seasons Smoke Shop	1	NA

Table A-5: Walker River Paiute Critical Facilities and Infrastructure

Category	Type	Number	Estimated Value Total (millions of $)
Walker River Paiute			

Source: Walker River Paiute Tribe

A.2.4 Other Assets

Assessing a jurisdiction's vulnerability to disaster also involves inventorying the natural, historical, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- In the event of a disaster, an accurate inventory of natural, historical and cultural resources allows for more prudent care in the disaster's immediate aftermath when the potential for additional impacts is higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, for example, wetlands and riparian habitat which help absorb and attenuate floodwaters and thus support overall mitigation objectives.

The Walker River Paiute Indian Reservation supports populations of mule deer, antelope, small game, waterfowl, and upland birds. Other natural resources include water, farmland, rangeland, recreational land (for hunting, fishing, hiking, camping, off-road sports), minerals, and wildlife. Weber Reservoir provides the ability to store water for use during summer months, as well as for recreational activities. The reservoir can provide habitat for bald eagles, peregrine falcons, and other wildlife. Both Weber Reservoir and Walker Lake are recognized by the tribe as important resources.

Information on the natural, historical, and cultural assets specific to the Walker River Paiute Tribe was not available. For the next update, this information will be listed below in **Table A-6**.

Table A-6: Walker River Paiute Tribe – Historic Properties

Property Name	Address	Date Listed

A.2.5 Growth and Development Trends

The Walker River Tribe's Economic Development Department handles an array of projects which include Cell Tower Leases, Oversight of the Four Seasons Market, Grant Writing, Community Newsletter and Renewable Energy Projects.

The Economic Development Department has a governing board namely the Enterprise Board that reviews progress of the projects and takes action on sponsorships and donations with the main focus of accomplishing the task of advertising for the Four Seasons Market and Year Around Sales of Fireworks.

Due to the economic downturn, development in the last 5 years has been minimal. There have been over 25 new houses constructed.

The WRPT has a new police facility planned and new housing planned for the next 10 years.

A.2.6 Vulnerability Assessment by Hazard

The vulnerability assessment analyzes the population, property, and other assets at risk in the Walker River Paiute Tribe to hazards of significance that may vary from other parts of the planning area. Although the best information available for the Tribe was provided, due to data limitations regarding building valuation and GIS, a vulnerability assessment for tribal properties could not be completes.

In the future **Tables A-7** and **A-8** below will serve as the template for the results of a complete exposure analysis. For each hazard, there is a brief hazard/problem description, any past occurrences that have been provided by the Planning Committee, and a vulnerability overview for the hazard specific to the Walker River Paiute Tribe.

Table A-7: Potential Hazard Vulnerability Assessment – Population and Buildings

Hazard	Population[3]	Buildings			
		Residential		Nonresidential	
	Number	Number[3]	Value ($)[1]	Number[3]	Value ($)[1]
Total for WRPT	720	280	N/A	8	N/A
Avalanche	0	0	0	0	0
Drought	720	280	N/A	8	N/A
Earthquake –Magnitude 6.0[2] (60% chance in 50 years)	720	48	N/A	2	N/A
Epidemic	720	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone	0*	0	0	0	0
Hazardous Materials Event – 1-mile buffer transport corridors 80%	N/A	N/A	N/A	N/A	N/A
Infestation	0	0	0	0	0
Severe Weather – High – 40% of population & 1% buildings	288	3	NA	1	N/A
Landslide	0	0	0	0	0
Terrorism 80%	576	224	N/A	6.4	N/A
Volcano/Ash	720	N/A	N/A	N/A	N/A
Wildland Fires – Extreme –(Marietta)	N/A	N/A	N/A	N/A	N/A

[1] Value = Estimated Market value in millions Data acquired from Mineral County's Assessor's Office

N/A = Not Applicable or Not Available

[2] Data acquired from Nevada Bureau of Mines and Geology Open-file Report 09-8, HAZUS-MH

[3] Data source Nevada State Demographer 2010 Estimates

*Walker River Paiute Tribe has not been mapped by FEMA.

Table A-8: Potential Hazard Vulnerability Assessment – Population and Buildings

	Tribal Police Department (1)		Fire Department (1)		Health Clinic (1)		Schools & Shelters (1)		Admin Buildings (3)		Post Office (1)	
Hazard	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Avalanche	0	0	0	0	0	0	0	0	0	0	0	0
Drought	0	0	0	0	0	0	0	0	0	0	0	0
Earthquake - 100yr Magnitude 6.0[2]	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A
Epidemic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flood - 100-Year Flood Zone*	0	0	0	0	0	0	0	0	0	0	0	0
Flood – 500 Year Flood Zone*	0	0	0	0	0	0	0	0	0	0	0	0
Hazardous Materials Event – 1-mile buffer transport corridors	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Infestation	0	0	0	0	0	0	0	0	0	0	0	0
Landslide	0	0	0	0	0	0	0	0	0	0	0	0
Severe Weather	0	0	0	0	0	0	0	0	0	0	0	0
Terrorism	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A	1	N/A
Wildland Fire Extreme	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Volcano/Ash	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1 Value in millions

*Walker River Paiute Tribe has not been mapped by FEMA.

A.2.6.1 Drought

Planning Significance:	Medium

According to the U.S. Seasonal Drought Monitor, the entire area of the Tribe is at equal risk to a drought event. The entire population of the Tribe, 720, may be affected by the drought however building and critical facilities would just be limited in their use but would not be damaged. The impact of a drought on the Walker River Paiute Tribe is primarily one of water supply; however, the impact to natural resources in the Tribe is also a concern. Impacts on the community may be economic or associated with the relationship between drought and other natural hazards. Prolonged drought has caused crop failures and grazing restrictions on livestock, which may cause economic impacts in the community. If drought impacts groundwater levels, community water supplies could be affected. Additionally, drought may cause or accelerate insect infestations and dust storms. The drying impact of drought on vegetation may increase the frequency and intensity of wildfires. Continued drought and impacts attributed to global climate change can set in motion a series of events ranging from a change in fire behavior to habitat conversion to a decline in many of the bird and terrestrial species.

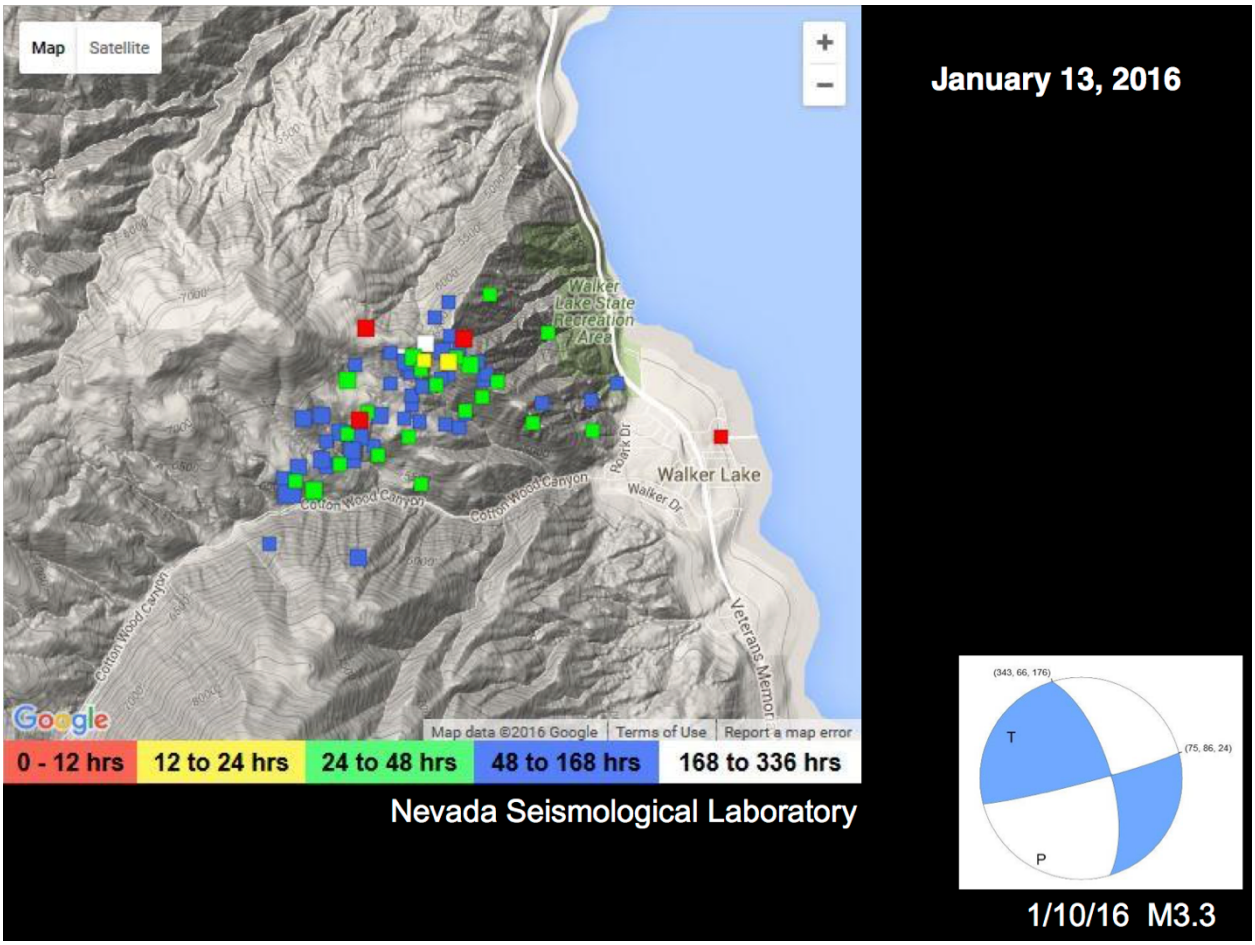
According to the ***Assessment of Drought Resiliency in Rural Northern Nevada*** prepared by the Desert Research Institute in April 2016, in the Walker Lake Valley, municipal supply wells are resilient to the impact of a 15-year severe drought. The most significant impact of drought occurs in the mountain block. 15-year severe drought does not pose a significant threat to domestic wells in this area. The majority of the simulated drawdown is concentrated in the area of municipal wells, indicating that municipal well pumping exerts a dominant influence on water level decline in the Whiskey Flat-Hawthorne area. Water level decline due to pumping presents a more significant threat to resilience than a 15- year severe drought.

A.2.6.2 Earthquake

Planning Significance:	Medium

As previously stated in Section 5.3.3 of the base plan, the State of Nevada is one of the three most seismically active states in the U.S. and there has been a recent noticeable activity of earthquake clusters in the area. It was first noted that in March and April of 2011 there were a cluster of over 100 earthquakes north of Walker Lake and south east of Hawthorne the greatest being a 4.6 magnitude. Since this time, this area has remained very active and is more active that other areas in Nevada. See Figure A-1. UNR's Seismology Lab will continue to monitor these areas.

Figure A-1 Earthquake Clusters near Walker Lake



Source: NBMG 2016; Presentation at February 23, 2016 NHMPC Meeting

The location of damage from an earthquake would have the greatest impact in Hawthorne or Schurz with the highest population density.

According to a recent presentation to NHMPC by Craig dePolo of the NBMG, Mineral has a 6% chance of having an earthquake that is elevated and should motivate individuals to take action. Due to activity Mineral would be in top 5 areas of the State that is more at risk to a larger earthquake.

Using HAZUS-MH earthquake perimeters of a 6.0 magnitude event which has a 61% chance of occurring over 50 years according to NBMG, 17% of the buildings will be at least moderately damaged. This includes the addition of all structures including sheds, carports, detached garages and other auxiliary buildings. Cost estimates for the potential buildings damaged were not available. This information will be incorporated into the next plan update.

A.2.6.3 Flood

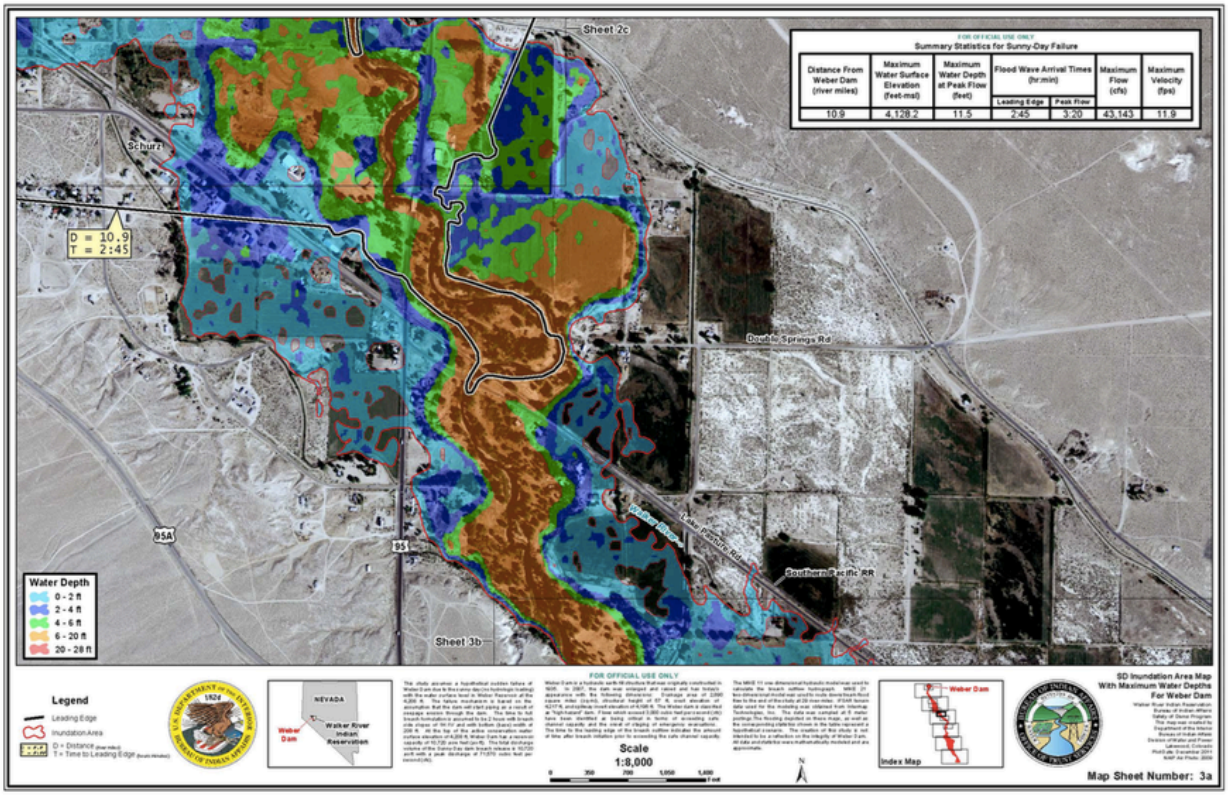
Planning Significance:	High

The main stem of the Walker River flows through the reservation in a southeasterly direction for approximately 45 river miles (Figure 1). However, the Walker River Paiute Tribe has not been mapped by FEMA for flood zones. Walker Lake, the terminus of the Walker River, lies at the southern end of the reservation. Flood, particularly during the annual spring thaw, could present a hazard to those residents of the Walker River Paiute Tribe living in the flood-prone areas of the Walker River. . Although inundation mapping has been completed, it does not identify the number of buildings impacts or costs associated with those buildings.

Previous occurrences of flood events are listed in Section 5.8 Flood, many of which affect the Walker River Paiute Tribe.

Weber Dam (near Walker River Paiute Indian Reservation and Schurz) has a very low hazard rating from the Bureau of Indian Affairs (BIA), Dam Safety. It is an earthen dam originally built in 1933-1935, with a major repair in 2007. So dam failure probability is very low with minimal damage to roads if failure occurred. However, if Weber Dam were to fail, lives and property in the dam failure inundation pathway would be endangered.

Figure A-2 Schurz Inundation Map



National Flood Insurance Program

The Walker River Paiute Tribe does not participate in the National Flood Insurance Program.

A.2.6.4 Severe Weather

Planning Significance:	High

Thunderstorms, hailstorms, tornadoes, windstorms, and winter storms are all types of severe weather that affect the Walker River Paiute Tribe.

Thunderstorms that produce hail and downburst winds occur in the Tribe every year. **Hailstorms** are a common occurrence in the Tribe, especially during the late spring through early fall months when thunderstorms are most frequent. **Tornadoes** are rare in the Tribe and therefore have a low probability of occurring due to the mountainous terrain which prevents them from spinning up. **Severe wind events** in the Tribe occur every year and are the result of two weather events: winter storms (downslope winds) or summer thunderstorms (downburst winds). **Winter storms** occur each year in Walker River Paiute Tribe but are of varying impact. Most frequently high winds are the main impact however on the order of 1-2 times each winter heavy snowfall or rainfall can accompany winter storms.

Schurz is one of the locations of greatest impact of severe weather due to the Tribe's population being located in that areas.

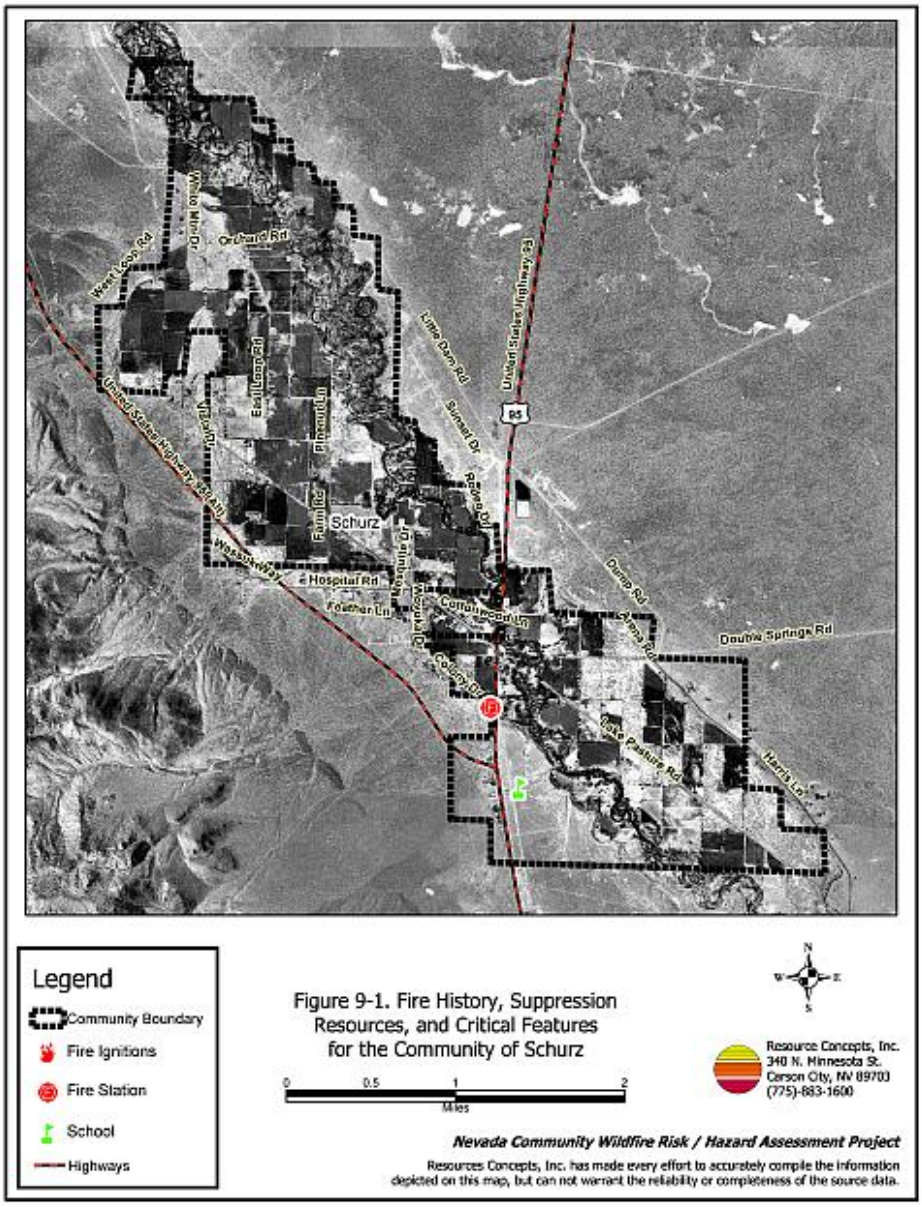
Using winter storm data provided by the NWS, risk posed by winter storms were calculated for the Tribe. All population and buildings are within the sever winter storm hazard area however homes and buildings within the County are built to withstand a degree of severe weather. The Planning Committee determined that a severe winter storm or wind event may affect 40% of population (due to road closures) and 1% of the buildings which are 288 people for the Tribe. No building values were available.

A.2.6.5 Wildland Fire

Planning Significance:	Medium

According to the Nevada Community Wildfire Risk/Hazard Assessment Project for the County, the risk posed by wildland fire is rated low. The small community of Marietta is categorized as high hazard and Schurz is categorized as a moderate hazard if evaluated separately. Exposed within this high wildland fire hazard area, are 20 people, 16 residential buildings (worth $2.2 million) and 0 nonresidential buildings. There are no critical facilities. The actual exposure within Schurz was not broken out separately.

Figure A-3 Schurz Fire History



A.3 CAPABILITY ASSESSMENT

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

A.3.1 Regulatory Mitigation Capabilities

Table A-9 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the Walker River Paiute Tribe.

Table A-9: Walker River Paiute Tribe—Regulatory Mitigation Capabilities

Regulatory Tool	Title	Effect on Hazard Mitigation
Plans	Walker River Paiute Tribe Comprehensive Emergency Plan	2011. This plan provides guidance to emergency personnel responding to disasters.
	Walker River Regional Floodplain Management Plan	Provides flood identification and habitat remediation.
	Emergency Response Plan	2011.

A.3.2 Administrative/Technical Mitigation Capabilities

The administrative and technical capability assessment identifies the staff and personnel resources available within the WRPT to engage in mitigation planning and carry out mitigation projects.

Table A-10 identifies the personnel responsible for activities related to mitigation and loss prevention in the Walker River Paiute Tribe.

Table A-10: Walker River Paiute Tribe—Administrative and Technical Mitigation Capabilities

Staff/Personnel Resources	Department / Agency
Planner(s) or engineer(s) with knowledge of land development and land management practices	Land Assessment
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Housing Department, Building Department
Planner(s) or engineer(s) with an understanding of manmade or natural hazards	Environmental, Emergency Management
Staff with education or expertise to assess the community's vulnerability to hazards	Emergency Management, Fire, Haz Mat, Health Clinic
Personnel skilled in GIS and/or HAZUS-MH	GIS
Emergency Services	Fire, Police

A.3.3 Fiscal Mitigation Capabilities

Table A-11 identifies financial tools or resources that the Walker River Paiute Tribe could potentially use to help fund mitigation activities.

Table A-11: Walker River Paiute Tribe—Fiscal Mitigation Capabilities

Financial Resources	Effect on Hazard Mitigation
Local	
Authority to levy taxes for specific purposes	N/A
Capital Improvement Plans and Impact Fees	N/A
Community Development Block Grants	N/A
Incur debt through general obligation bonds	N/A
Incur debt through special tax and revenue bonds	N/A
Incur debt through private activity bonds	N/A
Withhold spending in hazard-prone areas	N/A
Federal	
FEMA Hazard Mitigation Project Grants (HMPG) and Pre-Disaster Mitigation (PDM) grants	Provides technical and financial assistance for cost-effective pre-disaster and post-disaster mitigation activities that reduce injuries, loss of life, and damage and destruction of property.
FEMA Flood Mitigation Grant Program (FMA)	Mitigate repetitively flooded structures and infrastructure.
USFA Assistance to Firefighters Grant (AFG) Program	Provide equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire.
FEMA/DHA Homeland Security Preparedness Technical Assistance Program (HSPTAP)	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (prevention, protection, response, recovery) and homeland security program management.
US HUD Community Block Grant Program Entitlement Communities Grants	N/A
EPA Community Action for a Renewed Environment (CARE)	N/A
EPA Clean Water State Revolving Fund (CWSRF)	N/A
CDC Public Health Emergency Preparedness (PHEP) Cooperative Agreement.	N/A

A.4 MITIGATION STRATEGY

A.4.1 Mitigation Goals and Objectives

The Walker River Paiute Tribe adopts the hazard mitigation goals and objectives developed by the Hazard Mitigation Planning Committee and described Chapter 4 Mitigation Strategy.

A.4.2 Mitigation Actions

The planning team for the Walker River Paiute Tribe did not identify and prioritize mitigation actions separate from the full planning committee. However, in the future, the Tribe will work to identify their own mitigation actions based on the risk assessment. Table 8.2 in Section 8 Mitigation Strategy provides mitigation actions that are applicable to all jurisdictions.

During the September 22, 2016, Planning Committee meeting, the Tribe also ranked the mitigation action items exclusively for the Tribe, as can be found in **Table A-12**.

The following outline the template for future mitigation actions specific to the Walker River Paiute Tribe. Background information on how each action will be implemented and administered, such as ideas for implementation, responsible agency, potential funding, estimated cost, and timeline will also are included.

Mitigation Action:

1.

Jurisdiction: Walker River Paiute Tribe

Priority:

Issue/Background:

Ideas for Implementation:

Responsible Office:

Partners:

Potential Funding:

Cost Estimate:

Benefits (Losses Avoided):

Timeline:

Table A-12: Walker River Paiute Tribe Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
1A.	Update the Master Plan to be consistent with the hazard area maps and implementation strategies developed in the HMP every 10 years, including Avalanche, Drought, Infestation, Landslide and Volcano hazards. Update Ordinances every 3 years.	County Planning	Local Gen. Fund, HUD	24-36 months Staff Time	Protection of lives due to pre-planning.	Medium due to economic and technical reasons
1.B	Annually review the EOP & update & integrate w/local Hazard Mitigation Plan, including Avalanche, Drought, Infestation, Landslide and Volcano hazards.	Emergency Mgr. Fire Dept.	HMGP, PDM, SERC, EMPG, USEPA, NDEP, NDCNR; DHS, Local Gen. Fund	Ongoing Staff Time	Protection of lives and property due to pre-planning.	Medium
1.C	Increase GIS and mapping capability to assess the risks in the County .	County Planning	Local Gen. Fund	Ongoing Staff Time & $50,000/yr	Protection of lives and property due to pre-planning	High
2.A	Utilize social media as a communication tool, as well as an education tool for hazard loss prevention.	Emergency Mgmt., Fire Dept., Sherriff, School District, Health Dept.	Local Gen Fund	Ongoing Staff Time	Protection of homes, businesses, infrastructure, and critical facilities.	High
2.B	Conduct minimum of one disaster exercise/year.	Emergency Mgr. Fire Dept.	EMPG, SERC, USEPA, NDEP, NDCNR, Local Gen Fund	Ongoing Staff Time	Protection of lives and property due to pre-planning.	High
2.C.	Annually review EOP & update and integrate w/local Hazard Mitigation Plan.	Public Works – Flood Plan Mgr. Fire Dept.	EMPG, SERC, USEPA, NDEP, NDCNR, Utility Service Charge	18-24 months Staff Time	Protection of lives due to pre-planning.	Low
2.D	Prepare, develop, & distribute appropriate public information about hazard mitigation programs and projects at County sponsored events,	Emergency Mgmt., Fire Dept., Sherriff, School District, Health Dept	Local Gen. Fund	Ongoing Staff Time $30,000	Protection of homes, businesses, infrastructure, and critical facilities.	Medium

Table A-12: Walker River Paiute Tribe Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
	including Avalanche, Drought, Infestation, Landslide and Volcano hazards.					
3.A	Continue to enforce the International Building Code (IBC IFC) provisions pertaining to grading and construction relative to seismic hazards. Update County Codes to IBC 2012 when it is released	County Bldg. Dept. & Planning Dept.	Local Gen Fund	Ongoing Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
3.B	Implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facility and infrastructure, and retrofit buildings, if necessary.	County Building, Planning & Public Works	HMGP, PDM, US HUD, Local Gen. Fund	24-48 months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
3.C	Implement an Unreinforced Masonry (URM) building program that surveys and ground truths existing building inventory.	County Building, Planning & Public Works	HMGP, PDM, US HUD, Local Gen. Fund	24-48 months $10,000	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
4.A	Improve communication, collaboration and integration among stakeholders and promote awareness of epidemic threats.	Health Dept.	NV Health & Human Services, CDC	6-12 months Staff Time	Protection of lives due to pre-planning.	High
4.B	Create & implement a training and exercise program relative to epidemics.	Health Dept.	NV Health & Human Services, CDC, Mt. Grant Hospital	6-12 months Staff Time	Protection of lives due to pre-planning	High
5.A	Review & update flood plans for coordination w/adjacent counties, cities, and special districts supporting a regional approach to flood.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NDRCS, Local, PW	24-36 months Staff Time $50,000 – 100,000	Protection of homes, businesses, infrastructure, and critical facilities while strengthening regional coordination.	High
5.B	Install new flood facilities & update storm drain system.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NDRCS, Local, PW	24-36 months $250,000 – $500,000	Protection of homes, businesses, infrastructure, and critical facilities.	High

Table A-12: Walker River Paiute Tribe Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline & Cost	Economic Justification	Priority Level
5.C	Protect & enhance existing municipal water conveyance structures, storage & treatment facilities.	Public Works	PDM, HMGP, FMA, RFC, USDA, NDEP, USEPA, NRCS, FEMA, 319(h) grants (Clean Water Act), PW	24-36 months $250,000 – $500,000	Protection of homes, businesses, infrastructure, and critical facilities.	Medium
6.A	In areas at risk to severe weather, retrofit public buildings to withstand snow loads and severe winds to prevent roof collapse/damage.	County Public Works	PDM, HMGP, Local Gen. Fund	12-14 months $10,000 - $50,000	Protection of infrastructure, and critical facilities.	Medium
7.A	Develop partnerships for a community based vegetation management program including chipping programs.	Tribe Weed Crew	NDF, BLM, National Fire Monies, USFS, Local General Fund	6-12 Months Staff Time	Mitigation Project will ensure a greater number of residential structures and critical facilities and infrastructure benefit from actions to protect lives and property from wildfire.	High
7.B	Work with UNR Cooperative Extension for Fire Prevention Awareness.	County Fire Dept.	Local General Fund, UNR	6-12 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Medium
8.A	Review zoning ordinances to reduce public health risks from hazardous materials release.	County Bldg. Dept., Fire Dept.	Local General Fund, NDEP, USEPA	12-24 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low
9.A	Develop terrorism awareness program.	County Bldg. Dept., Fire Dept.	Local General Fund, NDEP, USEPA	12-24 Months Staff Time	Protection of lives, homes, businesses, infrastructure, and critical facilities	Low

BLM= Bureau of Land Management
PW = Public Works
DHS= Dept. of Homeland Security
EMPG = Emergency Management Performance Grant
FMA=Flood Management Assistance
HMGP = Hazard Mitigation Grant Program
HUD=Housing & Urban Development
NDEP = Nevada Division of Environmental Protection
NDF = Nevada Department of Forestry
NDRCS=Nevada Dept. Resource Conservation Services
PDM = Pre-Disaster Mitigation
RFC=Resource Finance Corporation
SERC = State Emergency Response Commission
USDA = U.S. Department of Agriculture
USEPA = U.S. Environmental Protection Agency
USFS = U.S. Fire Service
USGS = US Geological Survey

A.4.3 Monitoring Progress of Mitigation Activities

In the future, the Walker River Paiute Tribe will provide information regarding monitoring the progress of mitigation actions. This discussion will include how mitigation measures and projects closeouts would be monitored and what system is in place for monitoring grant funding.

A.5 PLAN ADOPTION AND ASSURANCES

In the future, once additional information is added to this annex which meets all FEMA requirements, the Walker River Paiute Tribe will adopt Annex A as its own plan in accordance with FEMA requirements for plan adoption requiring formal adoption by the governing body of the Indian Tribal government prior to submittal to FEMA for final review and approval. A sample adoption resolution is included in Appendix A.

With the formal adoption of this plan by the tribal governing body, the Walker River Paiute Tribe assures that their tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.1(c) and will amend its plan whenever necessary to reflect changes in tribal or Federal laws and statutes as required in 44 CFR 13.11 (d).