



LYON COUNTY REGIONAL HAZARD MITIGATION PLAN

2023 Edition

FEMA APPROVED SEPTEMBER 2024

PARTICIPATING JURISDICTIONS:



Lyon County

**Lead Jurisdiction*



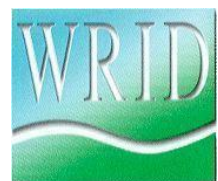
City of Fernley



City of Yerington



Central Lyon Co.
Fire Protection
District



Walker River
Irrigation District



Yerington / Mason
Valley Fire Protection
District



Smith Valley Fire
Protection District



North Lyon Co. Fire
Protection District



Carson Water
Subconservancy
District



Mason & Smith Valley
Conservation Districts



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PLAN ADOPTION AND APPROVAL

44 CFR §201.6(c)(5) requires that the Lyon County Regional Hazard Mitigation Plan be formally adopted by the Board of County Commissioners and all participating jurisdictions. The Hazard Mitigation Plan has been adopted by each jurisdiction as of the following dates. Plan adoption resolutions are included in Appendix A.

JURISDICTION	ADOPTING BODY	ADOPTION DATE
Lyon County	Board of County Commissioners	December 21, 2023
City of Fernley	City Council	December 20, 2023
City of Yerington	City Council	January 8, 2024
Central Lyon County Fire Protection District	Board of Fire Commissioners	January 11, 2024
North Lyon County Fire Protection District	Board of Fire Commissioners	January 11, 2024
Yerington / Mason Valley Fire Protection District	Board of Fire Commissioners	April 17, 2024
Smith Valley Fire Protection District	Board of Fire Commissioners	February 12, 2024
Carson Water Subconservancy District	Board of Directors	January 17, 2024
Mason and Smith Valley Conservation Districts	Board of Directors	January 16, 2024
Walker River Irrigation District	Board of Directors	February 7, 2024

This plan is pending approval by the Federal Emergency Management Agency (FEMA).



U.S. Department of Homeland Security
FEMA Region 9
1111 Broadway, Suite 1200
Oakland, CA 94607

FEMA

October 1, 2024

Taylor Allison
Emergency Manager
Lyon County
34 Lakes Blvd.,
Dayton, NV 89403

Dear Taylor Allison:

The *Lyon County Regional Hazard Mitigation Plan* was officially adopted by the Lyon County and submitted for final review and approval to the Federal Emergency Management Agency (FEMA). The review is complete, and FEMA finds the plan to be in conformance with the Code of Federal Regulations, Title 44, Part 201, Section 6 (44 C.F.R. 201.6). A list of the status of participating jurisdictions is enclosed with this letter.

This plan approval ensures the Lyon County's continued eligibility for funding under FEMA's Hazard Mitigation Assistance programs, including the Hazard Mitigation Grant Program (HMGP), the Building Resilient Infrastructure and Communities program (BRIC), and the Flood Mitigation Assistance (FMA) program. All requests for funding are evaluated individually according to eligibility and other program requirements. Approved hazard mitigation plans may also be eligible for points under the National Flood Insurance Program's Community Rating System (CRS).

FEMA's approval is for a period of five years, effective the date FEMA found all requirements, including plan adoption, met on September 12, 2024. Prior to September 12, 2029, the Lyon County and all participating jurisdictions must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides additional recommendations to incorporate into future plan updates.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

**KATHRYN J
LIPIECKI**

Kathryn Lipiecki
Director, Mitigation Division
FEMA Region 9

Digitally signed by KATHRYN J
LIPIECKI
Date: 2024.10.01 08:05:58 -0700

www.fema.gov

ACKNOWLEDGEMENTS

The development of the Lyon County Regional Hazard Mitigation Plan was made possible by the tireless work of the Mitigation Planning Team. Over the course of eight months, the team held five formal workshops and met informally many other times. This cross-sector team identified the hardest hitting hazards, described their risks and cascading impacts, and developed a comprehensive mitigation strategy to reduce risk to community members and their property. The following organizations participated in the development of the Lyon County Regional Hazard Mitigation Plan:

- Carson Water Subconservancy District
- Central Lyon County Fire Protection District
- City of Fernley
- City of Yerington
- Healthy Communities Coalition
- Lyon County
- Lyon County School District
- Lyon County Sheriff's Office
- National Weather Service – Reno
- Nevada Division of Emergency Management
- North Lyon County Fire Protection District
- Mason & Smith Valley Conservation Districts
- Mason Valley Fire Protection District
- Quad-County Public Health Preparedness
- Resource Concepts, Inc.
- South Lyon Medical Center
- Smith Valley Fire Protection District
- Walker River Irrigation District

RECORD OF PLAN UPDATE AND APPROVAL

The Lyon County Regional Hazard Mitigation Plan is required to be updated once every five years and submitted to the Board of County Commissioners for adoption and the Nevada Division of Emergency Management – Homeland Security and the Federal Emergency Management Agency for approval. The County may update the plan on a more frequent basis as needed without approval.

Refer to Chapter 8 for Plan Maintenance and Implementation.

Date of Update	Date of Adoption	Date of FEMA Approval
2023	December 21, 2023	September 12, 2024

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CHAPTER 1: INTRODUCTION

Chapter 1 describes the authorities and principles that provide the basis for Lyon County’s regional mitigation program as well as provides a description of the programs’ organization and how the plan is organized to support it.

In recent years, Lyon County has endured the impacts of a variety of hazards-turned disasters. From widespread alluvial flooding and other floods along the Carson and Walker Rivers, to wildland fires, and the ever-present risk of human-caused disasters. The region has experienced firsthand what hazards can do to a community.

In response to hazard risks, Lyon County and regional partners have made a commitment to work together to prepare for and respond to emergencies. The 2023 update of the Lyon County Regional Hazard Mitigation Plan (HMP) represents a cooperative effort by regional partners to identify mitigation projects that will reduce hazard risks over the long-term.

1.1 Authority

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act), as amended by the Disaster Mitigation Act of 2000 (DMA 2000), Public Law 106-390, and its implementing Code of Federal Regulations (CFR) provisions, 44 CFR § 201, provide the legal authority for local hazard mitigation planning. The DMA 2000 requires state, local, and tribal governments to develop an HMP that identifies the jurisdiction’s natural hazards, risks, vulnerabilities, and mitigation strategies. The planning process requirements mandated by the Federal Emergency Management Agency (FEMA) (outlined in 44 CFR §201.6) include the following activities:

- Document the planning process;
- Provide stakeholders with an opportunity to participate;
- Conduct and document public involvement;
- Incorporate existing plans and reports;
- Discuss continued public participation and plan maintenance; and
- Provide a method for monitoring, evaluating, and updating the HMP.

Once complete, the HMP must be submitted to FEMA for approval. FEMA’s approval of an HMP is a prerequisite for federal Hazard Mitigation Assistance grant program eligibility (outlined in 42 CFR §5165(a)).

The Lyon County Regional Hazard Mitigation Plan was prepared in accordance with the requirements of the Stafford Act, as amended by the DMA 2000, and the implementing 44 CFR § 201 provisions, as well as in compliance with the 2023 Local Mitigation Planning Guide released April 19, 2022 and effective April 19, 2023. The County and all participating communities will integrate appropriate Americans with Disabilities Act standards into mitigation projects and actions implemented as a part of the planning process. For example, alterations to existing facilities, such as seismic retrofits, will comply with all applicable federal accessibility requirements.

1.1 Purpose and Scope

What is Hazard Mitigation?

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property posed by hazards (44 CFR §201.2). Hazard mitigation activities may be implemented prior to, during, or after an event. However, it has been demonstrated that mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.

Additionally, hazard mitigation planning is one of the five mission areas presented in the National Preparedness Goal: Mitigation, Prevention, Protection, Response, and Recovery (see Figure 1-1). The Lyon County Regional HMP is an integral piece of the region's comprehensive approach to emergency management and is designed to align and integrate with other existing plans and emergency management activities.

Figure 1-1. Emergency Management Cycle



Mitigation planning is important because it not only encourages communities to become more flexible and adapt to change more easily, but it also:

- Guides mitigation activities in a coordinated and efficient manner;
- Integrates mitigation into existing tribal plans/programs;
- Considers future growth and development trends;
- Makes a community more disaster-resilient; and
- Ensures eligibility for grant funding.

1.1.1 Purpose

The Lyon County Regional HMP assesses the potential impact of all prioritized hazards to community members and property and provides mitigation strategies and actions to reduce such risks. The HMP prioritizes these strategies and includes an implementation plan to ensure strategic actions are carried out. The 2023 HMP is the required update of the region's 2018 HMP, expanded to include additional

participating agencies (see Section 1.1.2). The updated HMP ensures that community members have access to the most up-to-date hazard risk information and maintains the County's and participating communities' eligibility to receive federal mitigation funding.

1.1.2 Scope

 FEMA REQUIREMENT 44 CFR §201.6(c)(1)	A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?

While the HMP is focused on community members and property, it also includes strategies for broader community risk reduction. The County represents a geographically large region with communities throughout. The HMP attempts to account for all areas of risk concern and address the needs of each participating community. It is designed to integrate with other planning efforts and neighboring county mitigation plans, and to be multi-jurisdictional, representing the efforts of each participating communities within the region. According to 44 CFR § 201.6(a)(4), local governments may work together to create a multijurisdictional plan. For multi-jurisdictional plans, one community should be designated as the lead jurisdiction. Lyon County, led by the Lyon County Office of Emergency Management, is designated as the lead jurisdiction of the 2023 Regional HMP. The following jurisdiction(s) participated in the planning process and seek approval as participating entities:

Lyon County *lead jurisdiction
City of Fernley
City of Yerington
Central Lyon County Fire Protection District
North Lyon County Fire Protection District
Yerington/Mason Valley Fire Protection District
Smith Valley Fire Protection District
Walker River Irrigation District
Carson Water Subconservancy District
Mason and Smith Valley Conservation Districts

1.2 Lyon County Hazard Mitigation Program

The HMP is one component of the region's comprehensive approach to hazard mitigation. The County and its partners maintain capabilities to ensure that all elements of the participating communities are able to support hazard mitigation activities (see Chapter 4). The following hazards are the focus of region's hazard mitigation program:

- Avalanche
- Criminal Acts and Terrorism/WMD
- Dam/Canal/Reservoir Failure
- Drought
- Earthquake
- Economic/Supply Chain
- Energy Emergency

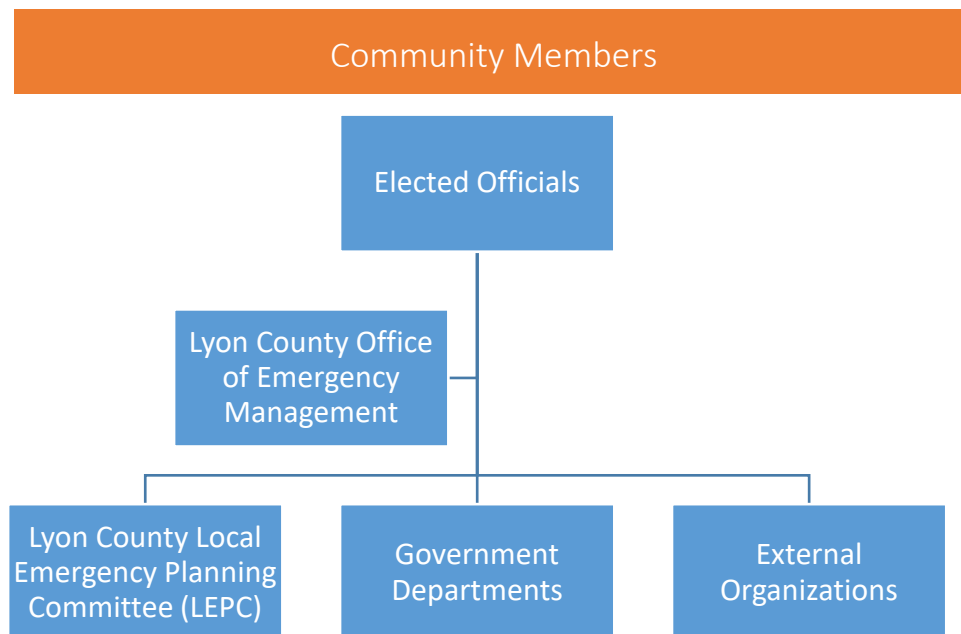
- Epidemic/Infectious Disease
- Expansive Soil
- Flood
- Hazardous Materials
- Infestation
- Landslide
- Severe Storm and Extreme Snowfall
- Technological Hazards (including Cyber)
- Tornado
- Transportation Accident (including aircraft and rail)
- Volcano
- Water/Wastewater Emergency
- Wildland Fire

See Chapter 8 for details on ongoing implementation of the County's mitigation program.

1.2.1 Organization

Figure 1-2 illustrates how Lyon County and participating jurisdictions organized to ensure an engaged and collaborative approach to mitigation planning and program implementation. This organization is informally referred to in this plan as the County's mitigation program.

Figure 1-2. Lyon County Multi-Jurisdictional Mitigation Program Organization



1.2.2 Roles and Responsibilities

The regional HMP exists as a framing document for the region's overall mitigation program. All community members, governmental entities, and businesses play a role in mitigation, and this section outlines those roles and responsibilities.

1.2.2.1 Community Members

Prepared and educated community members are a critical aspect of the region's resiliency, and the County and its partners actively encourage their members to participate in efforts to minimize vulnerability to hazards by engaging in the following activities:

- Participate in preparedness programs. More information can be found in newsletters, in Facebook pages, and through direct engagement.
- Engage in personal and family preparedness and mitigation activities at home and at work.

1.2.2.2 Elected Officials

Elected leadership plays a key role in the County's mitigation program. As the local decision makers, elected officials are responsible for balancing budgetary needs with the need to reduce risks. Participating community elected officials perform the following activities in support of the County's mitigation program:

- Develop and set policy guidance and direction for the County's hazard mitigation program;
- Pass required ordinances to support the hazard mitigation program;
- Provide resources, funding, and direction for protecting and enhancing the lives of community members, and protecting cultural and natural resources;
- Adopt the HMP; and
- Approve funding and projects outlined in the HMP.

1.2.2.3 County Emergency Manager

Lyon County employs an Emergency Manager to oversee the Lyon County Office of Emergency Management in compliance with [Nevada Revised Statutes \(NRS\) 414.090](#). The County Emergency Manager serves as the lead coordinator for the community mitigation program. The emergency manager facilitates mitigation activities, including updates to the HMP, and provides technical assistance to other departments. Key responsibilities of the emergency managers include the following:

- Facilitate the community's hazard mitigation program;
- Provide technical support to departments regarding integration of hazard mitigation into department activities;
- Act as a liaison to external organizations collaborating on mitigation activities; and
- Keep elected officials apprised of the status of the County's hazard mitigation program

1.2.2.4 Mitigation Planning Team

The Mitigation Planning Team (MPT) includes members of the Lyon County Local Emergency Planning Committee, representatives from participating jurisdictions, and other key stakeholders. The MPT was

developed to ensure that the HMP is representative of capabilities, resources, and concerns throughout the region. Moving forward, the MPT will regularly convene to monitor, evaluate, and implement the region's mitigation program. Additional key responsibilities of the MPT include the following:

- Support ongoing implementation of the region's hazard mitigation program (see Chapter 8);
- Meet annually (at minimum) to address progress made on mitigation actions to date; and
- Provide input and technical support for updating and maintaining the HMP.

Refer to Chapter 3 for a discussion of the role of the MPT in the 2023 update of the Lyon County Regional HMP.

1.2.2.5 Governmental Departments and Agencies

The success of the region's mitigation program is dependent on mitigation being a shared endeavor across all organizational elements of the governmental departments of each participating community. Departments are strongly encouraged to incorporate hazard mitigation into their plans and programs and be active participants in the County's efforts to enhance resiliency. Key responsibilities of tribal departments include the following:

- Implement actions identified in the HMP;
- Incorporate hazard mitigation into other departmental planning efforts; and
- Assign a representative to serve as a liaison to the MPT.

1.2.2.6 Community Partners and Neighboring Jurisdictions

The County is committed to a collaborative mitigation program that strives to integrate with other community efforts to mitigate the impacts of hazards. While the scope of the HMP primarily includes participating community departments, the County will continue to look for opportunities to partner with neighboring jurisdictions, private industry, nonprofit organizations, and community- and faith-based organizations in its mitigation program. In particular, the County will coordinate with neighboring counties, the State of Nevada, and FEMA Region IX. Key responsibilities of community partners include the following:

- Incorporate hazard mitigation into organizational and business activities; and
- To the greatest extent possible, coordinate hazard mitigation activities with those of the County and other community partners.

Refer to Chapter 3- Planning Process for a discussion of how community partners were engaged in the 2023 update of the Lyon County Regional HMP

1.3 Plan Organization

The 2023 update of the Lyon County Regional HMP is organized in to the following chapters:

Chapter 1 – Introduction. Identifies the authorities on which the plan is based, describes the plan's purpose and scope, describes how the plan is organized, and identifies changes to the plan since 2019.

Chapter 2 – Community Profiles. Summarizes the community profile for the County, including geographic, demographic, and socioeconomic characteristics that make the area unique.

Chapter 3 – Planning Process. Describes the process used to update the plan, including the data sources and plan integration activities, outreach and engagement strategies, MPT activities, and plan development milestones.

Chapter 4 – Hazard Profiles and Risk Assessments. Summarizes the hazards that could potentially impact the community, including a hazard-ranking table.

Chapter 5 – Vulnerability Analysis. Identifies vulnerable assets such as people, housing units, critical facilities, infrastructure and lifelines, hazardous materials facilities.

Chapter 6 – Capability Assessment. Identifies the existing mitigation capabilities of departments and organizations and highlights mitigation accomplishments over the last planning cycle.

Chapter 7 – Mitigation Strategy (Goals, SMART Objectives). Provides updated goals and SMART objectives for the region’s mitigation program and identifies a comprehensive set of prioritized mitigation actions that contribute to the region’s resiliency.

Chapter 8 – Plan Maintenance and Implementation. Describes the plan for monitoring, evaluating, updating, and implementing the Lyon County Regional HMP over the next five-year period.

In addition to the main document, the HMP is supported by a series of appendices that provide the documentation of the planning process, expanded map sets, and additional data supporting the Vulnerability Assessment.

1.4 What’s New in the 2023 Update?

The mitigation planning team utilized an updated format for the 2023 HMP update to align with the 2023 Local Mitigation Planning Guide released April 19, 2022 and effective April 19, 2023.

Recent disasters and emerging hazards have also influenced the planning priorities and development of mitigation actions for the five-year HMP cycle. In 2023, the County and its partners responded to major winter storms, and widespread regional flooding that impacted most of Lyon County. The 2023 update of the Lyon County Regional HMP includes the following additional major revisions:

- Expanded to include all four Fire Protection Districts (CLCFPD, NLCPD, MVFPD, SVFPD), Carson Water Subconservancy District, Mason & Smith Valley Conservation Districts, and the Walker River Irrigation District as formal participating jurisdictions.
- MPT included the following new hazards to profile in 2023:
 - Economic/Supply Chain Emergency
 - Water/Wastewater Emergency
 - Energy Emergency
 - Transportation Incident (including rail and aircraft)
 - Technological Emergency
- In addition, the following hazards were revised to better reflect the hazards impacting Lyon County and participating jurisdictions:
 - Dam/Canal Failure was expanded to include Reservoir Failure
 - Terrorism/Weapons of Mass Destruction (WMD) was expanded to include Criminal Acts
- The MPT also chose to identify vulnerability and mitigation strategies for each hazard by each unique participating jurisdiction to better align with the 2023 Local Mitigation Planning Guidance.

Additionally, to aid in plan review and to ensure that all FEMA planning requirements are met, text box callouts have been inserted into the plan that identify the planning element, based on FEMA's Local Plan Mitigation Review Tool, that is addressed in that particular section of the plan. The plan also strives to make robust use on internal callouts to ensure that its users can easily find related information.

The Local Mitigation Plan Review Checklist is available in Appendix B for easy review of relevant or applicable content in the plan by required planning element/sub-element.

CHAPTER 2: COMMUNITY PROFILE

Chapter 2 describes the history, location, and geography of Lyon County and participating jurisdictions as well as their government, demographic information, and current land use and development trends.

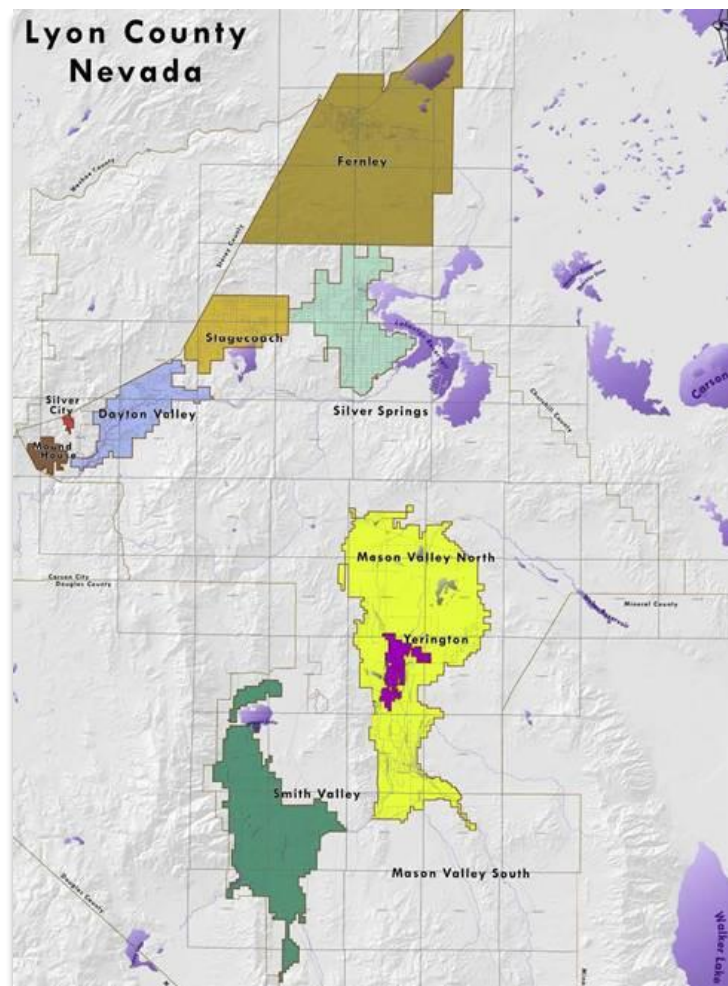
2.1 Lyon County

2.1.1 History, Location, and Geography

On October 31, 1864, Nevada became the 36th state in the union. Three years prior, the Nevada Legislature established Lyon County on November 24, 1861. Lyon County was named after Nathaniel Lyon, the first Union General to be killed in the Civil War. Dayton was the original County seat, then in 1911 the County seat was changed to Yerington.

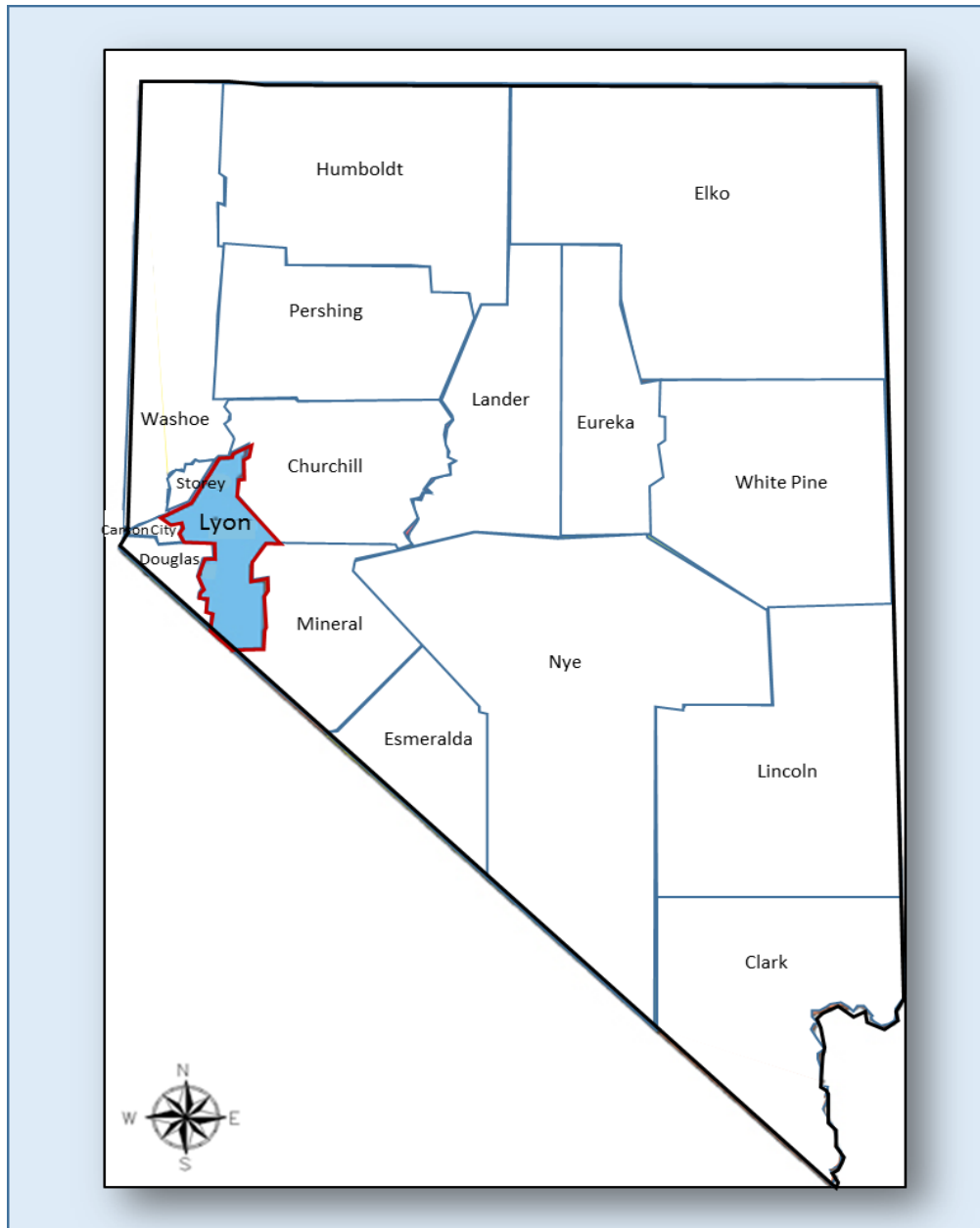
Lyon County is located in the west, central Nevada, its area totals 2,024 square miles. It includes two incorporated Cities, the City of Fernley and the City of Yerington; and seven additional population communities: Dayton, Mason Valley, Mound House, Silver City, Silver Springs, Smith Valley (Smith and Wellington), and Stagecoach.

Figure 2-1. Communities and Cities in Lyon County



Lyon County is bordered on the north by Washoe, Storey, and Churchill Counties; to the west by Carson City and Douglas County; and to the east by Churchill and Mineral Counties; and to the south by Mineral County and the State of California (Mono County).

Figure 2-2. Lyon County within the State of Nevada



Interstate 80, which runs from San Francisco to New York, cuts through the northern corner of the County. U.S. 50 runs east-west through the central portion of Lyon County, and U.S. Alt 95 is the major

north-south corridor through the county. The southern part of the County, in the area of the unincorporated town of Wellington, is crossed by highways 208 and 338.

All of Lyon County lies within the Great Basin. The County terrain is quite varied, consisting of valleys and mountains, farm/ranch lands, rivers, and extensive undisturbed areas. The highest elevation in Lyon County is approximately 10,402 feet at East Sister Peak in the Sweetwater Mountains. The lowest elevation is approximately 4,014 feet at the Fernley Sink, which is part of the Fernley Wildlife Management Area. Major mountain ranges in Lyon County include the Pine Grove Hills, Desert Mountains, Pine Nut Mountains, Virginia Range, Singatse Range, and the Sweetwater Mountains. The largest valleys in Lyon County include Mason Valley, Smith Valley, Churchill Valley, and the Carson Plains. The Carson and Walker Rivers and the Truckee Canal flow through Lyon County.

2.1.2 Lyon County Government

Lyon County is governed by a five-member board of commissioners, elected from geographic districts. Each district (districts 1-5) elects a commissioner who serves "at-large," which means the commissioners are elected by and represent all citizens in the County, for a staggered four-year term. The County Commissioners annually elect a chairperson, who serves as the Commission's presiding officer.

The Lyon County Board of Commissioners also serve as the "ex-officio" board for the Central Lyon Vector Control District, the Mason Valley Mosquito Abatement District, the Walker River Weed Control District, and the Willowcreek General Improvement District.

2.1.2.1 Lyon County Elected Officials

• County Commissioner District I	• Assessor
• County Commissioner District II	• Clerk/Treasurer
• County Commissioner District III	• Recorder
• County Commissioner District IV	• Sheriff
• County Commissioner District V	• Treasurer

2.1.2.2 Lyon County Departments

• Animal Services	• Juvenile Probation
• Assessor	• Library
• Facilities	• Public Administrator
• Clerk/Treasurer	• Recorder
• Community Development	• Roads
• Comptroller	• Sheriff's Office
• County Manager's Office	• Western Regional Youth Facility
• Courts-Judges	
• District Attorney	
• Emergency Management	
• Human Resources	
• Human Services	
• Information Technology	

2.1.2.3 Lyon County Citizen Advisory Boards

The following Citizen Advisory Boards (CABs) are established by the Lyon County Board of County Commissioners to represent residents of Lyon County in designated geographic areas:

- Dayton Regional Citizen Advisory Board
- Mound House Regional Citizen Advisory Board
- Silver City Citizen Advisory Board
- Silver Springs Citizen Advisory Board
- Smith Valley Citizen Advisory Board
- Stagecoach Citizen Advisory Board

CABs provide information and recommendations to the Lyon County Commission and to other appointed Lyon County boards and commissions (such as the Lyon County Planning Commission). More information on the CABs is available on the Lyon County website.

2.1.3 Lyon County Demographics

Lyon County has seen an 8.1% increase in 2010-2020 in the total population. Further, the U.S. Census Bureau reports the population of Lyon County to have increased by an estimated 4% from April 1, 2020 (59,240) to July 1, 2022 (61,585).

Table 2-3. Lyon County Population Data

	Lyon County	State of Nevada
Population by age, 2020		
Under 5 years old	5.2%	5.7%
Under 18 years old	20.9%	22.2%
65 years and older	21.4%	16.8%
Female, 2020	48.2%	50.5%
Race/Ethnicity, 2020		
White	88.8%	75.8%
Black	1.5%	13.6%
American Indian, Alaskan Native	3.4%	1.3%
Asian	1.8%	6.1%
Native Hawaiian, other Pacific Islander	0.4%	0.3%
Hispanic or Latino, any race	19.6%	18.9%

Source: U.S. Census Bureau

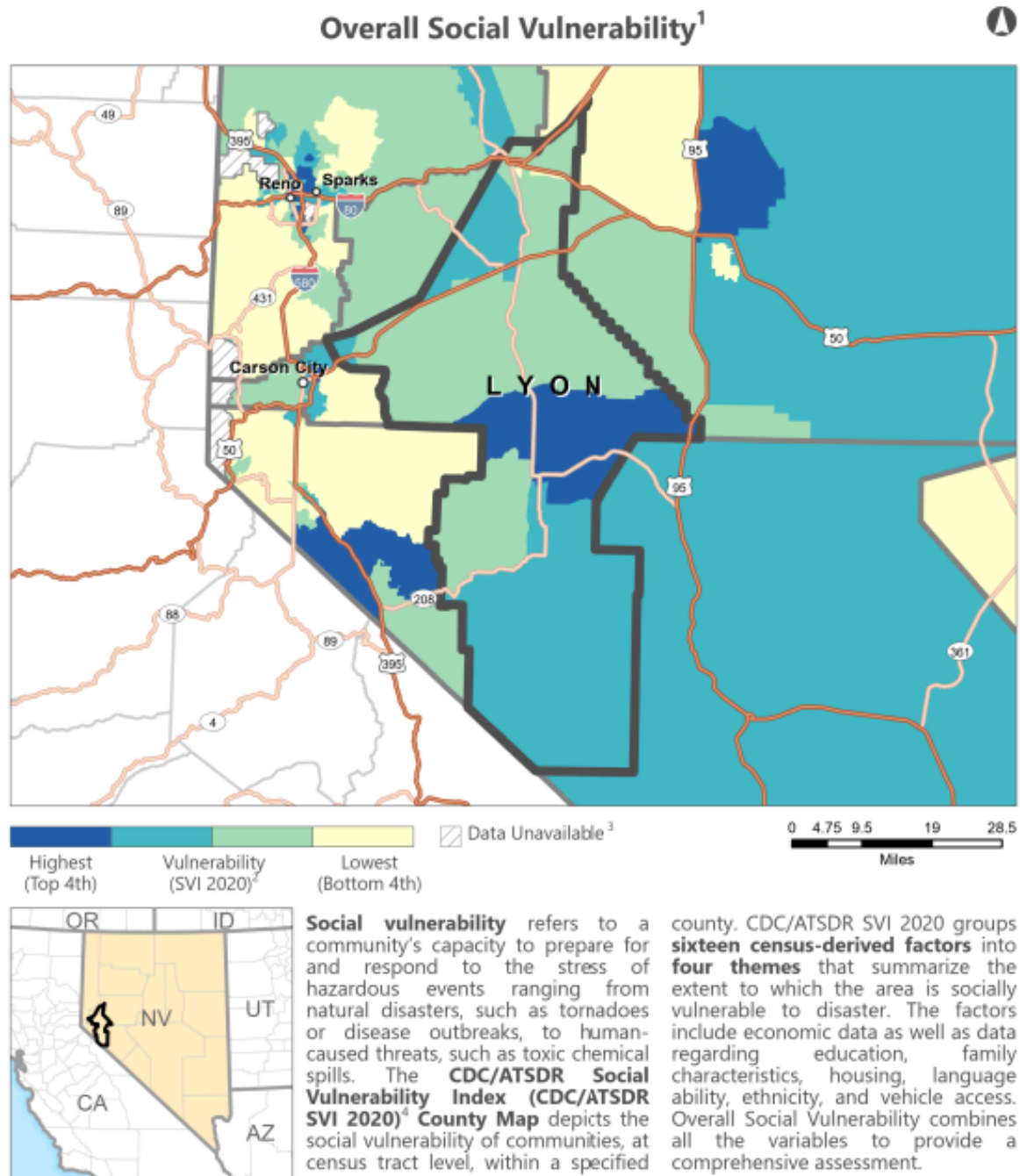
2.1.3.1 Social Vulnerability Index

Social vulnerability is the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. Social vulnerability for hazard mitigation purposes is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).

Figure 2-4 (A). Lyon County 2020 CDC/ATSDR Social Vulnerability Index

CDC/ATSDR Social Vulnerability Index 2020

LYON COUNTY, NEVADA



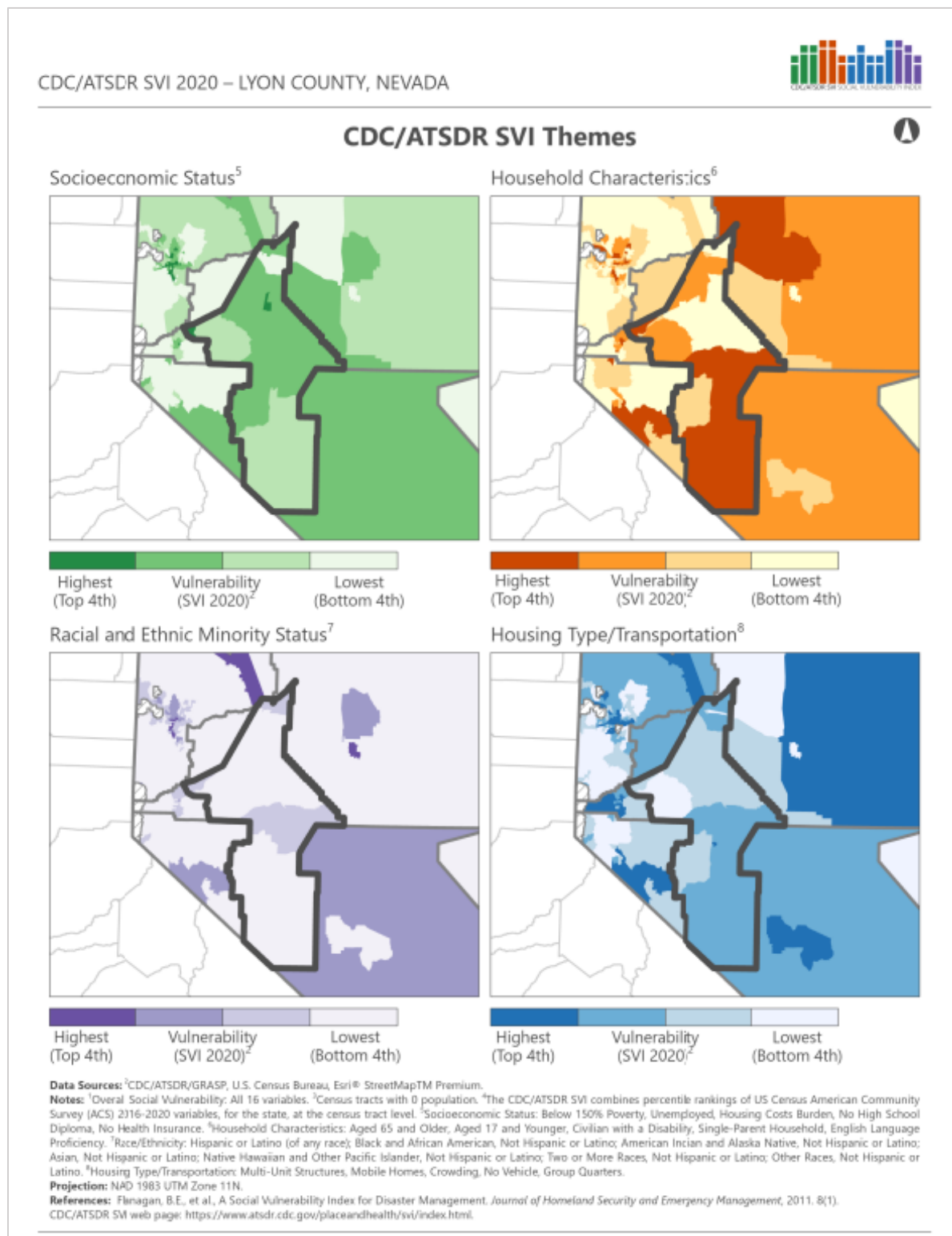
ATSDR Agency for Toxic Substances
and Disease Registry



Geospatial Research, Analysis, and
Services Program

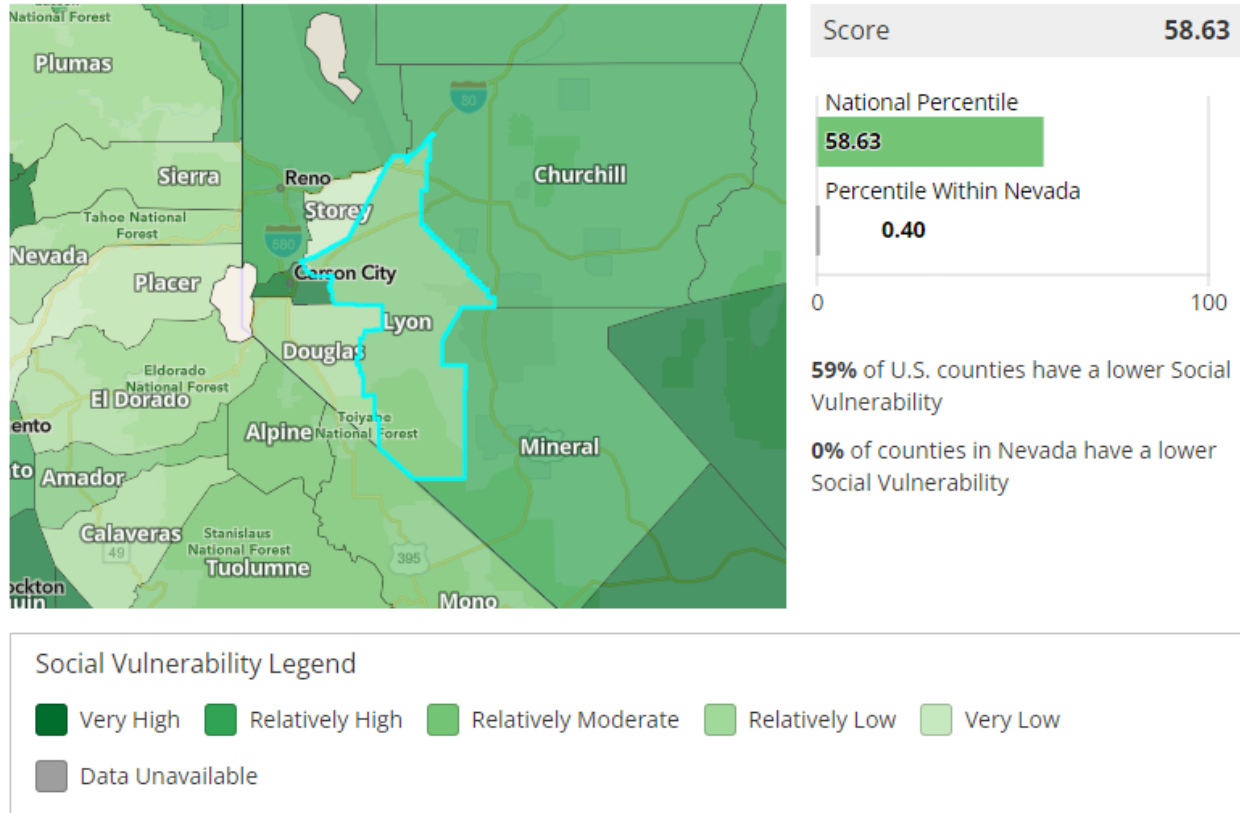
Source:

Figure 2-4 (B). Lyon County 2020 CDC/ATSDR Social Vulnerability Index



According to the FEMA National Risk Index (NRI), social groups in Lyon County, Nevada have a **Relatively Moderate** susceptibility to the adverse impacts of natural hazards when compared to the rest of the United States.

Figure 2-5. Lyon County, NV 2023 National Risk Index (NRI) - Social Vulnerability Index



Source: FEMA National Risk Index (2023) <https://hazards.fema.gov/nri>

2.1.4 Lyon County Economy

2.1.4.1 Industry Trends

Manufacturing, Retail Trade, and Government/Public Admin industries make up the largest majority of job providers in Lyon County. Notable changes in job totals from 2010 to 2021 can be found in Retail Trade (-201), Construction (+459), and Transportation/Warehousing (+387).

Table 2-6. Lyon County Jobs by Industry, 2010 and 2021

Industry Type	Lyon County		Nevada	
	2010	2021	2010	2021
Ag, Forestry, Fishing and Hunting	947	913	4,276	6,906
Mining, Quarry, Oil/Gas Extraction	105	369	12,338	15,021
Utilities	56	67	4,323	4,064
Construction	743	1,202	69,573	106,313
Manufacturing	2,036	2078	39,633	60,079

Wholesale Trade	260	263	34,155	37,396
Retail Trade	1,992	1,791	133,044	152,036
Transportation, Warehousing	548	935	47,811	88,362
Information	31	43	13,764	15,535
Finance and Insurance	158	131	35,387	42,833
Real Estate, Rental and Leasing	177	218	27,212	32,698
Professional, Scientific, Tech Services	411	493	56,604	75,483
Mgmt of Companies/Enterprises	30	101	18,290	23,851
Administrative and Support	420	686	79,298	99,981
Educational Services	11	73	12,333	16,677
Health Care and Social Assistance	650	676	98,934	139,109
Arts, Entertainment, and Recreation	752	670	52,833	63,106
Accommodation, Food Services	644	903	286,042	234,078
Other Services (except Public Admin)	623	670	52,833	63,106
Government, Public Admin	2,374	2,324	171,021	179,845
Unclassified Industry	<10	45	690	16,300

Source: Emsi Burning Glass 2022.1 as cited in University of Nevada, Reno, Nevada Economic Assessment Project (NEAP) Socioeconomic Baseline Report Lyon County <https://naes.agnt.unr.edu/PMS/Pubs/2022-3827.pdf>

2.1.5 Land Use and Development Trends

Lyon County comprises approximately 1,295,360 acres, of which approximately 75 percent of is in federal management or public land ownership. 25 percent of the county is privately owned and approximately 10 percent of the land use is agricultural.

Table 2-7. Land Ownership in Lyon County

Land Ownership	Acreage 2018	Percentage of County
BLM	572,924	44%
BOR	20,092	2%
FS	276,282	21%
FWS	15	.001%
Tribal	50,604	4%
State	19,466	2%
Private Lands	338,168	26%
Water	17,839	1%
Total	1,295,390	100%

All numbers are estimates and are subject to change. Source: Lyon County Assessor

More recently Lyon County has seen rapid growth in the region. Inevitably, in such a process, Lyon County and its communities have been affected by development, increased traffic volumes, encroachment into floodplains, services stretched to meet needs, and a declining agricultural land base. As a result, Lyon County developed five major land use goals in the 2020 Comprehensive Master Plan:

- **Orderly Growth Patterns:** Direct and manage development in the county so that it is orderly and fiscally responsible

- **Services Coordinated with Growth:** Coordinate future residential development with development of schools, parks, libraries, and other public services so as to maintain or improve per resident service levels
- **Diverse Economy:** Attract businesses that employ residents in primary jobs, as well as service jobs that meet the needs of local residents so that the economy will continue to be strong and diverse
- **Viable Agriculture:** Enhance the economic viability of agricultural lands and promote opportunities for rural and agricultural support uses that conserve and enhance our agricultural and rural way of life
- **Encourage Resource Sensitive Growth:** Designate development that will reduce energy use and minimize environmental impacts

The Lyon County Master Plan establishes a planned pattern for development in the County and is designed to promote sound land use decisions. The master plan provides sufficient land for residential, commercial, agricultural, industrial, and public uses and locates these uses appropriately in order to enhance community balance and character; to preserve and protect important natural resources; and to enable the County to provide adequate public services to the community.

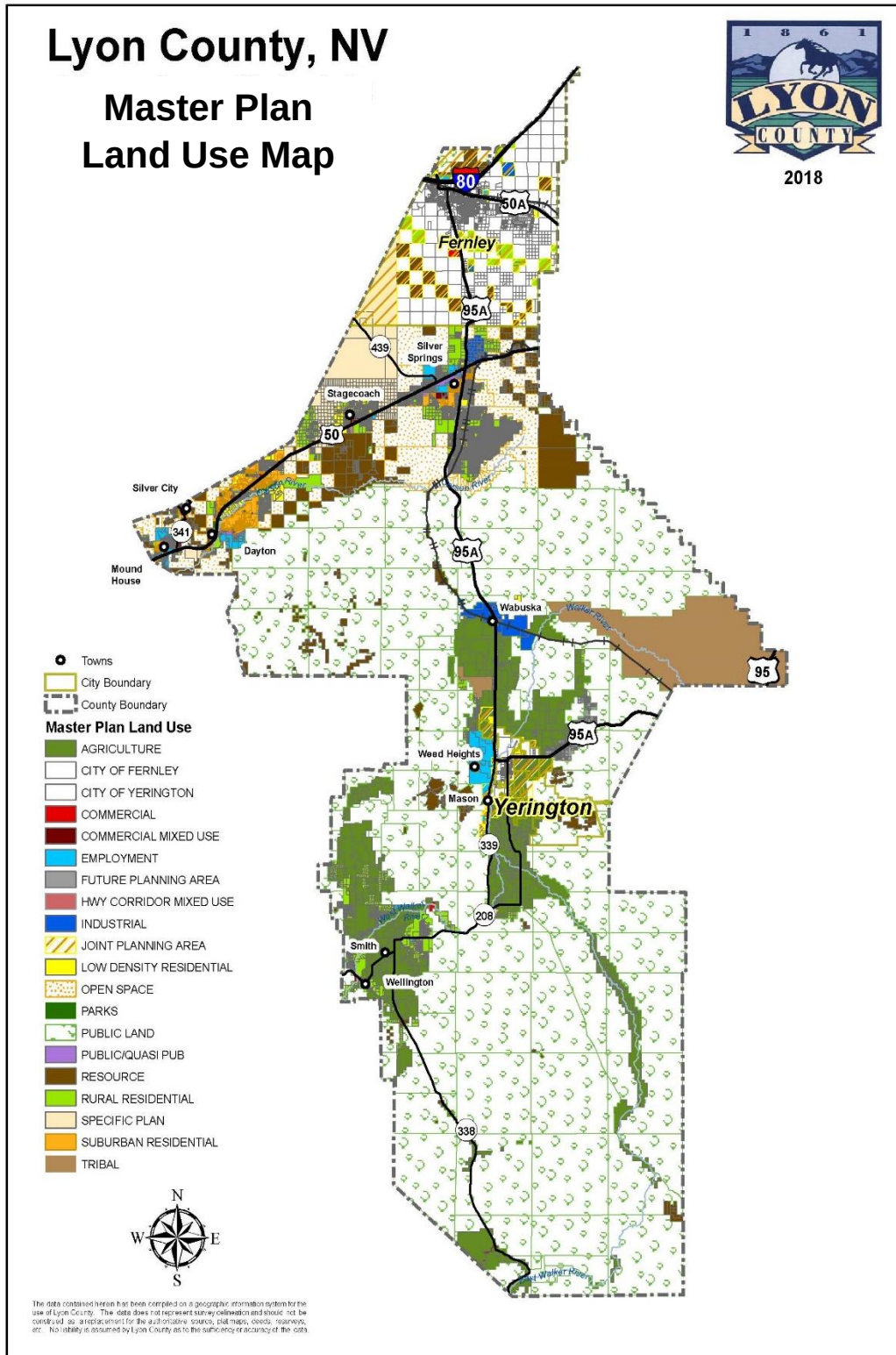
In response to the planned increase in population, Lyon County is working to preserve agriculture and support Retail Trade and Mining, two of the largest economic sectors of the county. Major manufacturing in the Tahoe Reno Industrial Center in neighboring Storey County is anticipated to expand into Lyon County along USA Parkway (State Route 439) and to the Fernley Industrial Park.

 FEMA REQUIREMENT 44 CFR §201.6(d)(3)	E1. Was the plan revised to reflect the changes in development? E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?

The 2023 Regional HMP reflects the adoption of Board of County Commissioners approved Area Drainage Master Plans (ADMPs) for both North and South Dayton (relative to the Carson River watershed). The Plans include alternatives for mitigation projects that would address regional flooding, although funding and the land required for implementation of the projects is not yet defined. The County has used the Plans to inform planning decisions related to new development and has incorporated the land needed for regional stormwater management projects into a Public Lands Bill proposal.

All new developments in the County, particularly residential subdivisions and large commercial/industrial projects, are reviewed relative to the availability and capacity of emergency services. Whenever possible, conditional approvals are used by Lyon County Community Development to ensure appropriate expansion of emergency services and reduce the risk of potential hazards. In the case of ADMPs, the modeling data is provided to developers to ensure stormwater management designs protect both existing and new citizens. In addition to the approved ADMPs in Dayton, Community Development staff is actively working with public and private partners in the development of ADMPs for the Stagecoach and Silver Springs communities. Also under development is a flood-risk analysis for the Walker River in the Mason and Smith Valley communities.

Figure 2-8. Lyon County Land Use Map



2.1.6 Transportation and Commuting Patterns

Lyon County is dissected by five main transportation corridors: Interstate 80 (I-80) (east-west route) and US Highway 95 (north-south route)

The Nevada Department of Transportation (NDOT) Average Daily Traffic (AADT) data for Lyon County from 2022 is provided in Table 2-6, which accounts for every type of vehicle. The full 2022 Lyon County AADT Report is available on the NDOT website.

Table 2-9. NDOT 2022 Average Daily Traffic Summary

Station	Corridor	Location	AADT
0190036	US 50A/95A – Fernley (Just South of I-80)	US95A, 360 ft. S of Chisholm Trail	29,100*
0190034	US 50A – Fernley	0.64 mi. E of Jessica Ln	12,400
0190042	I-80 – Fernley	IR80, 0.6 mi. E of Fernley Intch (W of Nevada Pacific Pkwy)	9,250
0191102	US 50 - Mound House	Affonso Dr., 250 ft. N of US 50	2,800
0190002	US 50 - Mound House	930 ft. E of SR 341	23,300
0190010	US 50 - Dayton	Dayton Valley Rd., 625 ft. E of US 50	11,100*
0191208	US 50 - Dayton	Retail Rd., 100 ft N of US 50	5,300
0191304	US 50 - Dayton	Riverboat Rd., 75 ft. N of US 50	2,950*
0191403	US 50 - Stagecoach	Boyer Ln., 100 ft. N of US 50	690
0191504	US 50 - Silver Springs	Ramsey Weeks Cut-Off, 100 ft. S of US 50	4,050
0190019	US95A – Silver Springs	300 ft. N of Lahontan St.	5,700
0190115	US 95A – Wabuska	US 95A, 0.6 mi N of Miller Ln	4,700
0190051	US 95A – Yerington (Just N. of Goldfield)	US 95A, 330 ft. N of SR 339	7,100
0191702	SR 208 – Smith	Hudson Way, 100 ft. N of SR 208	430
0190095	SR 823 - Wellington	SR823, Artesia Rd, 590ft N of SR208	840

**Indicates AATD is estimated per NDOT AADT Summary Report*

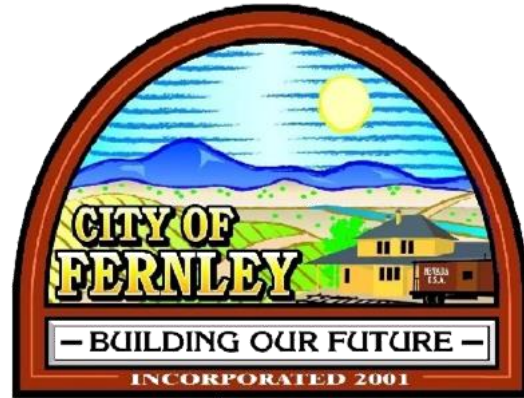
2.1.6.1 Commuting Inflow and Outflow

Employee Inflow/Outflow compares where individuals live and where individuals work in relation to the county. This page measures the Inflow (those people living in another county but working in this one) and Outflow (those living in this county but working in another.) Net commuters shows the difference between inbound and outbound. Employment Inflow/Outflow data helps visualize how new jobs, projects, and influxes of people are going to impact the community.

2.2 Incorporated Cities

2.2.1 City of Fernley

The City of Fernley (Fernley) is located in the northern portion of Lyon County and approximately 45 miles north of the County seat (Yerington). Fernley, established in 1904, developed primarily as an agricultural and ranching community in close proximity to Reno. The City was incorporated in 2001. Fernley originally spanned the Lyon/Washoe County line, but due to a county boundary change in 2005, Fernley is now entirely in Lyon County. Fernley covers a total area of 128.8 square miles, 122.1 square miles of land and 6.7 square miles of water.



2.2.1.1 City of Fernley Demographics

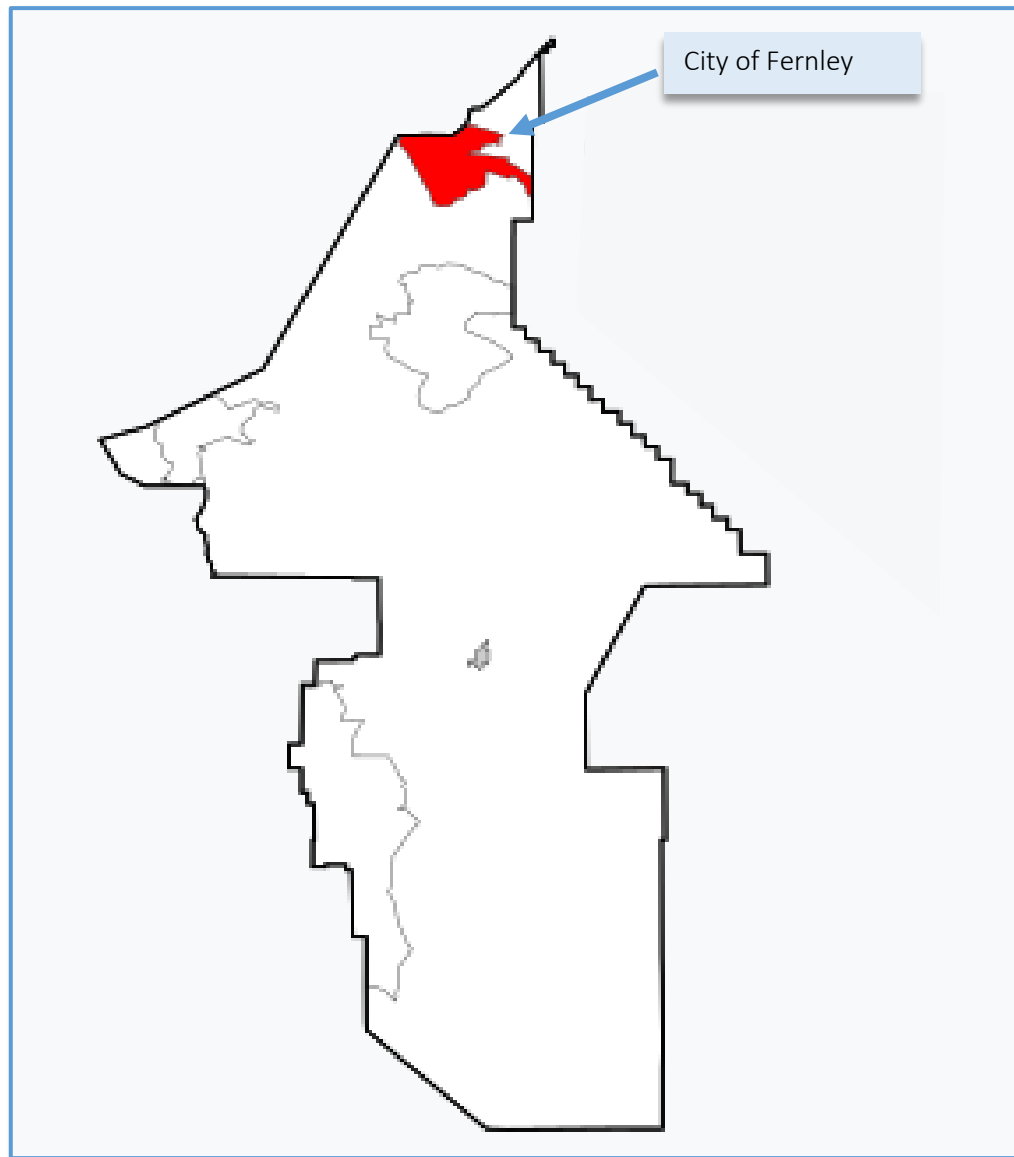
According to the U.S. Census Bureau, the population of the City of Fernley has increased by an estimated 6% from April 1, 2020 (22,898) to July 1, 2022 (24,261).

Table 2-10. City of Fernley Population Data

	City of Fernley	Lyon County	State of Nevada
TOTAL POPULATION, 2022	24,261	61,585	3,177,772
Population by age, 2020			
Under 5 years old	6.2%	5.2%	5.7%
Under 18 years old	23.5%	20.9%	22.2%
65 years and older	15.0%	21.4%	16.8%
Female, 2020	49.2%	48.2%	50.5%
Race/Ethnicity, 2020			
White	80.7%	88.8%	75.8%
Black	2.5%	1.5%	13.6%
American Indian, Alaskan Native	1.3%	3.4%	1.3%
Asian	1.7%	1.8%	6.1%
Native Hawaiian, other Pacific Islander	0.0%	0.4%	0.3%
Hispanic or Latino, any race	19.4%	19.6%	18.9%

Source: U.S. Census Bureau <https://www.census.gov/quickfacts/fernleycitynevada>

Map of the City of Fernley within Lyon County, NV



2.2.1.2 City of Fernley Governance

The City of Fernley is governed by a Mayor and City Council who are elected by the people of the City. The Mayor and City Council acting together are the Governing Body. All Governing Body members serve four-year terms. The Governing Body, being the elected representative of the people, adopts all ordinances and resolutions and determines the general goals and policies.

Officials

- Mayor
- City Council Member Ward I
- City Council Member Ward II
- City Council Member Ward III
- City Council Member Ward IV
- City Council Member Ward V
- City Manager
- City Treasurer - Finance
- City Clerk
- City Attorney

Departments and other Service Operations

- Animal Control
- Building Department
- Police – Lyon County Sheriff’s Office
- Public Works & General Services
- Canal Township Justice Court
- Social Services
- Fernley Branch Library
- Community Health Nurse
- Senior Center

2.2.1.3 City of Fernley Land Use and Development Trends

In August of 2018, the City Council adopted an update to the City of Fernley [Comprehensive Master Plan](#). The purpose of the City’s Master Plan is to guide decision making regarding the physical development of the City. The Master Plan identifies current issues and needs in the community based on research, analysis, and public input, and sets forth goals, policies, and action strategies to address these issues.

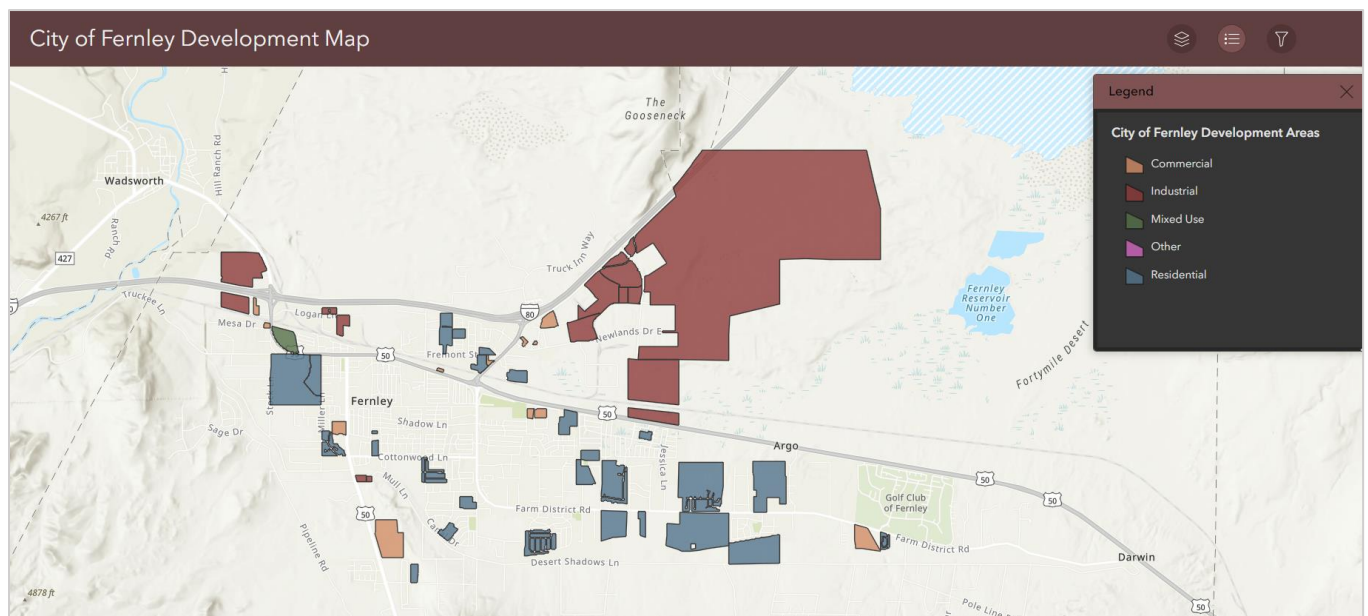
- Promote economic development and planned redevelopment opportunities
- Coordinate growth and the provision of services in a sustainable manner
- Protect limited water resources
- Ensure compatibility
- Nurture the unique character of Fernley
- Establish a non-motorized trail system to connect the city with the surrounding public lands
- Provide a better balance of housing types to encourage multi-generational living
- Improve employment and education opportunities; avoid continuing the “bedroom community” label
- Provide more commercial services and amenities within Fernley

Given steady growth numbers of the City of Fernley’s population the past 18 years, current growth patterns of the region, and future employment and economic development opportunities ahead, it is

reasonable to project Fernley's population will double to approximately 40,000+ people over the next 20 years. To support future industrial and manufacturing development, that could potentially begin to offer higher-pay and higher-skill employment opportunities within the community, the City of Fernley will have to consider a variety of land use, community development, and economic development strategies designed to diversify its current housing stock and economic profile with additional professional and commercial office space and additional retail space. The incorporation of non-single-family detached residential owner-occupied housing options, with additional multi-family and renter-occupied housing options sited in appropriate areas within the community, will be critical in securing future private investment in the development of new smaller and mid-sized manufacturing space. The diversification of the community's existing housing stock, coupled with improvements in the types of employment opportunities and retail and recreational opportunities offered, will be necessary to support the community's continued prosperity and smart growth.

The City continues to work towards the future vision of opening the Fernley Depot Community Response and Resource Center. This facility will serve as the City's emergency hub to improve emergency management and preparedness capabilities for Fernley and will provide a dedicated space for afterschool programming, and expand childcare service. By combining youth services, early learning center and emergency sheltering into one hub, it allows for sustainability and expands essential services needed in the community. The project is identified in the City's strategic plan, implementation action plan, and Western Nevada Development District's 2020-2025 Comprehensive Economic Development Strategic Plan. The Design Development and Cost Estimates were completed in February 2023. Moving forward, the Construction/Guaranteed Maximum Price Documents were completed November 2023. The documents will move into Permitting and Bidding/Guaranteed Maximum Price concurrently with an expected permit issuance and the Notice to Proceed for procurement/construction administration in November 2023. Construction will begin April 2024 with an expected final completion of June 2025.

Figure 2-11. City of Fernley Development Map 2023



Source: City of Fernley Development Map website: <https://www.cityoffernley.org/938/Projects>

2.2.2 City of Yerington

The City of Yerington (Yerington) is the county seat of Lyon County. The city is named after Henry M. Yerington, a Superintendent of the Virginia and Truckee Railroad, from 1868 to 1910. Yerington is located in the center of Lyon County at the intersection of US 95A and Nevada State Route 208 about 30 miles southeast of Carson City and about 56 miles southeast of Reno. The City of Yerington encompasses 8.6 square miles of total area, all of which is land.



2.2.2.1 City of Yerington Demographics

According to the Nevada Demographer's Office, the City of Yerington's population in July 2022 was 3,423. The U.S.

Census Bureau QuickFacts is only available for states and counties, and for cities and towns with a population of 5,000 or more. Table 2-__ identifies the demographics for the Yerington CCD census tract which closely represents the makeup of the City of Yerington and surrounding areas.

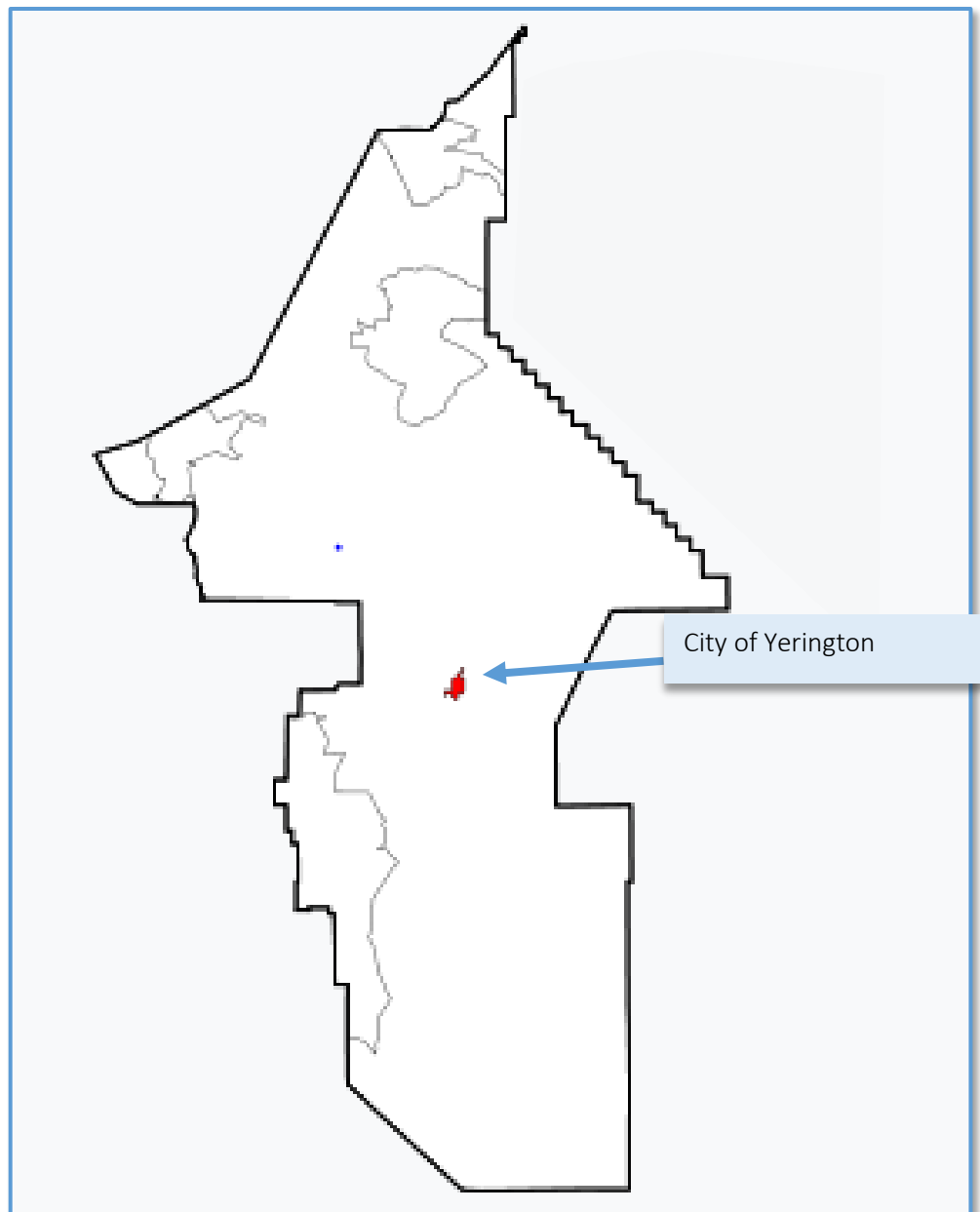
Table 2-12. Yerington CCD Population Data

	Yerington CCD (2020)	Lyon County	State of Nevada
TOTAL POPULATION, 2022	8,231	61,585	3,177,772
Population by age, 2020			
Under 5 years old	3.6%	5.2%	5.7%
Under 18 years old	22.8%	20.9%	22.2%
65 years and older	29.7%	21.4%	16.8%
Female, 2020	51.1%	48.2%	50.5%
Race/Ethnicity, 2020			
White	64.0%	88.8%	75.8%
Black	1.0%	1.5%	13.6%
American Indian, Alaskan Native	4.0%	3.4%	1.3%
Asian	0.0%	1.8%	6.1%
Native Hawaiian, other Pacific Islander	0.0%	0.4%	0.3%
Hispanic or Latino, any race	31.0%	19.6%	18.9%

Source: U.S. Census Bureau

[https://data.census.gov/profile/Yerington CCD, Lyon County, Nevada?g=060XX00US3201994924](https://data.census.gov/profile/Yerington%20CCD,%20Lyon%20County,%20Nevada?g=060XX00US3201994924)

Map of the City of Yerington within Lyon County, NV



2.2.2.2 City of Yerington Governance

City of Yerington is governed by a Mayor and City Council who are elected by the people of the City. The Mayor and City Council acting together are the Governing Body. All Governing Body members serve four-year terms. The Governing Body, being the elected representative of the people, adopts all ordinances and resolutions and determines the general goals and policies.

Officials

- Mayor
- City Council Member Ward I
- City Council Member Ward II
- City Council Member Ward III
- City Council Member Ward IV
- City Council Member Ward V
- City Manager
- Interim City Clerk
- Police Chief
- Public Works Director

Departments and other Service Operations

- Administration
- Building Department
- Finance Department
- Police Department
- Public Works Department
- Utilities Department

2.2.2.3 City of Yerington Land Use and Development Trends

Yerington is the county seat located nearly in the center of Lyon County, Nevada. Lyon County has been one of the fastest growing County's in the nation due to its ideal business location being just minutes away from Reno and Carson City. Economic Development for the City of Yerington is a function administered by the City Manager.

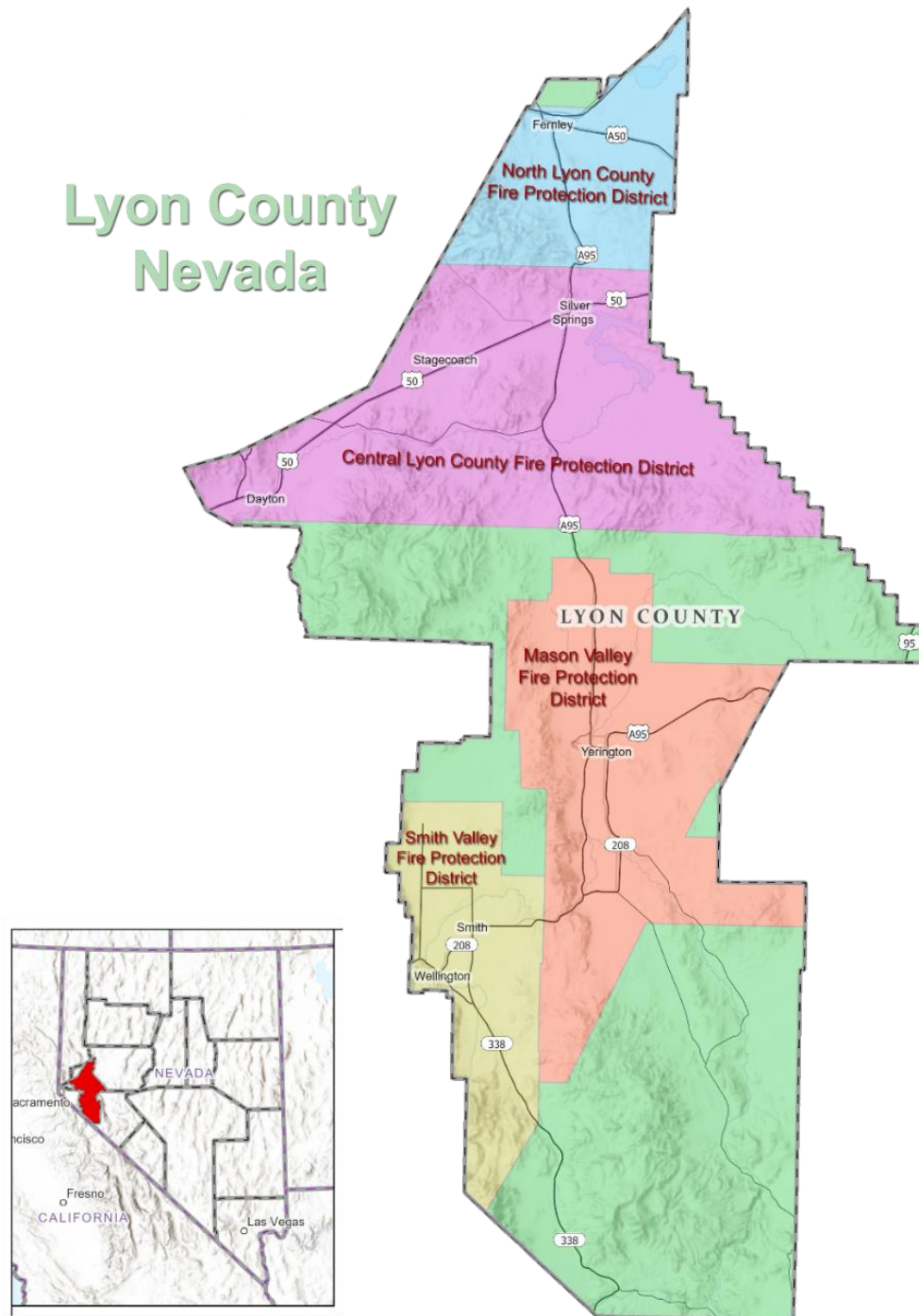
The City of Yerington is seeing an increase in residential infill projects and continues to see an increase in mining and agriculture businesses to the south west. It is anticipated that this growth will continue through 2028.

All new developments in the City, particularly residential subdivisions and large commercial/industrial projects, are reviewed relative to the availability and capacity of emergency services and risk of potential hazards. Whenever possible, conditional approvals are used by the City of Yerington Building Department to ensure appropriate expansion of emergency services and reduce the risk of potential hazards.

2.3 Fire Protection Districts

Lyon County has four designated fire protection districts created under the authority of Chapter 474 of Nevada Revised Statutes. Each fire protection district is governed by a publicly-elected Board of Directors.

Figure 2-13. Maps of Lyon County Fire Protection Districts Service Area



2.3.1 Central Lyon County Fire Protection District

The Central Lyon County Fire Protection District is comprised of more than 630 square miles, representing the largest fire district in Lyon County in terms of extent and acreage. The District extends from Mound House at the Carson City line, east to Silver Springs at the Churchill County line and is bound to the north by Storey County and the North Lyon County Fire Protection District. The southern boundary is Township 15 North. The district is organized under the provisions of NRS Chapter 474 and is under the direction of an independent generally elected Fire Board. The Central Lyon County Fire Protection District is a full-service fire district providing fire protection, hazardous materials response and mitigation, public education, fire investigations, plan review, emergency medical services with mutual and automatic aid locally, regionally and nationally.



2.3.1.1 Demographics

CLCFPD's demographics primarily reflect the Dayton and Silver Springs Census County Divisions (CCDs) as designated by the US Census Bureau.

CCD	Population	Employment Rate	Total Households	Median Household Income	Total Housing Units	Hispanic or Latino	% Bachelor's Degree or Higher	% Without Healthcare Coverage
Dayton CCD	17,980	59.8%	6,640	\$73,310	7,326	3,265	16.3%	9.5%
Silver Springs CCD	8,145	39.1%	3,288	\$49,107	3,578	770	14.5%	9.2%

Source: US Census Bureau County Subdivision Profiles. Dayton CCD (2020)

https://data.census.gov/profile/Dayton_CCD,_Lyon_County,_Nevada?q=060XX00US3201994224; Silver Springs CCD

(2020) https://data.census.gov/profile/Silver_Springs_CCD,_Lyon_County,_Nevada?q=060XX00US3201994777

2.3.1.2 Stations

Station Number	32	34	35	36	37	38	39
Service Area	Silver Springs	Silver City	Dayton/Sutro	Mound House	Stagecoach	Mark Twain	Dayton Valley
Branch	Combination Career/Volunteer	Volunteer	Career	Combination Career/Reserve	Career	Career/Volunteer/Reserve	Career

2.3.1.3 Land Use and Development Trends

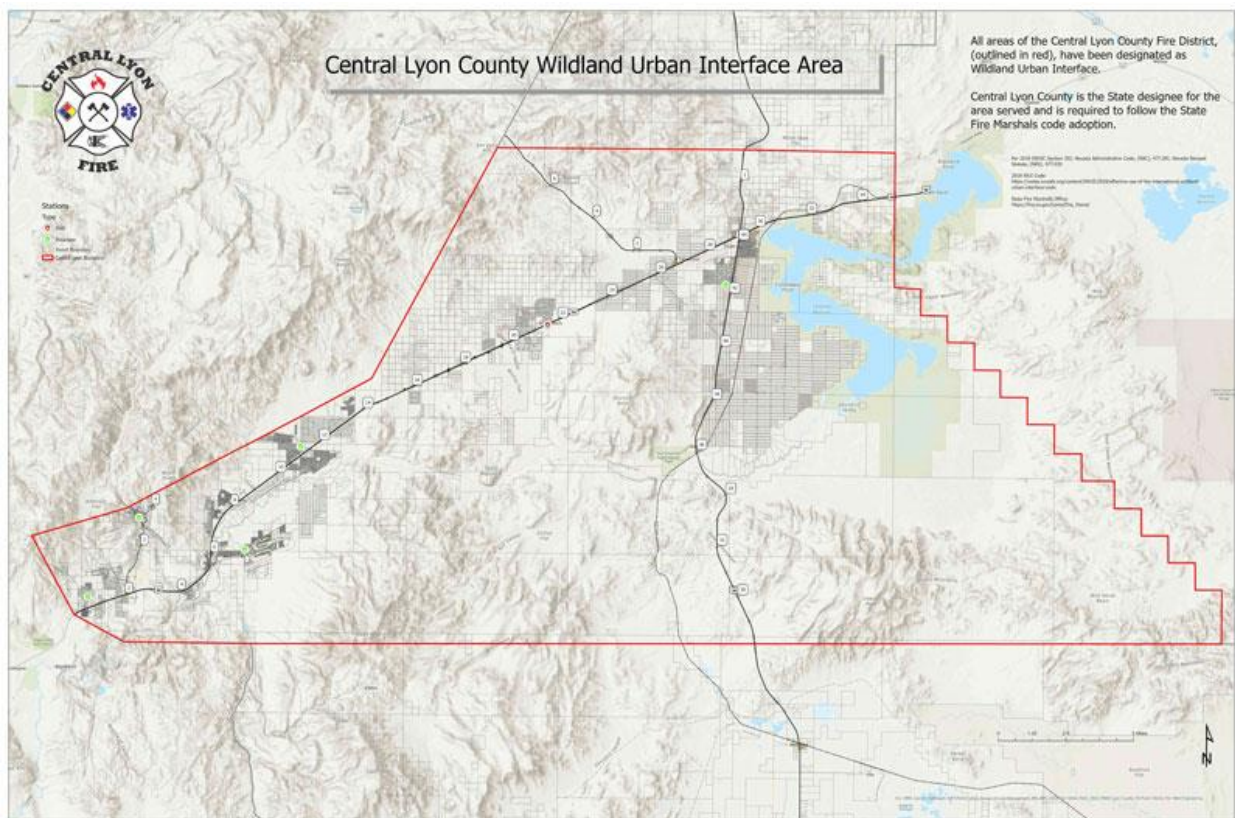
All new developments in the District, particularly residential subdivisions and large commercial/industrial projects, are reviewed, in coordination with the Lyon County Community Development Department, relative to the availability and capacity of emergency services and risk of potential hazards. Whenever possible, conditional approvals are used by CLCFPD to ensure appropriate expansion of emergency services and reduce the risk of potential hazards.

International Wildland Urban Interface Code Adoption

In November 2019, the Central Lyon County Fire Board approved and agreed to provide the application of the International Wildland Urban Interface Code (IWUIC). The 2018 IWUIC was adopted by the Nevada State Fire Marshal including appendices A and B, on February 27, 2020. Per the interlocal agreement between Central Lyon Fire District and the State of Nevada to deliver fire prevention services to the District an implementation and fact finding period commenced upon this adoption.

During the fact-finding phase of the adoption, the process evolved to include Residential Plan Review as a way of applying and enforcing the IWUIC. During the May 20, 2021 Fire Board meeting, approval to expand Residential Plan Review into the fire prevention program was approved with an official start date of July 1, 2021.

Figure 2-14. CLCFPD Wildland Urban Interface Area



2.3.2 North Lyon County Fire Protection District

North Lyon County Fire Protection District (NLFPD) provides services to the City of Fernley and surrounding area. NLFPD is a combination fire department of paid and volunteer staff providing “all risk” emergency services, including ambulance transport. NLFPD operates two fire stations with career and volunteer staff. The NLFPD service area covers approximately 174 square miles and approximately 24,261 residents (estimated by the Nevada Demographer) in the City of Fernley and surrounding areas. The NLFPD has unique features that include a large industrial park, major Interstate thoroughfare, and a railroad system each of which adds to the risk of fire ignition. As small farm properties transition into subdivisions, water rights are transferred and ditches are abandoned. Dry tumble mustard, Russian thistle, and other windblown debris accumulate in these areas creating an easily ignited fuel hazard that can create a wick into residential areas.



2.3.2.1 Demographics

NLCFPD’s demographics primarily reflect the Fernley Census County Division (CCD) as designated by the US Census Bureau.

CCD	Population	Employment Rate	Total Households	Median Household Income	Total Housing Units	Hispanic or Latino	% Bachelor’s Degree or Higher	% Without Healthcare Coverage
Fernley CCD	23,048	59.3%	8,050	\$77,659	8,711	4,117	14.8%	9.3

Source: US Census Bureau County Subdivision Profiles. Fernley CCD (2020)

https://data.census.gov/profile/Fernley_CCD,_Lyon_County,_Nevada?q=060XX00US3201994322

2.3.2.2 Stations

Station Number	61	62
Service Area	Fernley (Main)	Fernley
Branch	Combination Career/Volunteer	Combination Career/Volunteer

4.1.1.1 Land Use and Development Trends

All new developments in the District, particularly residential subdivisions and large commercial/industrial projects, are reviewed, in Coordination with the City of Fernley, relative to the availability and capacity of emergency services and risk of potential hazards. Whenever possible, conditional approvals are used by the NLCFPD to ensure appropriate expansion of emergency services and reduce the risk of potential hazards.

2.3.3 Smith Valley Fire Protection District

The Smith Valley Fire Protection District (SVFPD) is an all-risk fire and emergency medical services agency primarily staffed by volunteers. SVFPD provides services within the 182 square mile District and also responds to 300 square miles of land in Lyon County outside of the District boundaries. SVFPD serves approximately 1,680 residents in the rural and agricultural communities of Smith and Wellington, Nevada.



2.3.3.1 Demographics

Available United States Census Bureau data shows that the Smith Valley CDP had a population of 1,831 with 903 housing units in the year 2020 (See Table 1 - Census Data below). According to the Census Bureau, the community's median age in 2020 was 59.9 years, with 38.5% 65 years and older. The Census data shows that the community's population has grown by 65.5% since 1990. Additionally, housing units have increased by 95% since 1990.

SVFPD's demographics primarily reflect the Smith Valley Census County Division (CCD) as designated by the US Census Bureau.

CCD	Population	Employment Rate	Total Households	Median Household Income	Total Housing Units	Hispanic or Latino	% Bachelor's Degree or Higher	% Without Healthcare Coverage
Smith Valley CCD	1,831	33.7%	832	\$51,711	903	218	41.3%	2.9%

Source: US Census Bureau County Subdivision Profiles. Smith Valley CCD (2020)

https://data.census.gov/profile/Smith_Valley_CCD,_Lyon_County,_Nevada?q=060XX00US3201994784

2.3.3.2 Stations

Station Number	40	41	42	"Central"
Service Area	East Valley	West Valley	North Valley	Central
Branch	Combination Career/Volunteer	Volunteer	Volunteer	Apparatus and Storage Only

4.1.1.2 Land Use and Development Trends

All new developments in the District, particularly residential subdivisions and large commercial/industrial projects, are reviewed, in coordination with the Lyon County Community Development Department, relative to the availability and capacity of emergency services and risk of potential hazards. Whenever possible, conditional approvals are used by SVFPD to ensure appropriate expansion of emergency services and reduce the risk of potential hazards.

2.3.4 Yerington / Mason Valley Fire Protection District

The Yerington/Mason Valley Fire Protection District (YMVFPD) provides services to the City of Yerington and greater Mason Valley over an area of 400 square miles. The District has one fire station operated by a combination of career and volunteer staff. In 2021, the District responded to 1,328 incidents including 213 fire calls, 1,102 emergency medical calls, and 17 wildland/brush fires.



2.3.4.1 Demographics

MVFPD's demographics primarily reflect the Yerington Census County Division (CCD) as designated by the US Census Bureau.

CCD	Population	Employment Rate	Total Households	Median Household Income	Total Housing Units	Hispanic or Latino	% Bachelor's Degree or Higher	% Without Healthcare Coverage
Yerington CCD	8,231	38.4%	3,532	\$38,909	3,883	1,969	13.4%	8.8%

Source: US Census Bureau County Subdivision Profiles. Yerington CCD (2020)

https://data.census.gov/profile/Yerington_CCD,_Lyon_County,_Nevada?q=060XX00US3201994924

2.3.4.2 Station(s)

Station Number	1
Service Area	Yerington/ Mason Valley
Branch	Combination Career/ Volunteer

4.1.1.3 Land Use and Development Trends

All new developments in the District, particularly residential subdivisions and large commercial/industrial projects, are reviewed, in coordination with the City of Yerington Building Department, relative to the availability and capacity of emergency services and risk of potential hazards. Whenever possible, conditional approvals are used by MVFPD to ensure appropriate expansion of emergency services and reduce the risk of potential hazards.

2.4 Other Governmental Districts

In addition to the four fire protection districts, the following governmental entities are participating in the Hazard Mitigation Plan:

2.4.1 Carson Water Subconservancy District (CWSD)

The Carson Water Subconservancy District (CWSD) was formed to contract with local ranchers and farmers in Douglas and Lyon Counties to guarantee pay back for the Bureau of Reclamation's construction of Watasheamu Dam and Reservoir in 1959. Although the project was abandoned by the federal government in the 1980s, CWSD continued to play a key role in studying and managing the Carson River. In 1989, Nevada legislation was passed to change the purpose and structure of CWSD pursuant to Chapter 541 of Nevada Revised Statutes (NRS).



- Managing and developing the water resources in the Carson River above Lahontan Dam to alleviate reductions or loss of water supply
- Reducing the fragmented responsibilities for conservation and water supply, and
- Protecting against threats to the health, safety, and welfare of the people in the Carson River Basin.

After the 1997 flood, stakeholders from throughout the watershed discussed the need for better watershed management and the idea of Integrated Watershed Management in the Carson River Watershed was conceived. CWSD was asked to serve as the lead agency for watershed planning and management for the Carson River Basin. As a result, full-time staff members were hired. In 1998, the Carson River Coalition (CRC) formed to serve as the steering committee for watershed planning efforts.

CWSD's mission is to work within existing governmental frameworks to promote cooperative action in the Carson River Watershed which crosses both agency and political boundaries. CWSD acts as lead agency for integrated watershed planning and facilitates the Carson River Coalition (CRC). CWSD strives to involve all counties and communities within the watershed as it develops regional planning and management solutions for the Carson River Watershed. CWSD also works to ensure flood hazards within the region are recognized, prioritized, and addressed.

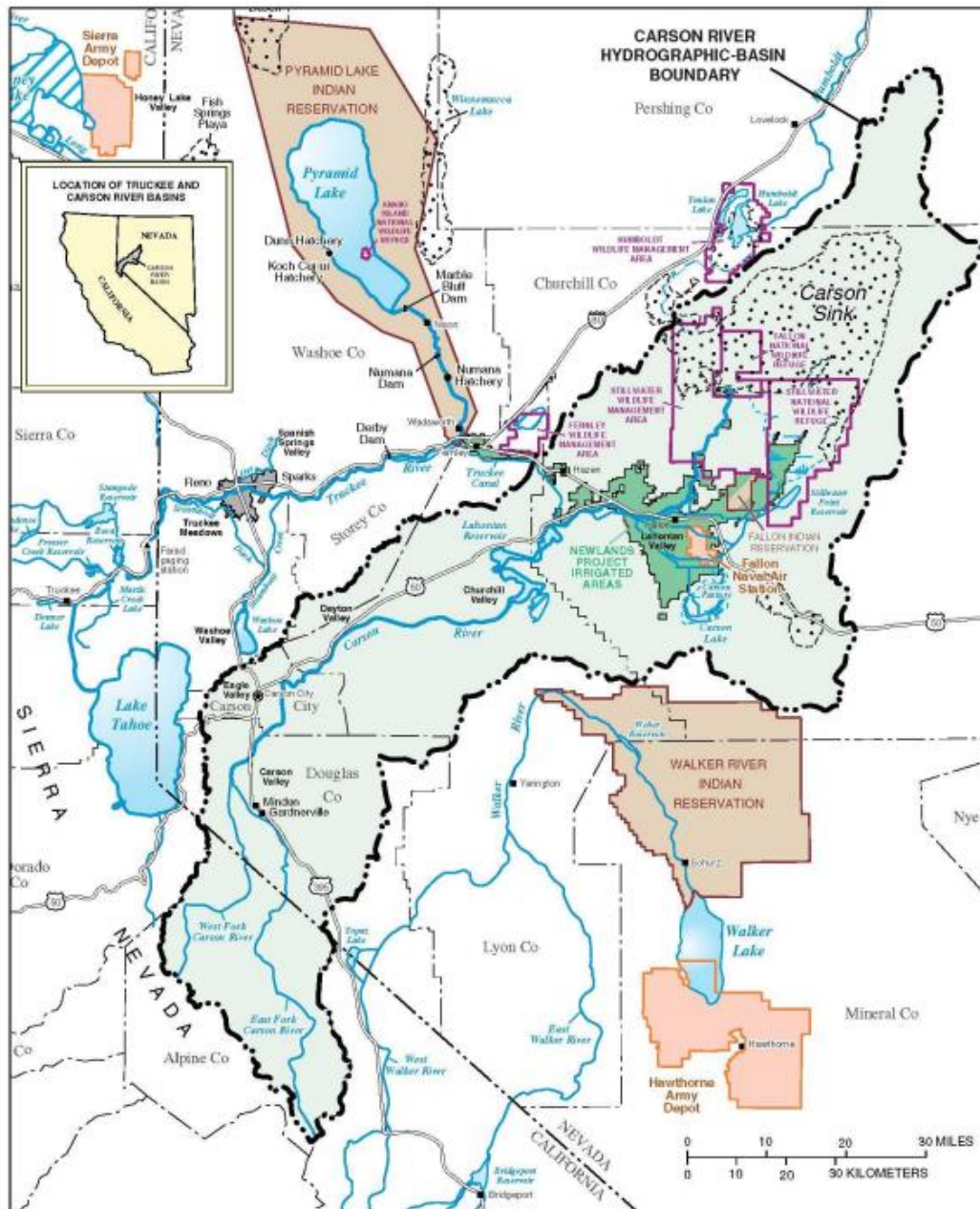
- CWSD has no regulatory authority.
- CWSD is funded by ad valorem taxes and federal, state, and local grants.
- CWSD is the designated Clean Water Act 208 Planning Agency.
- CWSD's Adaptive Stewardship Plan for the Carson River Watershed meets the funding requirements of EPA's clean water act, section 319.
- CWSD's is a Cooperating Technical Partner (CTP) with FEMA and signed a Charter Agreement with FEMA. As such, CWSD leverages its revenue with FEMA CTP funding.

- CWSD recently completed the 2018 Regional Floodplain Management Plan for the Carson River Watershed.

2.4.1.1 Governance

CWSD Board of Directors consists of eleven members with representatives from four counties within the watershed and includes several agricultural representatives. Additionally, two representatives from Alpine County and one representative from Storey County serve on the Carson River Watershed Committee. Board members are selected by their respective county boards and serve four year terms.

Figure 2-15. USGS Hydrological Features Map of the Carson River Watershed and Surroundings



2.4.1.2 Demographics

Population centers in the watershed include the Minden/Gardnerville area in Douglas County, Carson City, Dayton and Silver Springs in Lyon County, Virginia City in Storey County, and Fallon in Churchill County. The physical setting of the watershed has somewhat influenced the occurrence and size of population centers. Localized urban and residential areas (often located along or near the river) are separated by larger areas of ranchlands, farmlands, or sagebrush. Table 2.1 lists each watershed county's entire population and indicates an increase over the last few decades, with Lyon and Douglas Counties experiencing the greatest population growth. Lyon County and Douglas County also provide the greatest opportunities for continued floodplain protection.

Table 2-16. Carson River Watershed Demographics

Carson River Watershed Population			
County	2000	2019	2022
Alpine County, CA	1,113	1,071 *	1,190
Carson City, NV	52,457	55,438	58,130
Churchill County, NV	23,982	23,387	25,843
Douglas County, NV	41,259	48,300	49,629
Lyon County, NV	34,501	54,657	61,585
Storey County, NV	3,399	4,084	4,170
*Alpine County 2015 Data			

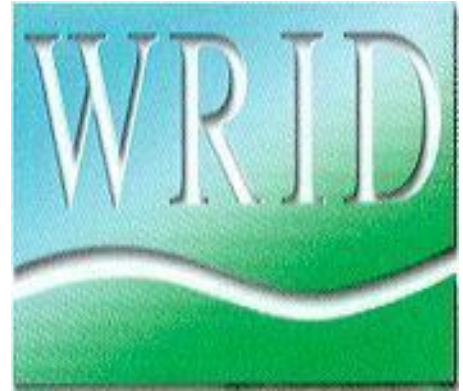
Source: US Census Bureau Data <https://www.census.gov/quickfacts>

4.1.1.4 Land Use and Development Trends

CWSD coordinates with the Lyon County Community Development Department to plan for emergency services and to reduce the risks of hazards as development trends toward increased growth in the Carson River watershed. CWSD facilitates the [regional Carson River Watershed Floodplain Management Plan](#) that includes actions to reduce hazards in high-risk and vulnerable areas. The 2018 Floodplain Management Plan identifies that allowing development to occur in natural drainage areas increases flooding and the potential for detrimental impacts, which increases public expenditures to manage and repair flood damage. No other water quality improvement practice can equal the benefits of retaining undisturbed natural areas adjacent to waterways. Communities that adopt policies that retain the open floodplain and support the living river concept save money in the long term by protecting the lives and property of their residents. The policies include limiting growth in the floodplain and/or clustering growth outside the floodplain, implementing low impact development (LID) practices, incentivizing conservation easements or floodplain leasing, and adopting a Good Neighbor Policy.

2.4.2 Walker River Irrigation District

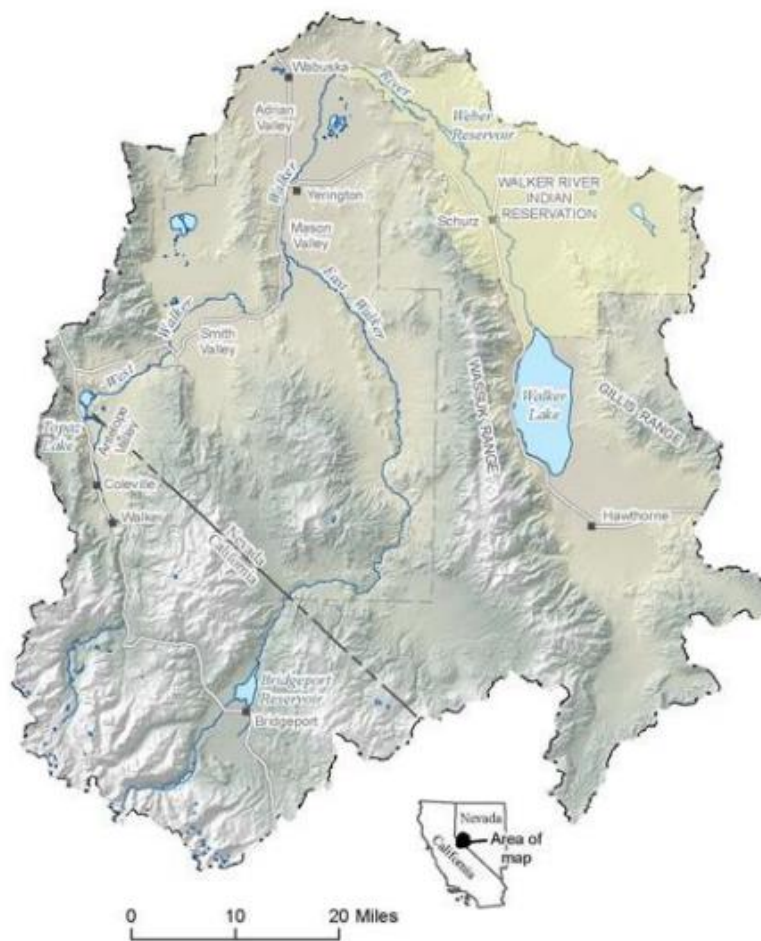
Walker River Irrigation District (WRID) was formed in April 1919 under the authority of the Nevada Irrigation District Act; functioning, in large part, under guidelines of NRS 539. WRID encompasses approximately 235,000 acres of which 80,000 are irrigated. WRID operates two storage reservoirs; east fork storage located in Bridgeport, CA and west fork storage located at Topaz Reservoir. WRID owns and operates and maintains extensive drainage systems (approximately 200 miles) in both Smith and Mason Valleys. WRID is an independent (not a reclamation project) irrigation district.



2.4.2.1 Governance

According to NRS 539.063, officers of an irrigation district shall consist of three, five or seven directors, a president and a vice president elected from their number, and a secretary and treasurer. WRID is governed by a 5-member Board of Directors. Directors are water right holders elected at large, but must reside within a division of the district.

Figure 2-17. Map of the Walker River Basin



The Walker River is formed in southern Lyon County, 9 miles (14 km) south of Yerington, by the confluence of the East Walker and West Walker rivers. The West Walker River originates at Tower Lake in Mono County, California, 9,623 ft (2,933 m) above sea level in the Stanislaus National Forest. It flows north through a rugged canyon which provides the route for U.S. Route 395. It then emerges into Antelope Valley, where some water is diverted to the Topaz Lake reservoir, enters Nevada in Douglas County, and turns northeast. It flows through Hoyer Canyon into Lyon County, then across the Smith Valley, past Smith, and finally through Wilson Canyon into the Mason Valley, where it joins the East Walker.

The East Walker River also begins in Mono County, California, in the Bridgeport Valley, fed by several Sierra streams originating in the Hoover Wilderness, including Buckeye, Robinson, Green, and Virginia creeks. After forming the Bridgeport Reservoir at the town of Bridgeport, the East Walker flows northeast into Nevada in Lyon County, receives Rough Creek, and flows north along the eastern edge of the Toiyabe National Forest before its confluence with the West Walker.

Below the forks, the Walker River flows initially north through the Mason Valley, past Yerington, into central Lyon County. It turns sharply to the southeast around the north end of the Wassuk Range, flowing through the Walker River Indian Reservation where it is dammed to create Weber Reservoir. It flows past Schurz, where most of the remaining water is diverted for irrigation. The river seasonally continues south to empty into Walker Lake, approximately 20 miles (32 km) north-northwest of Hawthorne.

Table 2-18. Walker River Basin Demographics

Walker River Basin Population			
County	2010	2020	2022
Mono County, CA	14,202	13,195	12,978
Douglas County, NV	46,997	49,488	49,628
Lyon County, NV	51,980	59,235	61,585
Mineral County, NV	4,772	4,554	4,525

Source: US Census Bureau Data <https://www.census.gov/quickfacts>

4.1.1.5 Land Use and Development Trends

WRID coordinates with the Lyon County Community Development Department to plan for emergency services and to reduce the risks of hazards as development trends toward increased growth in the Walker River Basin. WRID will conduct a walk-through assessment with property owners prior to submitting building applications to review the risk of hazards to and from water control facilities (canals, ditches, drains) due to development.

2.4.3 Mason and Smith Valley Conservation Districts

In 1937, the Nevada State Legislature passed an enabling act which established the conservation districts in Nevada. Conservation districts were charged to direct programs protecting local renewable and natural resources. Nevada now has 28 conservation districts covering all 17 counties.

The Mason Valley, and Smith Valley Conservation Districts are primarily grant funded for noxious weed control, riverbank stabilization, sage grouse habitat improvement, resource needs assessment, and other locally led conservation projects in Mason and Smith Valleys. They work in conjunction with Lyon County, Mineral County, the Walker River Irrigation District, the City of Yerington, the Nevada Department of Agriculture, the Nevada Department of Wildlife, the Nevada Conservation Commission, the Walker River State Recreation Area, the US Forest Service, the US Fish and Wildlife Service, and the US Bureau of Land Management.

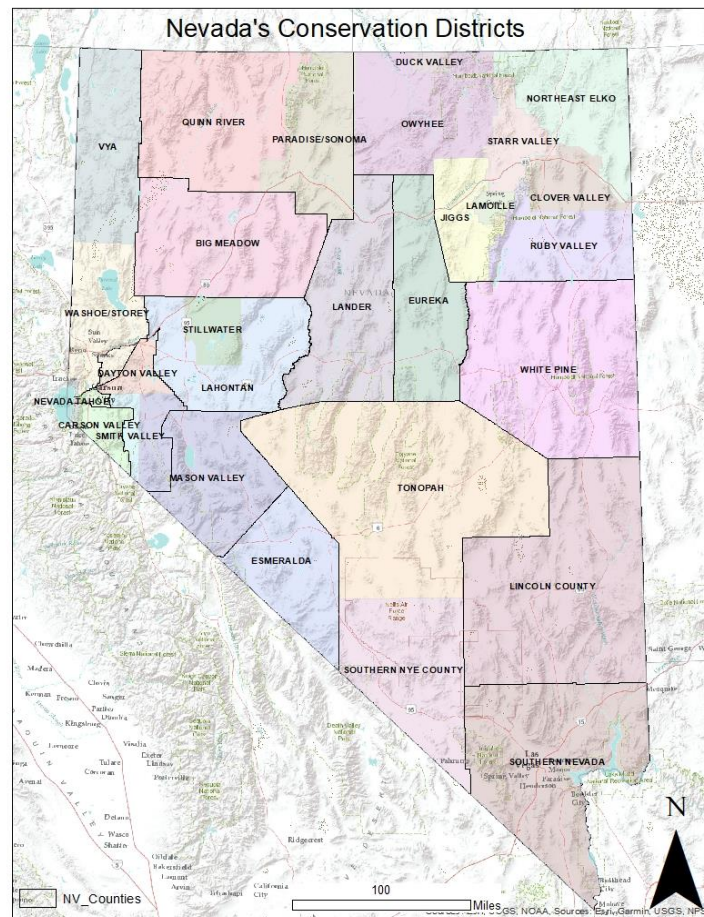


MASON VALLEY
CONSERVATION DISTRICT



SMITH VALLEY
CONSERVATION DISTRICT

Figure 2-19. Map of Conservation District Boundaries



Mason Valley Conservation District represents 3,067,663.84 acres and 4,793.22 square miles spanning across Lyon and Mineral Counties. The Smith Valley Conservation District represents 249,098.98 acres and 389.22 square miles in Lyon County.

4.1.1.6 Governance

Conservation districts are subdivisions of state government. Each district is governed by a board of six or more supervisors. Supervisors are locally elected residents who serve without pay. Five are elected by local citizens, and others are appointed by a city and the counties in the district as their representatives.

4.1.1.7 Demographics

Table 2-20. Mason and Smith Valley Conservation District Demographics

Mason Valley Conservation District Demographics			
County	2010	2020	2022
Lyon County, NV	51,980	59,235	61,585
Mineral County, NV	4,772	4,554	4,525
Smith Valley Conservation District Demographics			
County	2010	2020	2022
Lyon County, NV	51,980	59,235	61,585

4.1.1.8 Land Use and Development Trends

The Mason and Smith Valley Conservation Districts coordinate with the Lyon County Community Development Department to plan for emergency services and to reduce the risks of hazards as development trends toward increased growth in the District boundary continue (i.e., recommendations for noxious weed control).

2.5 Major Disaster Declarations

Lyon County has received fourteen major disaster declarations since January 1965, including three since the previous HMP update.

Table 2-21. Major Disaster Declarations in Lyon County

Disaster Number	Individual Assistance Program Declared?	Public Assistance Program Declared?	Hazard Mitigation Program Declared?	Federal Declaration Date	Title
DR - 4708	No	Yes	Yes	Apr 27, 2023	Severe Winter Storms, Flooding, Landslides, and Mudslides
DR - 4523	Yes	Yes	Yes	Apr 4, 2020	COVID-19 Pandemic
EM – 3443	No	Yes	No	Mar 13, 2020	COVID-19
FM – 5242	No	Yes	No	June 17, 2018	Upper Colony Fire
DR – 4303	No	Yes	Yes	Feb 17, 2017	Severe Winter Storms, Flooding, and Mudslides
DR - 1738	Yes	Yes	No	Jan 08, 2008	Severe Winter Storms and Flooding
FM - 2650	No	Yes	No	June 27, 2006	Linehan Fire Complex
DR - 1629	No	Yes	No	Feb 3, 2006	Severe Storms and Flooding
EM – 3243	No	Yes	No	Sep 13, 2005	Hurricane Katrina Evacuation
EM - 3204	No	Yes	No	Feb 23, 2005	Nevada Snow
EM – 3202	No	Yes	No	Feb 17, 2005	Nevada Snow
DR – 1153	Yes	Yes	Unknown	Jan 3, 1997	Severe Storms/Flooding
DR – 759	No	Yes	Unknown	Feb 28, 1986	Severe Storms, Flooding
DR – 187	Yes	Yes	Unknown	Jan 18, 1965	Severe Storms, Heavy Rains, Flooding

Source: FEMA Declarations <https://www.fema.gov/locations/nevada>

CHAPTER 3: PLANNING PROCESS

Chapter 3 provides a narrative description of the planning process the Lyon County and regional partners conducted to ensure that the County's mitigation strategy was informed by input from key departments, community partners, and community members. The process was based on strategies for inclusive engagement and integration with existing planning efforts.

 FEMA REQUIREMENT 44 CFR §201.6(c)(1)	A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction?

The regional HMP's organization is informed by the needs of the County and its partners. The following priorities were used to steer development of the HMP:

- Communicate priorities and values through mitigation strategies;
- Build community through a comprehensive and inclusive planning process; and
- Engage community members, elected officials, and County partners to ensure an equitable mitigation program.

FEMA recommends nine tasks for developing or updating local HMPs (see Figure 3-1). Tasks 1 through 3 address the people and process involved in the all-hazards mitigation development or update; Tasks 4 through 8 focus on the analytical and decision steps that need to be taken; and Task 9 includes suggestions for plan implementation.

Figure 3-1. FEMA Recommended Mitigation Planning Tasks



Source: FEMA Local Mitigation Planning Handbook, May 2023

https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-handbook_052023.pdf

3.1 Planning Area

The Lyon County Regional HMP accounts for all areas in Lyon County, Nevada, including the jurisdictions identified in Section 1.2.2.

See Figure 3-2 for a map of the planning area, including boundaries of communities in the County as identified in the 2020 Lyon County Master Plan.

Figure 3-2. Lyon County Regional Hazard Mitigation Area



3.2 Data Collections and Incorporation of Existing Plans

 FEMA REQUIREMENT 44 CFR §201.6(b)(3)	A4. Does the Plan document the review and incorporation of existing plans, studies, reports, and technical information?

Data collection efforts for the Lyon County Regional HMP focused on documents pertaining to the planning area. The primary source documents for the plan update were the 2018 HMP and geographic information system (GIS) data. Additionally, related emergency management plans; current local, tribal, county, and state hazard mitigation plans; and plans with relevant hazard mitigation topics were reviewed as part of the data collection efforts. Examples of hazard mitigation planning best practices were also reviewed for their applicability to the HMP, including the Nevada Enhanced HMP, and others.

3.2.1 2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan

As part of the 2023 update, the following actions were taken to ensure that the update reflected progress in the County's mitigation efforts and any changes in priorities:

- Review and refinement of 2018 HMP goals and objectives by the MPT;
- Update of partner mitigation capabilities; and
- Update of status for all mitigation actions identified in the 2018 HMP.

Refer to [Appendix C: MPT Meeting Agendas and Handouts](#) for the Final Progress Report on mitigation strategies and actions identified in the 2018 MJHMP.

3.2.2 State of Nevada Enhanced Hazard Mitigation Plan (2023)

The State of Nevada Enhanced HMP identifies and prioritizes potential actions throughout Nevada that would reduce the state's vulnerability to natural hazards. In addition, the plan satisfies the requirements of FEMA to ensure that Nevada is eligible to receive hazard mitigation and disaster assistance funds from the federal government. The current version of the plan was drafted and approved in 2023 as an enhanced plan and is effective until 2023 (State of Nevada, 2018).

3.2.3 Lyon County Community Wildfire Protection Plan (2023)

The Initial Community Wildfire Protection Plan (CWPP) for Lyon County, Nevada that addressed wildfire risks and hazards was prepared in 2004 by Resource Concepts, Inc. (RCI) on behalf of the Nevada Fire Safe Council.

This 2023 Update to the Lyon County Community Wildfire Protection Plan (2023 CWPP Update) has been prepared for Lyon County by the Nevada Division of Forestry (NDF) and RCI to present the results from a 2022 Wildfire Risk Assessment and to identify opportunities and projects to lower wildfire risks in Lyon County communities and neighborhoods. The 2023 CWPP Update touches on each of the three goals of the Cohesive Strategy. However, the emphasis is on creating and maintaining fire-adapted communities.

The purpose of the 2023 CWPP Update is to serve as a framework for a comprehensive long-term resiliency plan used to prioritize future wildfire protection projects and foster a collaborative approach with adjacent neighborhoods and jurisdictions. This update will enhance the current plans to identify and prioritize fuel reduction treatments and other wildfire hazard mitigation activities and provide a methodology for monitoring progress and accomplishments (NDF 2022).

The assessment area for the 2023 Lyon County CWPP Update included reevaluating and updating the wildfire risks in each of the four Lyon County Fire Protection Districts (FPDs). The 2023 CWPP Update includes the developed neighborhoods located in the Central Lyon Fire Protection District (CLFPD), the North Lyon Fire Protection District (NLFPD), the Mason Valley Fire Protection District (MVFPD), and the Smith Valley Fire Protection District (SVFPD).

The Mitigation Planning Team utilized data and information gathered in the 2023 CWPP to prepare the Wildland Fire Hazard Profile and to align with HMP goals and priorities.

3.3 Mitigation Planning Team

 FEMA REQUIREMENT 44 CFR §201.6(c)(1)	A4-a. Does the plan document how the plan was prepared, including the schedule or time frame that made up the plan’s development, as well as who was involved ?

The County’s Emergency Manager initiated the planning process through pre-planning via internal meetings and email exchanges with MPT members. The MPT convened during Lyon County Local Emergency Planning Committee (LEPC) meetings beginning May 2023. The MPT aided in the revision of mitigation goals and objectives, determination of risks and vulnerabilities, identification of mitigation strategies, refinement of mitigation review criteria, and prioritization and implementation of mitigation strategies. This planning process focused on improving intergovernmental coordination to ensure that the resulting document met the needs of all participating community departments.

3.3.1 MPT Members

The MPT was led and organized by the County’s Emergency Manager and included representatives from the participating entities/jurisdictions as well as from the following organizations:

- Lyon County Local Emergency Planning Committee (LEPC)
- Lyon County School District
- Lyon County Sheriff’s Office
- National Weather Service - Reno
- Nevada Division of Emergency Management
- Quad-County Public Health Preparedness
- South Lyon Medical Center

MPT members participated in planning meetings and communicated with the County Emergency Manager to meet the hazard mitigation planning objectives.

3.3.2 MPT Meetings

The needs of the HMP were discussed and key deliverables were reviewed at the MPT’s formal meetings. The MPT convened for a series of five meetings over the course of the project (see Table 3-1), where representatives from key departments and other stakeholders had the opportunity to provide knowledge and insights regarding hazard risks and local capabilities, engage with the contractors, and collaboratively work on the plan’s content. The MPT meetings served as the primary data-gathering mechanism throughout the planning process, and the importance of these meetings cannot be overstated. Community members and government employees within the MPT crafted every concept outlined in the HMP. This includes data collection, determination of goals and objectives, articulation of specific hazards and risks, and development of a comprehensive mitigation strategy. MPT meeting outputs are referred to throughout each chapter of the HMP, indicated by the “MPT Meeting Deliverable” graphic displayed to the right.

Table 3-3. Mitigation Planning Team Meeting Schedule

Meeting	Date	Objectives
Meeting #1: HMP Kickoff Workshop	5/10/2023	Overview of Regional HMP process, Conduct exercise to identify and rank hazards to be profiles in 2023 Regional HMP
Meeting #2: Risk Assessment and Planning Workshop	7/12/2023	Review and complete hazard ranking outcomes, Review Sections 1 through 3 of draft 2023 Regional HMP
Meeting #3: Hazard-specific Workshop	8/9/2023	Presentation by National Weather Service on Weather Hazards, Review Section 4 of draft regional HMP, Approve community survey tool and outreach plan
Meeting #4: Vulnerability and Capabilities Assessments	9/13/2023	Disseminate community survey, Complete Section 5 Vulnerability Assessment, Review and develop Section 6 Capabilities Assessment
Meeting #5: Final draft plan review meeting	11/8/2023	Review findings from community survey, Develop Section 7 Goals and Potential Actions, Approve Section 8 Plan Maintenance and Implementation, Develop final draft

In addition to the MPT meetings, the MPT was engaged through follow-up emails and requests to provide additional information pertaining to internal capabilities, department-specific risks, and mitigation strategy development. MPT members unable to attend meetings were consulted after all meetings to ensure that all inputs and perspectives were represented in the final HMP.

Agendas, meeting minutes, rosters, and handouts from MPT meetings are provided in Appendix C Meeting Agendas and Handouts.

3.4 Inclusive Outreach and Public Engagement

 FEMA REQUIREMENT 44 CFR §201.6(b)(1)	A3. Does the Plan document how the public was involved in the planning process during the drafting state?

	A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?

A critical component of the HMP update effort is a robust stakeholder engagement process that provides “an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval” (44 CFR §201.6). While providing an opportunity for public comment on the draft plan is one way to engage with the public around hazard concerns, the MPT also wanted to ensure the public had a meaningful way to participate in the process, as outlined in the following sections.

3.4.1 Inclusive Outreach and Public Engagement Plan

Public engagement was initiated soon after the HMP Kickoff Meeting (MPT Meeting #3). Table 3-2 and Appendix D provide an overview of outreach and engagement activities

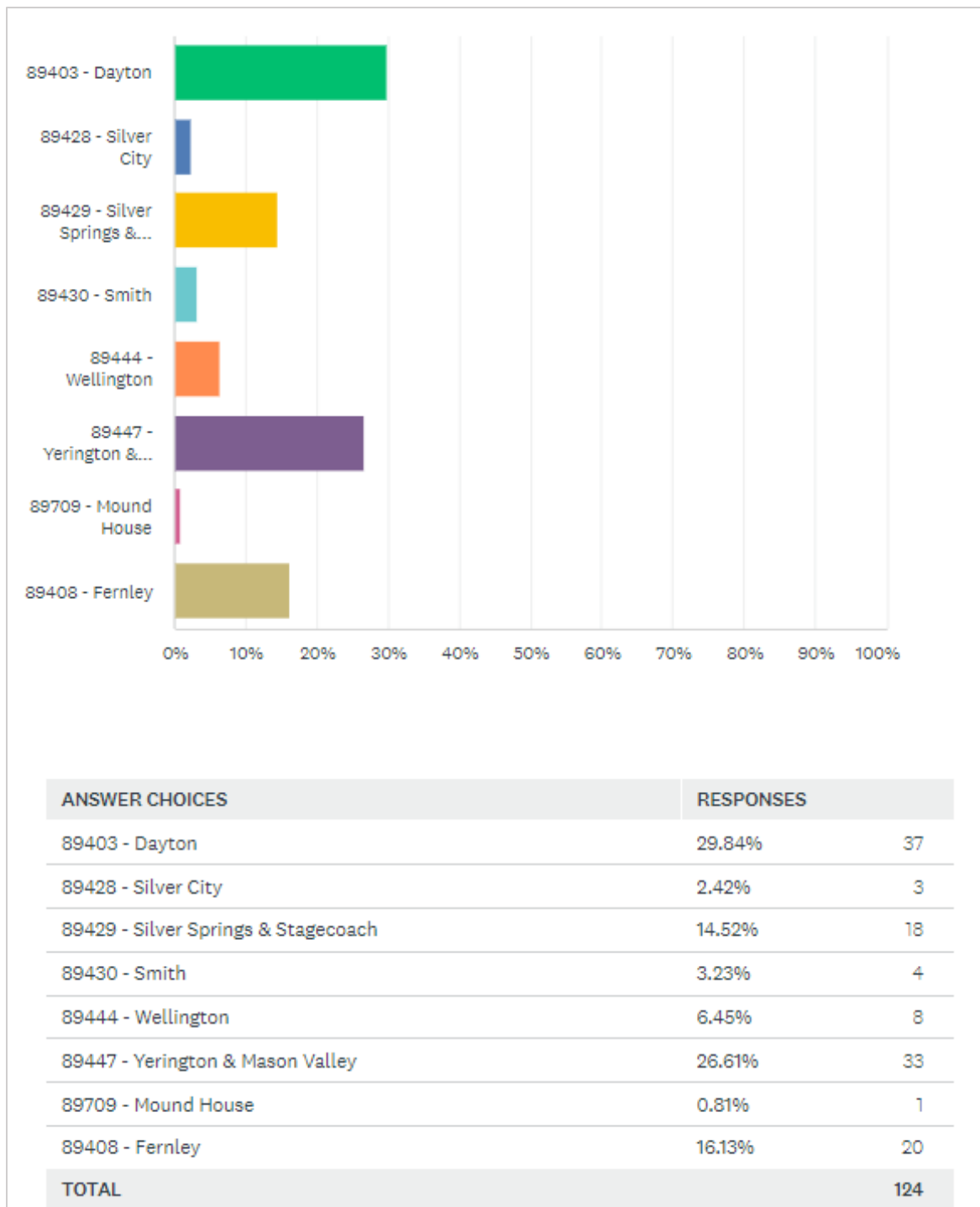
Table 3-4. Stakeholder and Public Outreach Activities Schedule

Outreach Event	Date	Objectives
Online Public Survey	8/10/2023	Online survey developed to solicit input from community members regarding hazards or concerns.
Public Meetings and Community Events	8/2023 – 11/2023	Public presentations and workshops dedicated to gathering feedback around major plan components, including risk assessment, hazard information, and initial mitigation ideas.
Public Comment Period	11/2023 – 12/2023	Community member review of draft plan available on County’s website.

3.4.1.1 Online Outreach

An online survey was developed to learn more about the public’s initial concerns prior to plan development. The initial online survey was distributed through social media (e.g., Facebook, Next Door, etc.) and to community organizations and individuals. The survey flyer was also shared to local food pantries. 129 individuals responded to the survey between August 21, 2023 and October 9, 2023. While the response rate is not statistically significant to represent a true sample of the participating jurisdictions, each zip code was represented in the responses.

Figure 3-5. 2023 HMP Community Outreach Survey Responses by Zip Code



Of the 129 responses, the majority of responses were from homeowners in Lyon County. 71.65% of participants reported owning a home in Lyon County, 14.17% own a home in the City of Fernley, and 6.30% own a home in the City of Yerington. Only 8.66% of respondents reported renting a home in either

Lyon County and/or the Cities of Fernley or Yerington and 14.96% reported owning a business in Lyon County and/or the Cities of Fernley or Yerington.

The following were the top five hazards that the community (individual or someone in their household) experienced (were affected by or witnessed) in the last 10 years:

Rank	Hazard	Number of “Yes” Responses
1	Drought	94 (79.66%)
2	Severe Storms & Extreme Snowfall	94 (78.99%)
3	Epidemic/Infectious Disease	89 (76.07%)
4	Economic/Supply Chain Emergency	83 (73.45%)
5	Flood	74 (63.79%)

Survey participants identified the hazards with the highest level of concern for impact to the community. Participants were asked to select low, moderate, or high levels of concern for each hazard profiled in the 2023 HMP. The hazards with the highest level of concern ranked below received at least 30% of “high” level of concern responses.

Rank	Hazard	Number of “High” Responses
1	Wildland Fire	68 (55.28%)
2	Drought	67 (54.92%)
3	Flood	53 (42.4%)
4	Severe Storms and Extreme Snowfall	52 (41.60%)
5	Water/Wastewater Emergency	44 (36.36%)
6	Economic/Supply Chain Emergency	41 (33.33%)

Community members that responded to the survey identified the top 10 effective ways to receive information about how to make households safer from emergencies and/or disasters.

Rank	Method of Communication	Number of Responses
1	Email	83 (64.84%)
2	Postal Mail	67 (52.34%)
3	Facebook	65 (50.78%)
4	Sheriff’s Office/Police Department	52 (40.63%)
5	Fire Protection District Office	45 (35.16%)
6	Internet Search	38 (29.69%)
7	Local Emergency Management Office	37 (28.91%)
8	Flyers/ Brochures	34 (26.56%)
9	Public Workshops	32 (25.0%)
10	Newspaper – Online	31 24.22%)

Further, the MPT identified the following trends in the qualitative responses to the Community Outreach Survey. The majority of responses included feedback and proposals for potential projects, including:

- A second bridge on the South side of the Carson River in Dayton (allowing for additional ingress and egress)*
- Identify flood mitigation strategies along the Walker River (based on 2023 floods lessons learned)
- Identify a path for drainage from Dayton Valley Road to the Carson River to prevent future alluvial run off flooding
- Stormwater drainage projects in Stagecoach
- Establishing additional evacuation locations in Fernley. Additionally, Fernley residents noted hazardous materials concerns from growing industrial park.
- Develop water conservation strategies to accommodate for increased housing during drought
- Reduce impacts of crime across Lyon County
- Address weeds and debris concerns across Lyon County as well as wildfire defensible space education

*The second bridge in Dayton exceeded other trends with multiple responses from survey participants.

The community outreach survey also provided the following valuable insight into the community's needs:

"Those living alone, like myself, need a network of others to help them when emergencies arise. Like a 'who to call list' of people to check on." - City of Yerington resident

See [Appendix D Public Information and Outreach](#) for complete survey results.

3.4.1.2 Public Meetings and Community Events

During the 2023 update of the regional HMP, the MPT hosted planning meetings in a series of public meetings as part of the Lyon County Local Emergency Planning Committee (LEPC) to allow for public participation throughout the entire process. In addition, the MPT embraced opportunities for the public to learn and discuss different HMP components in an interactive setting. The draft regional HMP was shared with Lyon County Citizen Advisory Boards to solicit input from the communities each CAB represents (Dayton, Mound House, Silver City, Silver Springs, Smith Valley, and Stagecoach).

See [Appendix D: Public Information & Outreach](#) for additional community event documentation.

3.4.1.3 Plan Review

Community members were provided a comment period beginning November 10, 2023 on the Lyon County website (www.lyon-county.org) and informed of the availability of the plan through a press release on November 17, 2023 and announcements on the County's social media accounts, including Facebook, Twitter and NextDoor.

3.4.2 Neighboring Jurisdiction and Partner Engagements Strategies

 FEMA REQUIREMENT 44 CFR §201.6(b)(2)	A2. Does the plan document 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 non-profit interests to be involved in the planning process?

	A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?

Lyon County represents a large geographic area, which requires the coordination of many external stakeholders and neighboring jurisdictions to support the community's needs. The following partners were invited to participate in the MPT process to ensure that the HMP properly identified diverse risks and needs:

- American Red Cross
- Boys and Girls Club – Mason Valley
- Carson City
- Churchill County
- Douglas County
- National Weather Service-Reno
- Nevada Copper
- Nevada Department of Public Safety
- Nevada Department of Transportation (NDOT)
- Nevada Division of Emergency Management
- NV Energy
- Mineral County
- University of Nevada, Reno
- Storey County
- Washoe County
- Walker River Paiute Tribe
- Yerington Paiute Tribe

Additionally, the following stakeholders were provided a letter to solicit feedback on the draft Lyon County Regional Hazard Mitigation Plan during the public comment period beginning November 10, 2023:

- American Red Cross
- Boys and Girls Club – Mason Valley
- Carson City
- Churchill County
- Douglas County
- Healthy Communities Coalition
- National Weather Service-Reno
- Nevada Department of Transportation (NDOT)
- Nevada Division of Emergency Management
- Nevada State Emergency Response Commission (SERC)
- NV Energy
- Mineral County
- University of Nevada, Reno

- Storey County
- Washoe County
- Walker River Paiute Tribe
- Yerington Paiute Tribe

3.5 Plan Development

 FEMA REQUIREMENT 44 CFR §201.6(c)(1)	A1-a. Does the plan document how the plan was prepared, including the schedule or time frame that made up the plan’s development , as well as who was involved?

Development of the HMP was conducted according to the process outlined above and described in detail in FEMA’s Local Mitigation Planning Handbook. The MPT reviewed the previous plan during the Project Kickoff Workshop and identified sections that required revision.

The updated HMP serves as the written record of the comprehensive hazard mitigation planning process. In addition, the HMP reflects the region’s current needs and hazard concerns. Initial development of the HMP update occurred over an eight month period from May 2023 through December 2023. The plan was developed through a series of seven steps, as detailed in Table 2-4, many of which occurred concurrently. Table 2-5 also illustrates the corresponding FEMA local mitigation planning task for each HMP development milestone. The requisite State Hazard Mitigation Officer and FEMA review periods occurred during the draft and final HMP steps.

Table 3-7. Lyon County Regional HMP Milestones and Timeline

Lyon Regional HMP Update Development Milestone	Corresponding FEMA Recommended Mitigation Planning Task	Timeline	Updates Made? (Yes/No)
1. Data Collection and Documentation Review	Task 1 – Determine the Planning Area and Resources Task 5 – Conduct a Risk Assessment	May – July 2023	Yes
2. Mitigation Planning Team Coordination	Task 2 – Build the Planning Team	May 2023	Yes
3. Stakeholder Engagement and Outreach	Task 3 – Create an Outreach Strategy	July – November 2023	Yes
4. Hazard Mitigation Strategy Update	Task 4 – Review Capabilities Task 6 – Develop a Mitigation Strategy	August – November 2023	Yes
5. Draft Hazard Mitigation Plan	Written documentation of the planning process (all tasks)	May – November 2023	Yes
6. Final Hazard Mitigation Plan	Written documentation of the planning process (all tasks)	May – November 2023	Yes

7. Plan Adoption	Task 8 – Review and Adopt the Plan	November – December 2023	Yes

CHAPTER 4: HAZARD PROFILES AND RISK ASSESSMENTS

Chapter 4 contains hazard profiles and vulnerability assessments to determine the potential impact of hazard to the people, economy, and built and natural environments of Lyon County. They have been streamlined to increase the effectiveness and usability of the HMP. Vulnerability assessment summaries for each participating jurisdiction are provided in Chapter 5.

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(i)	B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and the probability of future hazard events?

4.1 Introduction

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(i)	B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?

The first step in hazard analysis is the identification and screening of hazards. During the May 2023 HMP workshop the mitigation planning team (MPT) reviewed the previous 12 hazards identified in the 2018 Multi-Jurisdictional HMP. The MPT identified 19 hazards to profile in the 2023 regional HMP, including 5 new hazards and 2 modified hazards. Table 4-1 displays the hazards that the MPT selected for further assessment.

Table 4-1. Hazards Addressed in the Plan

Hazard Type	Hazard Name
Natural Hazards	Dam/Canal/ <u>Reservoir</u> Failure Drought Earthquake Epidemic/Infectious Disease Expansive Soil Flood Infestation Landslide Severe storms and extreme snowfall Tornado Volcano Wildland Fire
Human-Caused Hazards	<u>Criminal Acts</u> and Terrorism/WMD Hazardous Materials <u>Economic/Supply Chain</u>

Technological Hazards	Water/Wastewater Emergency
	Energy Emergency Transportation Incident (including Aircraft crash) Technological Emergency (including cyber)

**Hazards new to the 2023 Regional HMP or were modified in 2023 are identified in blue.*

The 2023 update of the vulnerability assessment replaces the version published in 2019. It meets the requirements of FEMA and EMAP, which publish standards to guide this work and ensure quality and consistency across jurisdictions.

4.2 Hazard Vulnerability Rating Methodology and Results

The hazards identified in the HMP were initially ranked based on MPT feedback during MPT Meeting #1. Participants were asked to rank hazards on a scale of 1 (lowest concern) to 5 (highest concern) based on five key attributes:

- **Probability:** Likelihood of the hazard occurring.
- **Magnitude:** Areas potentially impacted, the overall impacts, and the chance of one hazard triggering another hazard, thus causing a cascading effect.
- **Onset:** The time between recognition of an approaching hazard and when the hazard begins to affect the community.
- **Duration:** The length of time the hazard remains active, the length of time emergency operations continue after the hazard event, and the length of time that recovery will take.
- **Frequency:** How often a hazard has resulted in an emergency or disaster.

Table 4-2. Hazard Vulnerability Rating Rubric

Rating	Probability	Magnitude	Frequency	Onset	Duration
1	Highly unlikely (0-10%)	No injuries or deaths expected, minimal property damage	Less than every 25 years	Greater than 30 days of warning	Only brief moments
2	Fairly unlikely (10-25%)	Between 1 and 5 injuries or deaths, minor property damage	10-25 years	5-30 days of warning	1-24 hours
3	Moderate (25-75%)	Between 5 and 25 injuries or deaths, severe property damage	5-10 years	1-5 days of warning	Days to weeks
4	Likely (75-90%)	Between 25 and 50 injuries or deaths, severe property damage	1-5 years	1-10 hours of warning	Weeks to months
5	Highly Likely (90-100%)	Greater than 50 injuries or deaths, catastrophic property damage	Once per year	No warning	Months to years

Following the individual hazard ranking activity, the results were added up and aggregated to show a total risk ranking score. The aggregate results were shared with the MPT, and the final rankings were adopted as the official rankings for the HMP and are available in Table 4-4. The hazard profiles and risk assessments align with EMAP standards by focusing on hazards with a high magnitude or high probability.

Figure 4-3. Priority Level Rating Scale

PRIORITY LEVEL BY RISK RANKING	VERY LOW RISK (1-5)	LOW RISK (6-10)	MEDIUM RISK (11-15)	HIGH RISK (16-20)	VERY HIGH RISK (21-25)

4.3 Hazard Rating By Participating Jurisdiction

Table 4-4. 2023 Regional Hazard Ranking Table by Participating Jurisdiction

Ranking Level	Hazard Type	Total Hazard Rating	Lyon County	City of Fernley	City of Yerington	Central Lyon County Fire Protection District	North Lyon County Fire Protection District	Smith Valley Fire Protection District	Yerington / Mason Valley Fire Protection District	Carson Water Subconservancy District	Mason and Smith Valley Conservation Districts	Walker River Irrigation District
VERY HIGH RISK	Criminal Acts and Terrorism/WMD	21	21	21	21	21	21	21	21	21	21	21
	Wildland Fire	21	21	21	21	21	21	21	21	21	21	21
HIGH RISK	Severe Storm and Extreme Snowfall	20	20	20	20	20	20	20	20	20	20	20
	Landslide	20	20	20	20	20	20	20	20	20	20	20
	Epidemic/ Infectious Disease	20	20	20	20	20	20	20	20	20	20	20
	Energy Emergency	19	19	19	19	19	19	19	19	19	19	19
	Transportation Incident (including rail and aircraft)	19	19	19	19	19	19	19	19	19	19	19
	Technological Hazards (including cyber)	19	19	19	19	19	19	19	19	19	19	19
	Flood	18	18	18	18	18	18	18	18	18	18	18
	Water/Wastewater Emergency	18	18	18	18	18	18	18	18	18	18	18
	Drought	18	18	18	18	18	18	18	18	18	18	18
	Earthquake	18	18	18	18	18	18	18	18	18	18	18
	Hazardous Materials	17	17	17	17	17	17	17	17	17	17	17
MEDIUM RISK	Economic/ Supply Chain Emergency	17	17	17	17	17	17	17	17	17	17	17
	Dam/Canal/Reservoir Failure	15	15	15	15	15	15	15	15	15	15	15
	Expansive Soil	15	15	15	15	15	15	15	15	15	15	15
LOW RISK	Infestation	12	12	12	12	12	12	12	12	12	12	12
	Avalanche	10	10	10	10	10	10	10	10	10	10	10
	Tornado	10	10	10	10	10	10	10	10	10	10	10
	Volcano	10	10	10	10	10	10	10	10	10	10	10

4.4 National Risk Index

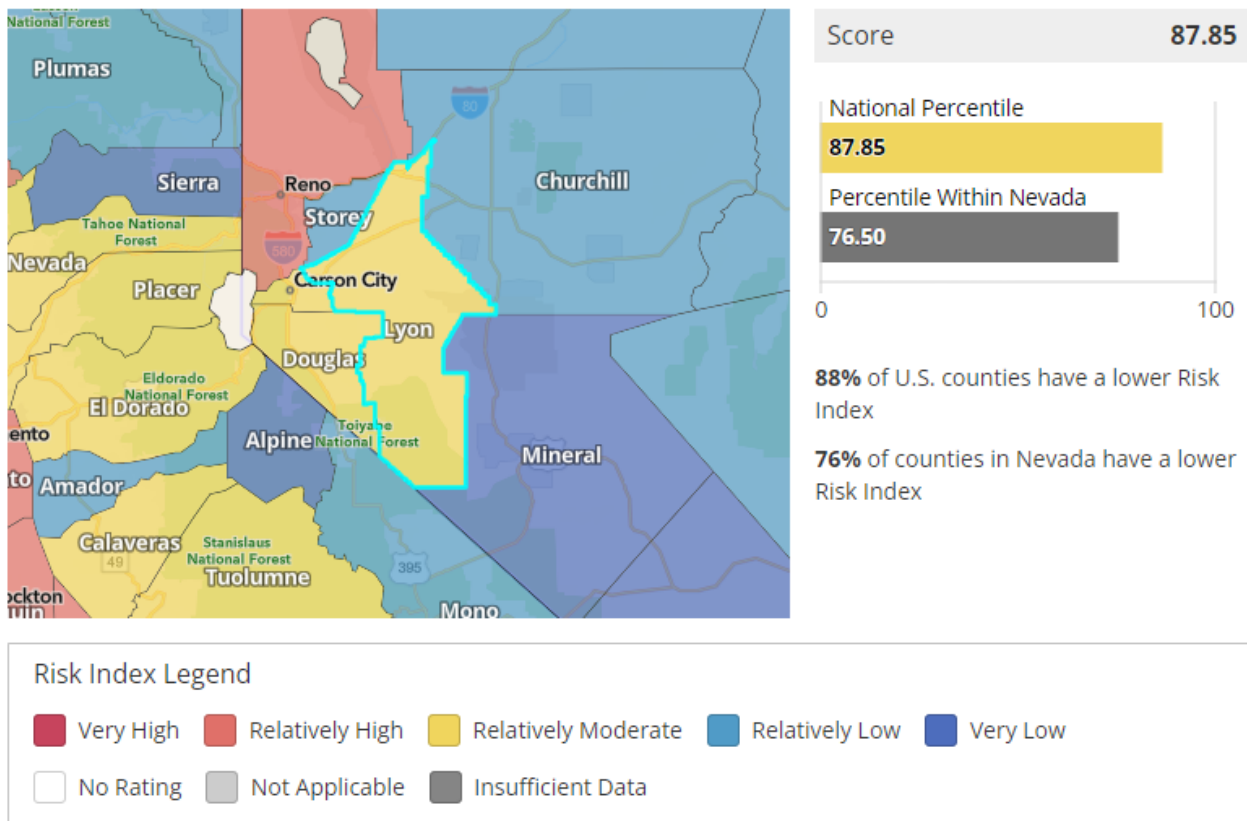
The FEMA National Risk Index (NRI) is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards. It was designed and built by FEMA in close collaboration with various stakeholders and partners in academia; local, state and federal government; and private industry. In the FEMA National Risk Index (NRI), risk is defined as the potential for negative impacts as a result of a natural hazard.

$$\text{Risk Index} = \text{Expected Annual Loss} \times \text{Social Vulnerability} \div \text{Community Resilience}$$

The risk equation behind the **Risk Index** includes **three components**: a natural hazards component (**Expected Annual Loss**), a consequence enhancing component (**Social Vulnerability**), and a consequence reduction component (**Community Resilience**). The dataset supporting the natural hazards component provides estimates measured in 2022 U.S. dollars. The datasets supporting the consequence enhancing and consequence reduction component have been standardized using a minimum-maximum normalization approach prior to being incorporated into the National Risk Index risk calculation. The 2023 FEMA National Risk Index for Lyon County, Nevada is identified in Figure 2-8.

The Risk Index rating is **Relatively Moderate** for Lyon County, Nevada when compared to the rest of the United States. See Appendix G: National Risk Index Reports for the full County NRI Report.

Figure 4-5. Lyon County, NV NRI Rating



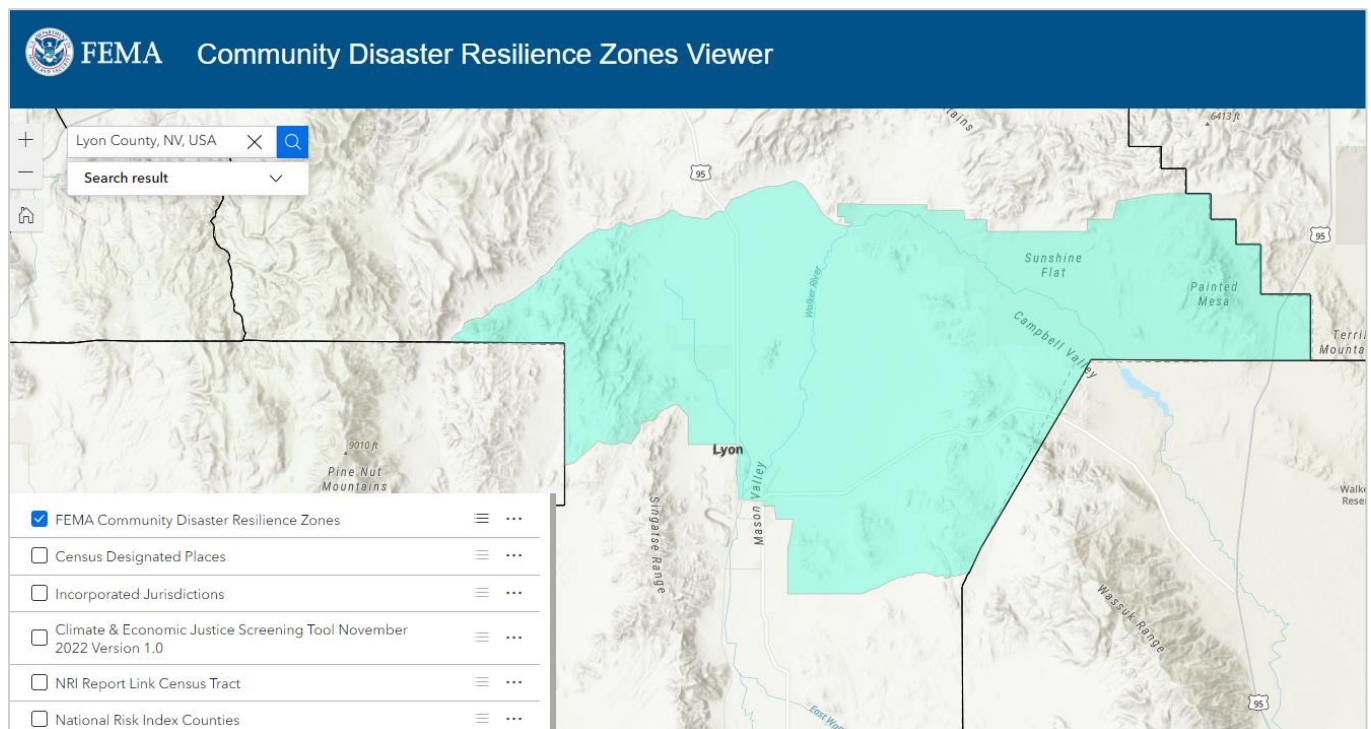
Source: FEMA National Risk Index – Lyon County, NV | July 17, 2023
<https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C32019>

4.4.1 Community Disaster Resilience Zones (CDRZs)

On September 6, 2023, Census tract 960902 in Lyon County, Nevada was identified as a Community Disaster Resilience Zone (CDRZ). The [Community Disaster Resilience Zones Act](#) was signed into law by President Joe Biden on December 20, 2022. The Act amends the [Robert T. Stafford Disaster Relief and Emergency Assistance Act](#) and requires FEMA to utilize a natural hazard risk assessment index to identify census tracts which are most at risk from the effects of natural hazards and climate change. Census tract 960902 received CDRZ designation by meeting the following criteria:

- 1) The composite National Risk Index score ranks in the top 50 nationally or in the top 1% within their state.
- 2) It is identified as a disadvantaged community by the Climate & Economic Justice Screening Tool.

Figure 4-6. Map of Lyon County CDRZ – Census Tract 960906



Source: FEMA Community Disaster Resilience Zones Viewer

<https://experience.arcgis.com/experience/e3bb8cb79d124a0ca38a05e48afb6fd6/page/Community-Disaster-Resilience-Zone-Viewer/>

4.4.1.1 Participating Entities/Jurisdiction(s) Impacted by 2023 CDRZ Designation

The following jurisdictions participating in the 2023 Lyon County Regional HMP boundaries include all or portions of the CDRZ:

Lyon County
 City of Yerington
 Yerington / Mason Valley Fire Protection District
 Walker River Irrigation District
 Mason Conservation District

4.5 Hazard Profiles

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(i) 44 CFR §201.6(c)(2)(ii)	B1-b. Does the plan include information on the location of each identified hazard? B1-c. Does the plan describe the extent for each identified hazard? B1-d. Does the plan include the history of previous hazard events for each identified hazard? B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and rage of anticipated intensities of identified hazards? B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area? B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?

For the purposes of the 2023 Lyon County Regional Hazard Mitigation Plan, Lyon County and participating jurisdictions profiled the fourteen (14) high and very high risk hazards identified through the hazard ranking process.

Each hazard profile included in the 2023 provides information on the location of each identified hazard, the extent for each identified hazard, and the history of previous hazard events for each identified hazard.

Criminal Acts and Terrorism

4.5.1 Criminal Acts and Terrorism

Table 4-7. Criminal Acts and Terrorism Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Weeks to months	VERY HIGH 21

4.5.1.1 Hazard Description

Criminal Acts include intentional acts against the public including mass casualty incidents and workplace violence. When mass causality incidents occur, emergency management teams are called upon to assist and mitigate the impact to the city. There have been several incidents in Lyon County in the last decade. Criminal acts can be random in nature or preplanned and perpetrated by individuals or groups.

An **act of violence** is any situation presents and immediate and ongoing danger to the safety of people in the community.

Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom. Lyon County categorizes four general types of terrorism:

Conventional – such as active assailant, bombing, or hijacking

Chemical – use of poisons or chemicals (such as nerve gas or fentanyl)

Biological – use of bacteria, viruses, or other harmful organisms

Radiological – use of nuclear or radiological materials

Civil Disorder/Riotous Behavior. A behavior that refers to a situation where groups intentionally choose not to observe the law. Civil disorder/riotous behavior can be further defined by the following three categories:

Civil Disobedience. The refusal to obey civil laws in an effort to affect change in governmental policy or legislation.

Civil Disturbance. Group acts of violence and disorder prejudicial to public law and order.

Rioting. A violent disturbance of the public peace by a statutorily defined number of people assembled for a common purpose.

While peaceful protests—often initiated to bring attention to an issue, cause, or agenda—are protected, those protests that evolve into civil disobedience, civil disturbance, and/or rioting, are criminal and the impacts may be significant.

An emerging threat to Lyon County public safety resources is increased false reporting of criminal acts or threats of violence intended to prompt an immediate tactical law enforcement response, also known as **swatting**.

4.5.1.2 History of Previous Criminal Acts/Terrorism

No incidents of terrorism have been reported in Lyon County since the last planning period of 2018-2023. Listed are significant active assailant incidents in Nevada since 2011 that impacted local, state, and federal resources.

IHOP: International House of Pancakes (Carson City, 2011)

On Sept. 6, 2011, an active assailant opened fire in the International House of Pancakes in Carson City killing Nevada Guardsmen Lt. Col. Heath Kelly, 35, Master Sgt. Christian Riege, 38, Sgt. 1st Class Miranda McElhiney, 31, and South Tahoe resident Florence Donovan-Gunderson, 67. Two other soldiers and seven other patrons suffered injuries during the shooting rampage.

Sparks Middle School (Sparks, 2013)

A 12-year old student opened fire with a semi-automatic handgun at Sparks Middle School, injuring two students and killing a teacher.

1 October – Route 91 (Las Vegas, 2017)

A lone gunman committed the deadliest mass shooting by an individual in the United States in Las Vegas, Nevada, on the Las Vegas Strip. The gunman fired from a suite on the 32nd floor of the Mandalay Bay

Hotel into crowds attending the Route 91 Harvest music festival. A total of 58 people were killed, and 851 people were injured during the shooting and the ensuing panic.

Further, jurisdictions across Nevada experienced civil unrest causing minor disturbances and disruptions to traffic flows and businesses.

4.5.1.3 Extent, and Probability

It is difficult to estimate the extent or probability of criminal activity or a terrorist incident. Nonetheless, it can be deduced that these threats could affect all populated areas in Lyon County and participating jurisdictions; government facilities and schools may be most likely targeted. The magnitude and potential severity of impacts of criminal activity or a terrorist incident is considered **High** due to a Criminal Activity/Terrorism incidents ability to result in 2-25 injuries/deaths and/or severe damage to public infrastructure.

The National Terrorism Advisory System Bulletin provides an updated “Summary of Terrorism Threat to the U.S. Homeland” approximately four times per year. At this time, a means of measuring the extent of acts of terrorism has not been identified. The potential extent of these acts are suggested by the previous occurrences discussed in the previous section.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions have varying level of risk of impacts from criminal activity and acts of terrorism. Lyon County, the City of Fernley, and City of Yerington have the highest risk of criminal activity impacting community lifelines due to geographical boundaries, community composition, and threats to critical infrastructure maintained by the County and municipalities (such as roads and public water systems). Lyon County and the Cities of Fernley and Yerington’s law enforcement agencies will be tasked with responding to the effects of a significant criminal act in each community. Each of these jurisdictions also permit mass gathering events drawing 1000+ participants per day.

The four fire protection districts all have risk of criminal activity exhausting fire and emergency medical services within each district boundary and impacts to Station infrastructure. Walker River Irrigation District owns and operates approximately 200 miles of drainage systems and Bridgeport and Topaz reservoirs that are vulnerable to criminal acts and disruption. Carson Water Subconservancy District and the Mason/Smith Valley Conservation Districts likely have the lowest risk due to fewer infrastructure; however, there are still concerns for criminal acts occurring within jurisdictional boundaries.

4.5.1.4 Potential Impacts from Future Climate Conditions

The following excerpt from the National Institute for Health’s National Center for Biotechnology Information (NCBI) reached the following conclusion in a study completed in St. Louis, MO.

“The current study examines the relation between climate change and levels of violence in different groups of neighborhoods. Using data from St. Louis, MO, USA, the findings indicate that climate change is likely having a greater impact on levels of violence in disadvantaged communities than levels of violence in more affluent communities. After controlling for confounding factors, the most disadvantaged group of communities in St. Louis typically experience an average 1% monthly increase in violent crimes for each degree increase in anomalous temperatures. In fact, results show that the 20% of most disadvantaged

neighborhoods are predicted to absorb over 50% of climate change related increases in violence. On the other hand, the least disadvantaged neighborhoods in the study display no significant correlation between violence and temperature anomalies. Combined, these results suggest that those already at higher risk for a plethora of health issues connected to climate change are also likely to experience higher levels of violent victimization.”

Dennis Mares, “Climate Change and Levels of Violence in Socially Disadvantaged Neighborhood Groups,” J Urban Health, 2013 August, 90(4): 768-783, accessed Sept. 2023, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3732690/>

4.5.1.5 Vulnerability by Jurisdiction(s)

Acts of violence are likely to occur in populated areas or places where people gather. Criminal acts of violence also occur in the workplace – including but not limited to schools, hospitals, grocery stores, restaurants, faith-based institutions, and casinos. Overall, public locations of all kinds are vulnerable to acts of violence.

Special events (drawing over 1,000 individuals per day), government facilities, airports, and critical utility infrastructure are potentially susceptible to the impacts of terrorism. In addition, general election cycles have a heightened threat environment for both foreign and domestic terrorism.

Table 4-8. Criminal Acts and Terrorism/WMD Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airports, schools, businesses and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day. Heightened vulnerability during general election cycles. Lyon County houses the Lyon County Sheriff’s Office which will likely have the greatest labor, equipment, and material losses during a criminal activity/terrorism incident.
City of Fernley	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, schools, businesses and other critical infrastructure in jurisdictional boundary. Mass gathering event(s) drawing 1,000+ participants per day.
City of Yerington	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day. City Police Department will likely have labor, equipment, and material losses during a criminal activity/terrorism incident.
CLCFPD	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
NLCFPD	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, large

		manufacturing, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
MVFPD	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
SVFPD	Low	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary.
CWSD	Low	CWSD does not have any infrastructure that would be impacted by potential losses associated with criminal acts and terrorism.
WRID	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, water control infrastructure, reservoirs, agriculture, and other critical infrastructure in jurisdictions boundary.
M&SVCD	Low	M&SVCD does not have any infrastructure that would be impacted by potential losses associated with criminal acts and terrorism.

Wildland Fire

4.5.2 Wildland Fire

Table 4-9. Wildland Fire Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	5-25 Injuries/Deaths, Severe damage	Once per year	No warning	Days to weeks	VERY HIGH 21

4.5.2.1 Hazard Description

A **wildland fire** is a type of fire wildfire that spreads through the 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. Wildfires can also be classified as urban fires, interface or intermix fires, and prescribed fires. As



development has spread away from population centers and into surrounding terrain, fire agencies have adopted the term **Wildland Urban Interface (WUI)**. Fires within the WUI can result in major losses of property and structures and human casualties. The following 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 significant. The risk of fire is increased considerably 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.

Lyon County has developed a **Community Wildfire Protection Plan** (2023) to help guide the community and residents on where and how to focus fuel reduction efforts. The plan generally speaks to protecting the built environment from threats of wildfire and has contributed to mitigation priorities to reduce the impacts of wildland fire.

4.5.2.2 History of Previous Wildland Fires

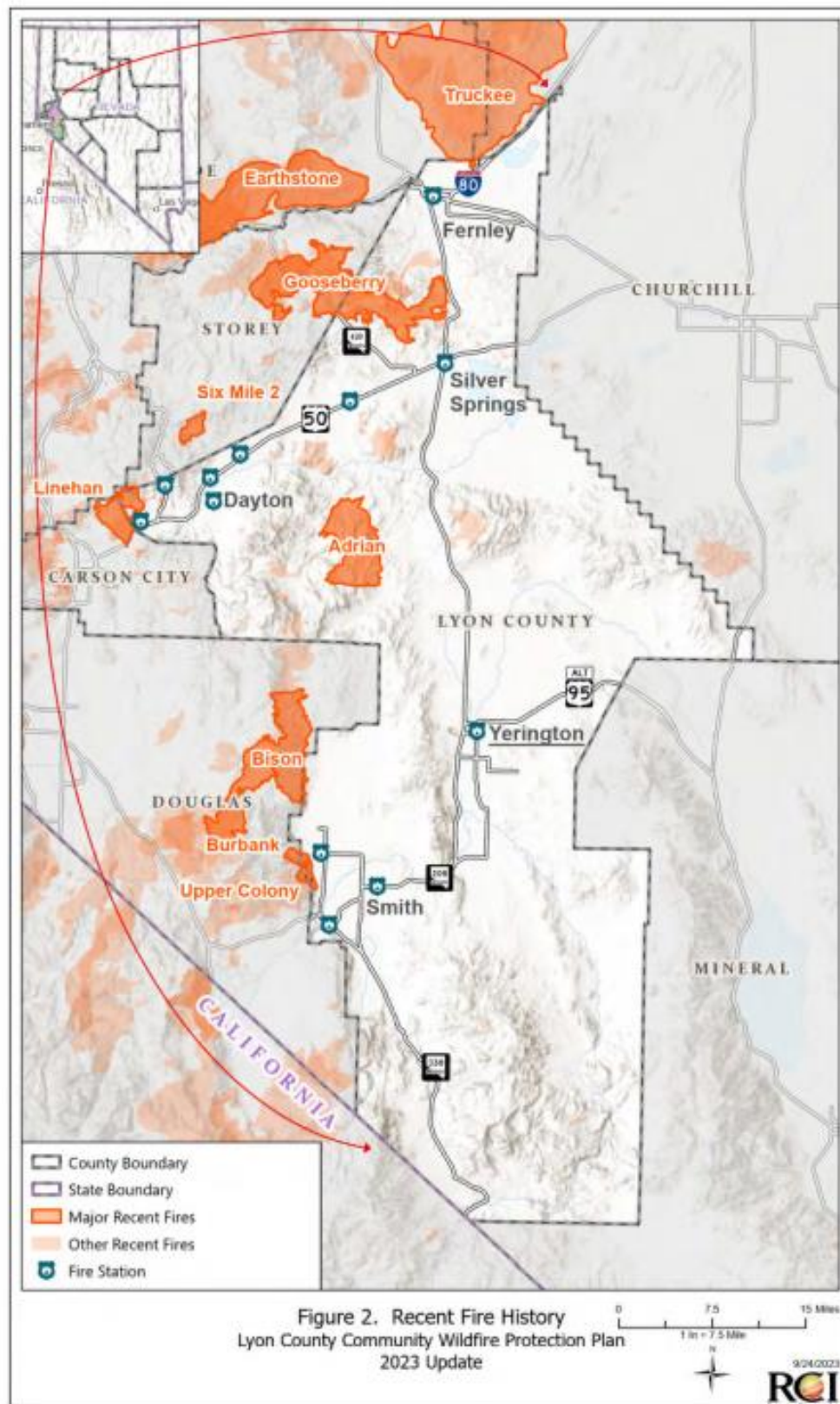
Historic large wildfires in Lyon County are predominantly located west of the Smith Valley Fire Protection District boundary in the Pine Nut Mountains and within the Central Lyon County Fire Protection District and North Lyon County Fire Protection District boundaries. A partial list of large wildfires in Lyon County since 2006 is summarized in Table 4-10 and shown in Figure 4-11.

Table 4-10. Partial List of Large Fires (>300 acres) 2006 – Present that have Burned into Fire Districts

Central Lyon County Fire Protection District (CLCFPD)			
Year	Fire Name	Source of Ignition	Fire Size (acres)
2006	Linehan	Natural	5,860
2006	6-Mile 2	Natural	1,733
2006	Virginia	Natural	4,602
2007	Industrial	Human	428
2007	Adrian	Natural	14,001
2012	Weeks	Natural	3,864
2017	Micro	Natural	1,549
2018	Chaves	Human	3,437
2018	Piper	Human	314
2020	10-Mile 2	Human	306
North Lyon County Fire Protection District (NLCFPD)			
Year	Fire Name	Source of Ignition	Fire Size (acres)
2006	Virginia	Natural	4,602
2017	Truckee	Human	98,954
2018	Piper	Human	314
Smith Valley Fire Protection District (SVFPD)			
Year	Fire Name	Source of Ignition	Fire Size (acres)
	Jackass	Natural	6,213
2011	Burbank	Natural	1,113
2013	Bison	Natural	24,140
2018	Upper Colony	Human	1,201

Source: 2023 Lyon County Community Wildfire Protection Plan

Figure 4-11. Recent Fire History (2006 – Present) Map



4.5.2.3 *Extent and Probability*

Communities in Lyon County have a varying degree of risk from wildfire. This risk differs 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. Drought seasons tend to decrease the fuel moisture in the large fuels (trees and large brush) and create high output fires that are difficult to control and can extend for days.

The 2023 Community Wildfire Protection Plan (CWPP) contains a wildfire community risk assessment utilizing the Nevada Community Assessment Tool (CAT). The CAT model was specifically configured by local experts for Nevada wildfire risk assessments and evaluates three categories of wildfire hazards for neighborhoods: suppression hazards, hazards in the surrounding environment, and structural hazards. Nevada Division of Forestry (NDF) personnel assessed each neighborhood assisted by Google Maps and satellite images. Wildfire hazard factors were verified during on-the-ground field visits.

The 2023 CWPP contains assessment scores and summaries for all communities within Lyon County and participating jurisdictions. The maps below provide a high-level overview of the CAT rankings in Lyon County and are enlarged to visualize each of the four Fire Protection Districts.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions have varying risk of wildland fire and are prone to heavy fuel loads and extreme fire weather behavior. Central Lyon County Fire Protection District, North Lyon County Fire Protection District, and Smith Valley Fire Protection District have the greatest risk of wildland fire probability and extent followed by Mason Valley Fire Protection District. Each District has vegetation fuels as well as urban fuels concerns. The 2023 CWPP contains a wildfire community risk assessment that further defines the extent and probability within specific neighborhoods in each fire protection district's jurisdictional boundary.

Wildland fire risk is also present in all areas within Lyon County that are not within a Fire Protection District boundary. These are mostly undeveloped lands managed by State and Federal fire agencies. All other participating jurisdictions (Lyon County, City of Fernley, City of Yerington, Carson Water Subconservancy District, Mason/Smith Valley Conservation Districts, and Walker River Irrigation District) have similar risk of wildland fire impacting critical infrastructure. Walker River Irrigation District owns and operates Bridgeport and Topaz Reservoirs and over 200 miles of drainage systems threatened by wildland fire.

Figure 4-12 (A). Lyon County 2023 CAT Assessment Ratings



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(enlarged to show communities)

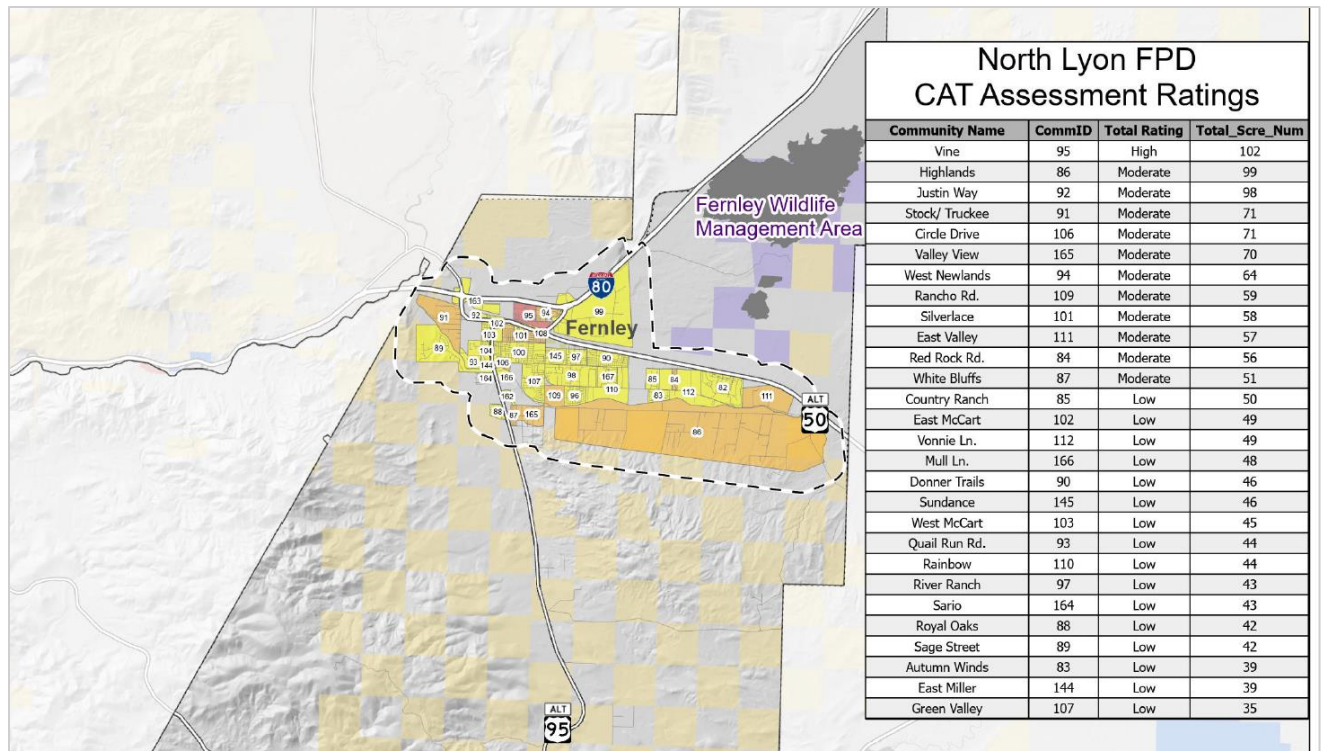


Figure 4-14 (C). Central Lyon County Fire Protection District 2023 CAT Assessment Ratings
(enlarged to show communities)

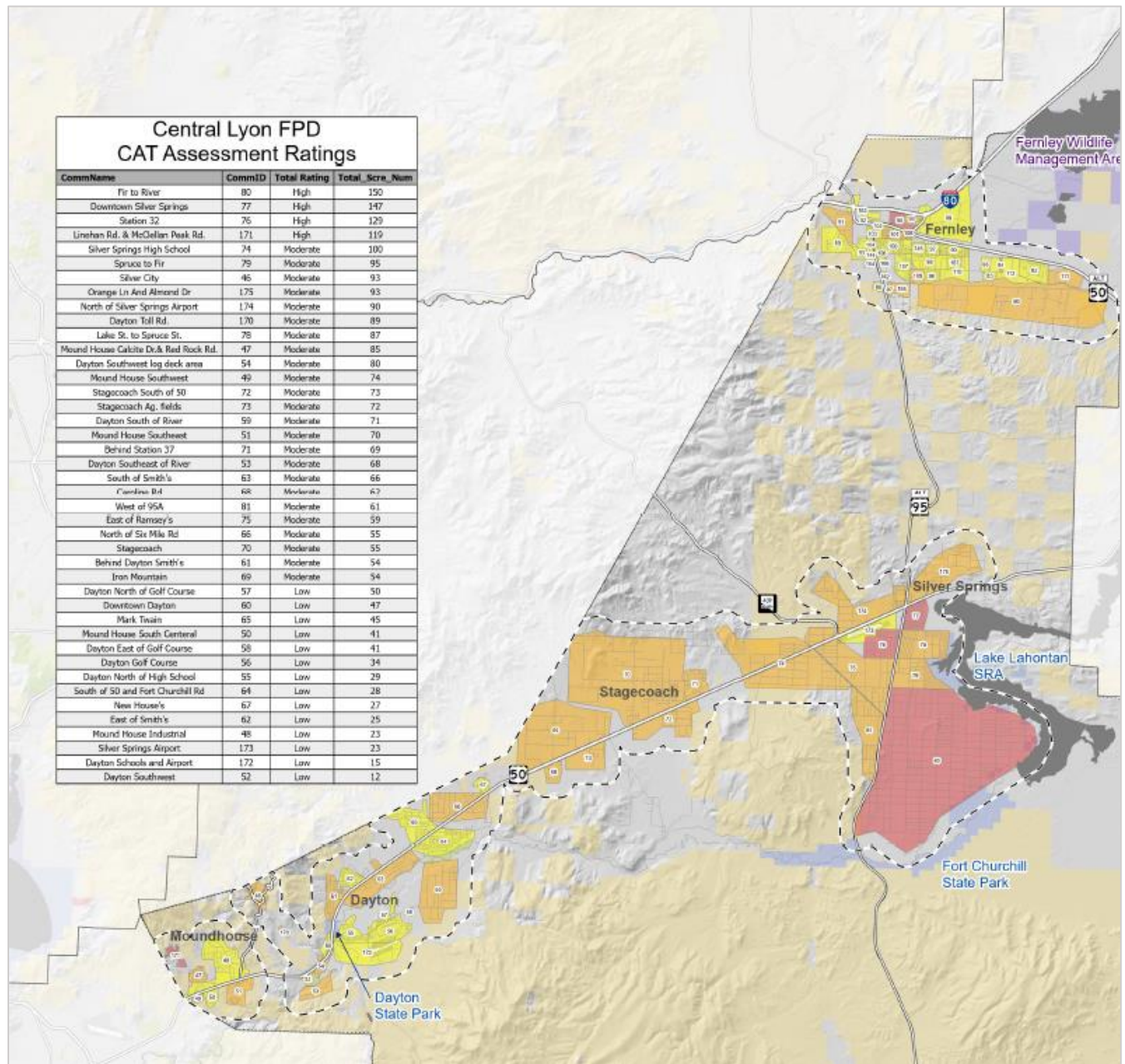


Figure 4-12 (D). Yerington/Mason Valley Fire Protection District 2023 CAT Assessment Ratings
(enlarged to show communities)

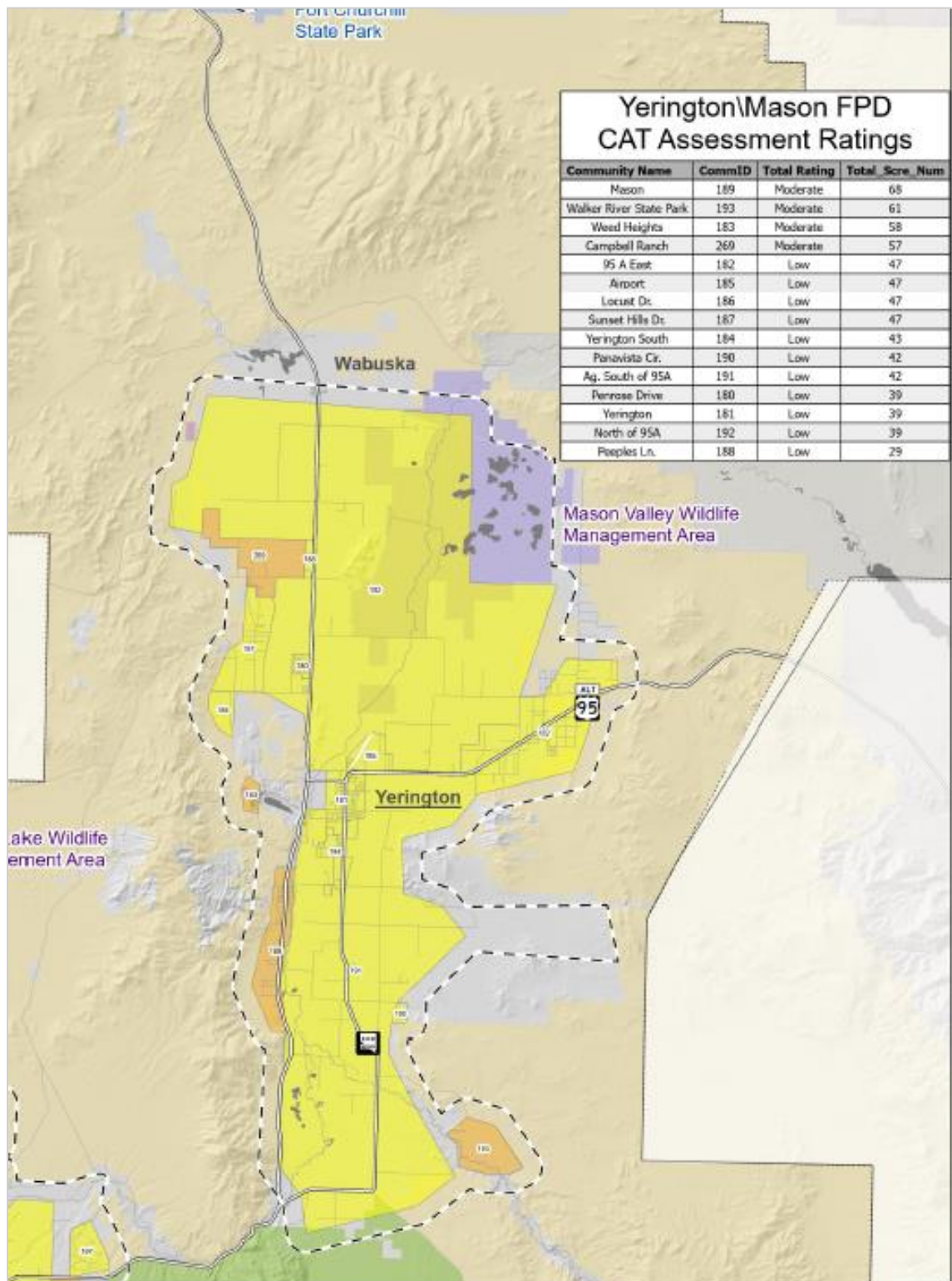
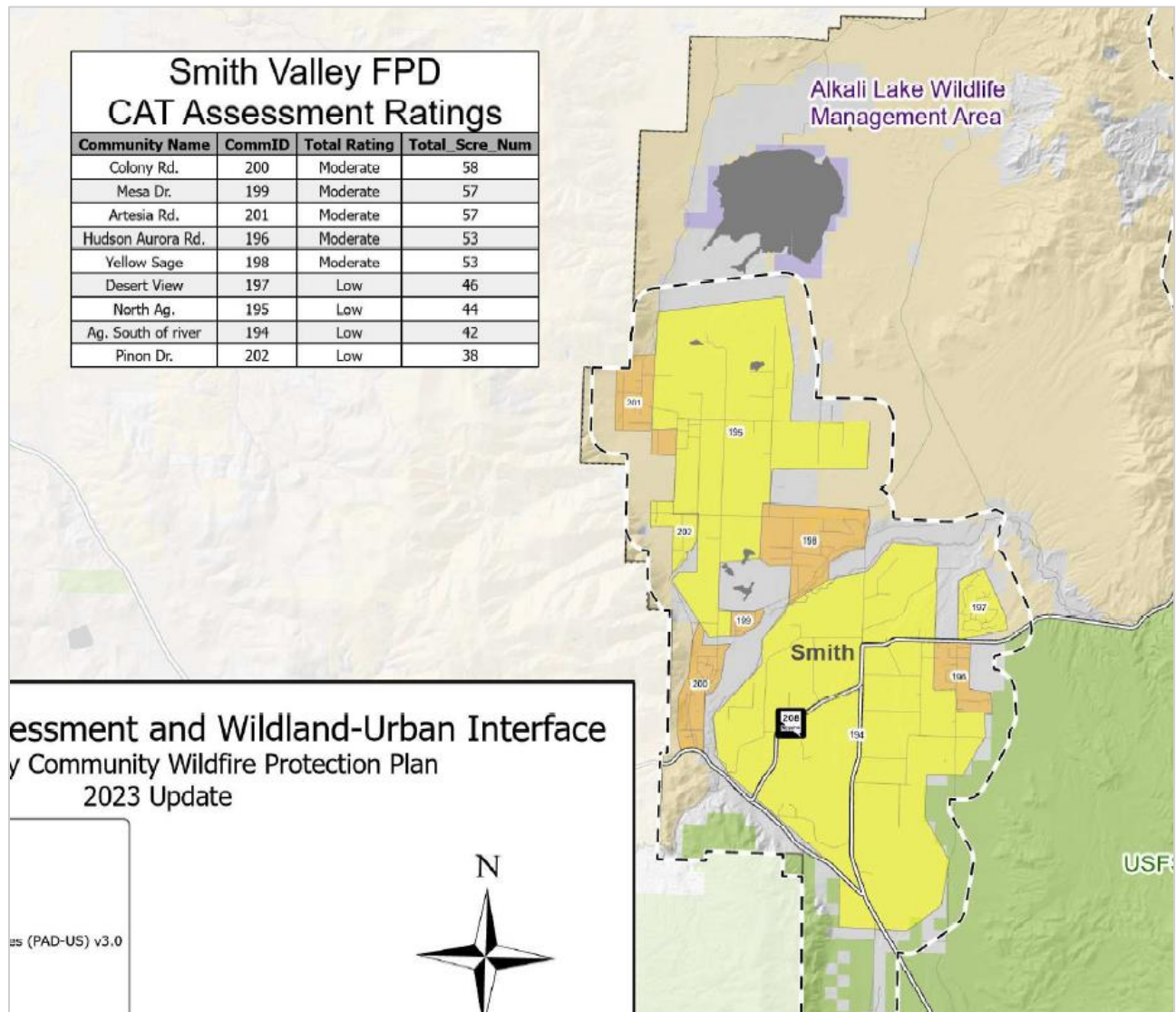


Figure 4-12 (E). Smith Valley Fire Protection District 2023 CAT Assessment Ratings
(enlarged to show communities)



4.5.2.4 Potential Impacts from Future Climate Conditions

Future climate conditions may result in the following impacts to wildland fire hazards:

- Reduced snow pack and earlier snowmelt
- More frequent and prolonged drought and heat
- Shifts in the ranges of plant species
- Increased tree death due to temperature increases, decreased moisture, and bark beetle infestations
- Drier vegetation or lower water content in vegetation leading to faster and hotter burning fires

4.5.2.5 Vulnerability by Jurisdiction(s)

Fire is a risk for all development in Lyon County due to the high desert climate and vegetation. The most at-risk type of development for wildland fires is dense residential subdivisions, particularly in or near more forested areas of the County, such as Smith and Wellington. Based on development and economic trends, private land zoned for residential in the County and participating jurisdictions continue to be developed, and mitigation, such as the creation of defensible space and management of fuels, will be required to reduce the risk to the extent possible.

Table 4-13. Wildland Fire Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.
City of Fernley	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.
City of Yerington	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.
CLCFPD	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
NLCFPD	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
MVFPD	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
SVFPD	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
CWSD	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. Does not have infrastructure that may experience damages from wildland fire.
WRID	High	Communities with CAT Assessment ratings Moderate and High in jurisdictional boundary. WRID infrastructure that may experience damages from wildland fire. Wildland fires may limit access to water control facilities causing cascading effects.
M&SVCD	High	Communities with CAT Assessment ratings Moderate and High in jurisdictional boundary.

Severe Storm and Extreme Snowfall

4.5.3 Severe Storm and Extreme Snowfall

Table 4-14. Severe Storm and Extreme Snowfall Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	5-25 Injuries/Deaths, Severe damage	Once per year	1-5 Days warning	Days to weeks	HIGH 20

4.5.3.1 Hazard Description

Severe weather can include hazardous conditions produced by thunderstorms, damaging winds, tornadoes, large hail, flooding and flash flooding, and winter storms associated with freezing rain, sleet, snow and strong winds.

Extreme Snowfall and Winter Weather –A winter storm is a combination of heavy snow, blowing snow and/or dangerous wind chills. A winter storm is life-threatening.

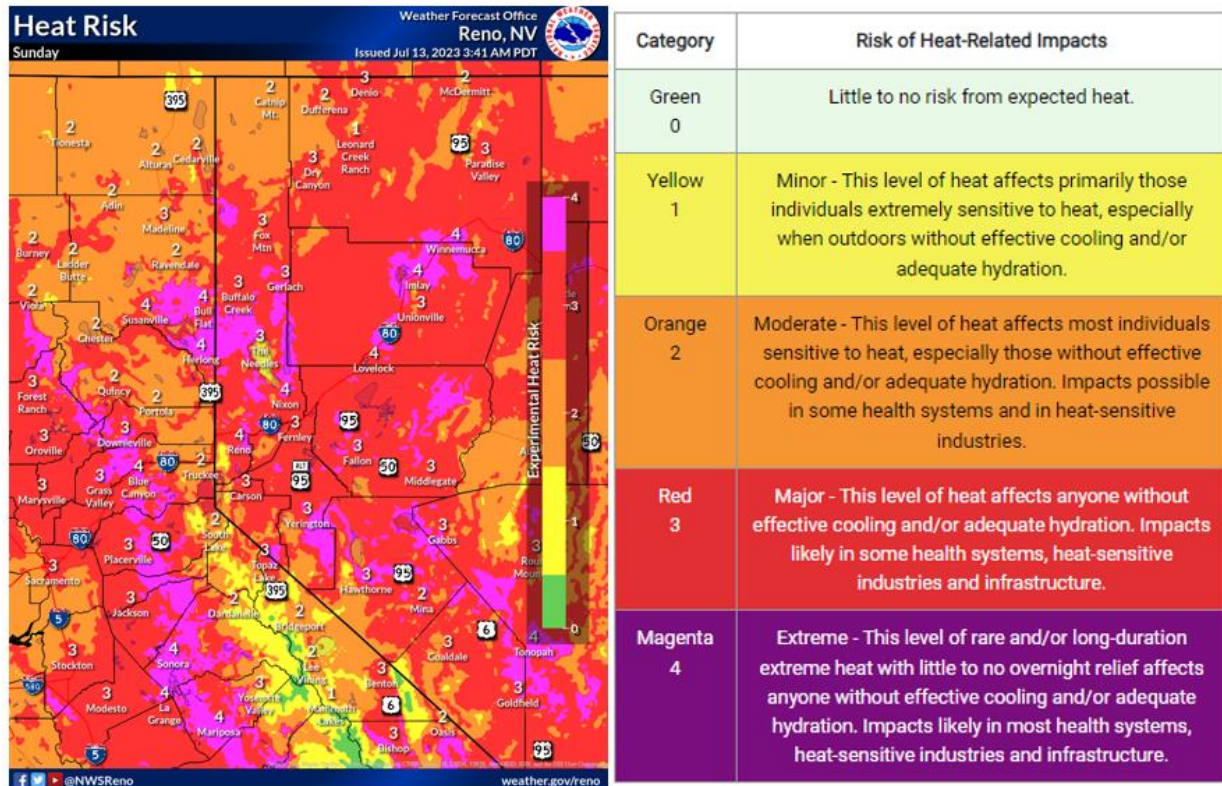
Most precipitation that forms in wintertime clouds starts out as snow because the top layer of the storm is usually cold enough to create snowflakes. Snowflakes are just collections of ice crystals that cling to each other as they fall toward the ground. Precipitation continues to fall as snow when the temperature remains at or below 0 degrees Celsius from the cloud base to the ground.

Strong Winds – consists of damaging winds, which are classified as exceeding 58 miles per hour (mph).

Extreme Heat – In most of the United States, extreme heat is a long period (2 to 3 days) of high heat and humidity with temperatures above 90 degrees.

Severe Thunderstorms – a thunderstorm, winds greater or equal to 40 mph and/or hail at least 0.5 inch in diameter. Structural wind damage may imply the occurrence of a severe thunderstorm. A thunderstorm wind equal to or greater than 40 mph (35 knots) and/or hail of at least 0.5 inches is defined as approaching severe. 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 1.00 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 hail 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.

Figure 4-15. National Weather Service (NWS) Reno Heat Risk Forecast July 13, 2023



4.5.3.2 History of Previous Severe Storms and Extreme Snowfall

During winter months, both higher elevations and lower elevations in Lyon County and participating jurisdictions regularly experience rain and snow, and very rarely freezing rain. Table 4-__ lists a sampling of past severe storms in Lyon County causing recorded deaths, injuries, economic hardships, and/or property damage.

Table 4-16. Severe Winter Storms in Lyon County, Nevada

Severe Winter Storms in Lyon County, Nevada History		
Date	Location	Deaths, Injuries, Damages
1889-90	Northern Nevada	This winter season was known as the "White Winter" when nearly 100 inches of snow - the heaviest snowfall in northern Nevada history. An estimated 90-95% of the state's livestock died during that winter.
December 29, 2004 through January 10, 2005	Northern Nevada	FEMA designated 15 counties (Carson City, Churchill, Clark, Douglas, Elko, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Storey, Washoe, and White Pine) eligible for federal funding to pay part of the cost for emergency protective measures undertaken as a result of the snowstorm on December 29, 2004, - January 2, 2005. Shortly thereafter, FEMA designated these counties plus Pershing County eligible for federal funding as a result of another snowstorm on January 6-10.
January 13-14, 2013	Northern Nevada	Governor Sandoval declared a state of emergency due to prolonged cold winter temperatures, allowing extended hours for propane truck driver

Severe Winter Storms in Lyon County, Nevada History		
Date	Location	Deaths, Injuries, Damages
		deliveries. Subzero cold was responsible for several deaths in Elko, Reno, and South Lake Tahoe in January.
November 9-10, 2015	Northern Nevada	Widespread snow totals of 5 to 10 inches were noted in the Reno-Sparks area, highest on the north and west side of Reno (in lake effect band from Lake Tahoe).
January 30-31, 2016	Northern Nevada	Widespread snow totals of 4 to 8 inches were reported around the Reno-Sparks area
January 9-12, 2017	Northern Nevada	A winter storm and atmospheric river brought exceptional snowfall and a period of blizzard conditions to mountains around Lake Tahoe, as well as a period of snowfall in the lower elevations of western Nevada. Sustained winds were as high as 63 mph at the Walker Lake NDOT sensor. Gusts reached 105 mph. Smith Valley and Yerington has automated sensors with gusts between 58 and 63 mph. The winds caused at least two semi-trucks to blow over on Highway 95 near Walker Lake. Nevada route 341 (Mount Rose Highway) was closed for blizzard conditions into the morning of the 11th. Virginia City received a total of 26 inches of snowfall. Between 6 and 9 feet of snow fell between the 9th and 12th in the higher elevation of the northern Carson Range, including the Mount Rose and Diamond Peak ski areas. Farther south, Daggett Pass reported 45 inches of snowfall. Near lake level on the east side of Lake Tahoe, snowfall amounts ranged from 20 to 32 inches. Numerous power outages were noted and Incline Village declared a snow emergency with roads not expected to be cleared for at least a couple days. This same series of storms also lead to extensive flooding and heavy rainfall around the Reno, Sparks, Carson City, and Minden areas, which is addressed in more detail in the Flood Section.
February 6-10, 2017	Northern Nevada	Two rounds of precipitation associated with an atmospheric river brought widespread rainfall totals of 1 to 2 inches in far western Nevada, with much higher rainfall and/or liquid equivalent amounts between 3 and 6.5 inches in the foothills and Carson Range west of Interstate 580 and Highway 395. The higher elevations of the Carson Range received up to several feet of snowfall. Widespread gusts between 60 and 70 mph were recorded in the valleys on the 9th, with gusts 70 to as high as 92 mph (Browns Creek Bridge on I-580) in the foothills. Numerous downed trees and power lines were noted, with as many as 7,000 to 8,000 customers without power early in the afternoon, mostly in Douglas County. A big rig was blown over on Highway 395 near Stead. Finally, at least 7 flights into the Reno-Tahoe International airport were delayed or cancelled due to the winds. This atmospheric river also resulted in renewed flooding across much of northern Nevada, addressed in more detail in the Flood Section.
March 15-17, 2018	Northern Nevada	A slow moving cold early spring storm brought widespread snowfall to lower elevation cities in Northern and Central Nevada. NWS Reno Official Observation measured 14.2 inches of storm total snowfall. Snowfall of 6-12 inches was fairly common across the Sierra Front from Reno to Lyon County
January 24-27, 2021	Most of Nevada	An unusually cold atmospheric river brought plentiful snowfall to much of the state over a multi-day period. Widespread travel impacts occurred,

Severe Winter Storms in Lyon County, Nevada History		
Date	Location	Deaths, Injuries, Damages
		though this storm was extremely beneficial as it ended up being the only large storm of the entire winter season, staving off even worse drought impacts. Two (2) – Twelve (12) inches of snowfall in Reno and Carson City with 1 to 2 feet in Gardnerville and Yerington. Two (2) to four (4) feet of snow for the Nevada side of Lake Tahoe. Truckee Meadows Community College, Washoe County, and Carson City school districts were closed the 27th. COVID-19 vaccine clinics were closed in Virginia City. There were also power outages reported across Reno and Carson City. Up to 16 inches of snow fell in mountainous areas of Humboldt County and in Great Basin National Park in White Pine County. In southern Nevada the storm was cold enough for one to three inches of snow around the periphery of the Las Vegas Valley, 4 inches in Pahrump, with up to 20 inches on Mt Charleston.
October 24-25, 2021	Northern Nevada	An unusually powerful atmospheric river for so early in the winter storm season brought copious amounts of rainfall to Western & Northern Nevada. Reno Airport saw the largest two-day precipitation total on record – 2.92 inches. The 2.92 inches, nearly 40% of the typical annual average, was nearly the same as the 3.01 inches recorded during the entire previous water year. Rainfall amounts of 5-8” were recorded in foothill areas of Reno & Carson City. Little damaging flooding occurred as soils were extremely dry going into the storm.
February 22-23, 2022	Western Nevada	Another inside slider tracked through the region w/more snow and wind. This inside slider-type system moved into the region late Sunday through Tuesday. It brought periods of snow showers, increased wind, travel difficulties, and much colder temperatures to the region through Wednesday night. Snow Monday into Tuesday morning overperformed in some areas with several inches of new snow falling in bands over parts of the eastern Sierra, and western NV.
December 30, 2022 – January 4, 2023	Northern Nevada	Beginning on Friday, December 30, 2022, parts of northwestern Nevada have continuously experienced severe winter weather, including flooding, rain, snow, freezing temperatures, and ice. Extreme snow and winds caused a prolonged power outage which is addressed in more detail in the Energy Emergency section.

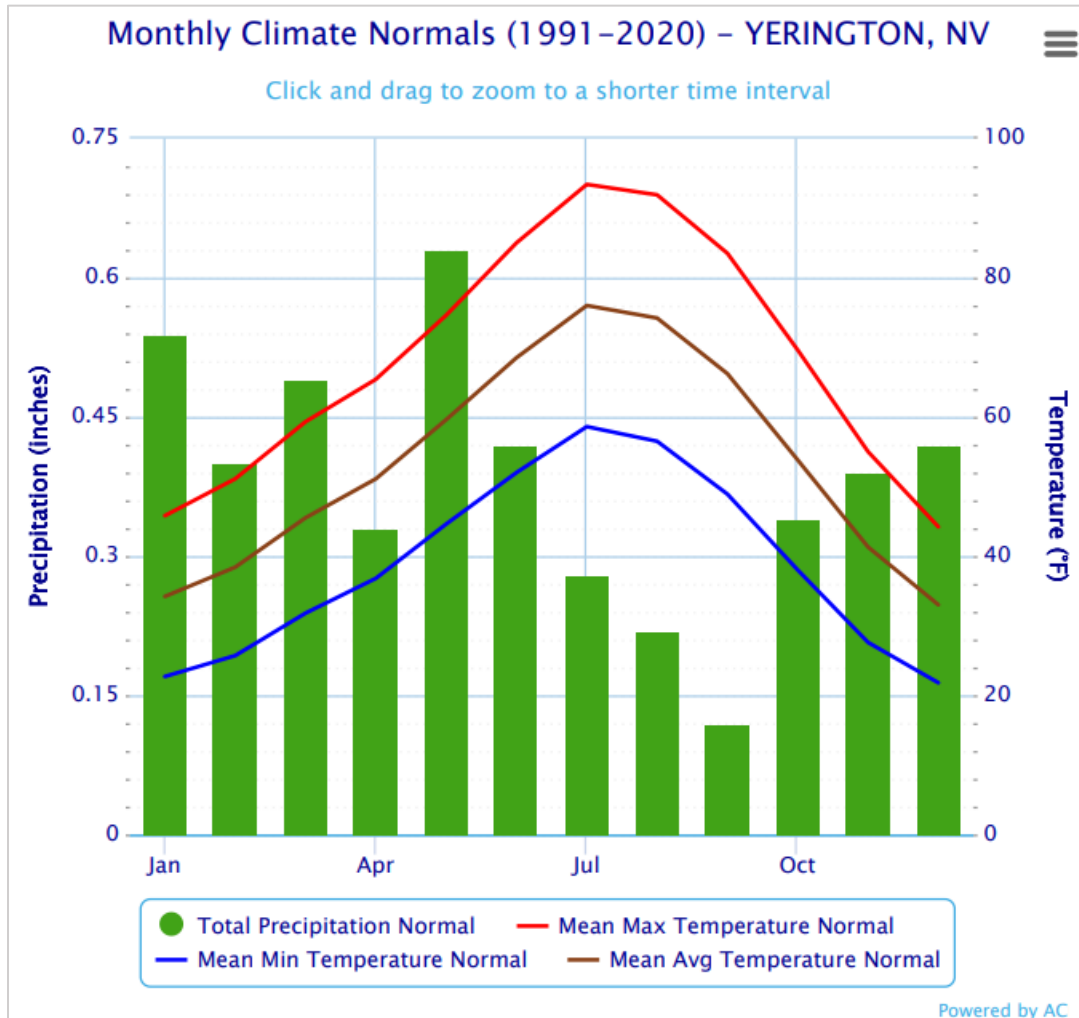
Historical snowfall data in Lyon County was extracted from the National Oceanic and Atmospheric Administration’s (NOAA) online climate database covering the years 2018-2023. Lyon County contains the following NOAA zones: Mineral and Southern Lyon Counties, Greater Reno-Carson City-Minden Area, Western Nevada Basin and Range including Pyramid Lake. 368 events were reported between 2018 and 2023 for those zones. In addition the following storm event summary information is available for the four identified zones between January 1, 2018 and July 31, 2023:

Number of County/Zone areas affected:	4
Number of Days with Event:	158
Number of Days with Event and Death:	3

Number of Days with Event and Death or Injury:	5
Number of Days with Event and Property Damage:	5
Number of Days with Event and Crop Damage:	1
Number of Event Types reported:	13

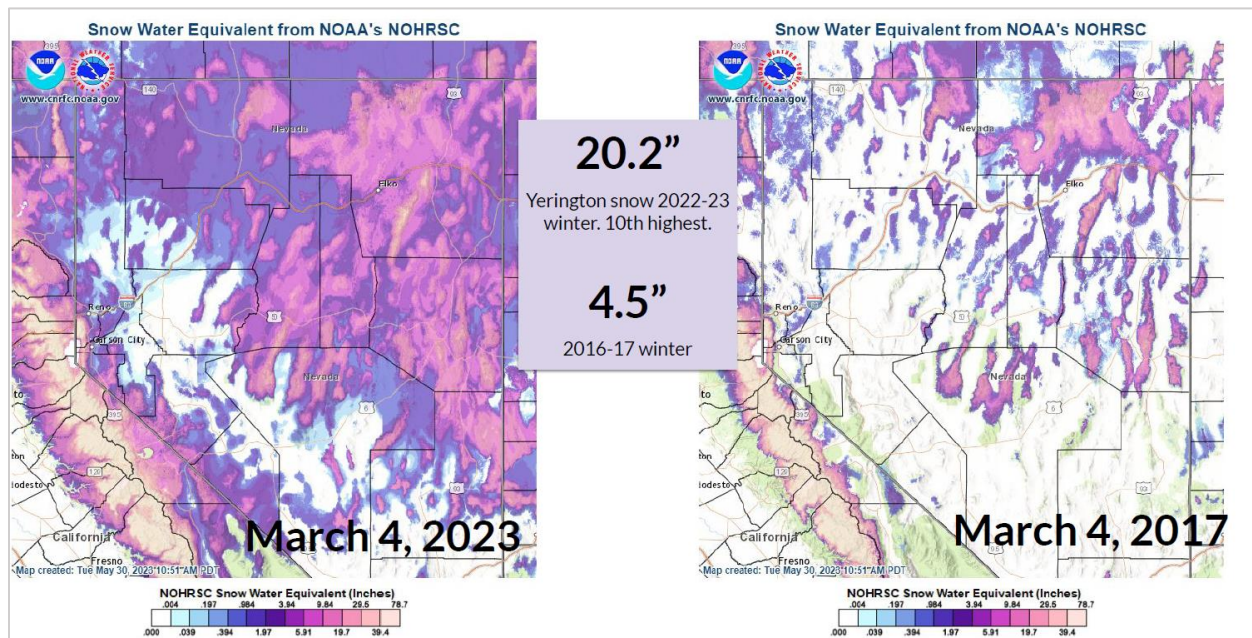
Source: NOAA Storm Events Database, Lyon County January 1, 2018 – July 31, 2023 [Storm Events Database - Search Results](#) | [National Centers for Environmental Information \(noaa.gov\)](#)

Figure 4-17. National Weather Service (NWS) Reno Monthly Climate Normals (1991-2020)



Month	Total Precipitation Normal (inches)	Mean Max Temperature Normal (°F)	Mean Min Temperature Normal (°F)	Mean Avg Temperature Normal (°F)
January	0.54	45.8	22.7	34.2
February	0.40	51.1	25.7	38.4
March	0.49	59.3	31.8	45.5
April	0.33	65.4	36.8	51.1
May	0.63	74.6	44.6	59.6
June	0.42	85.0	52.0	68.5
July	0.28	93.4	58.6	76.0
August	0.22	91.9	56.5	74.2
September	0.12	83.5	48.9	66.2
October	0.34	69.6	38.0	53.8
November	0.39	55.0	27.6	41.3
December	0.42	44.2	21.8	33.0
Annual	4.58	68.2	38.8	53.5

Figure 4-18. National Weather Service (NWS) Reno Snow Water Equivalent from NOAA's NOHRSC 2023 Compared to 2017)



Source: National Weather Service – Reno Office Presentation to MPT (August 2023)

Lyon County is no stranger to extreme heat during the summer months; however, truly stifling and prolonged heatwaves are generally infrequent due to the cooler night temperatures and lower humidity in the high desert environment. The average July temperatures in Northern Nevada are in the 80s and 90s with cooler temperatures at higher elevations. The average number of days when the Lyon County-average daytime temperature was over 95°F was 13.5 between 1981 and 2010. In addition, the average number of days the minimum nighttime temperature in Lyon County remained above 65°F between 1981

and 2010 was 1.9. One of the most notable extreme heat events to impact Lyon County and participating jurisdictions occurred July 9-12, 2021. Several maximum temperature records were broken as part of a weekend heat wave that hit the Northern portions of Nevada. Reno reached 104 °F on July 9, 2021, breaking a record set in 2007. Excessive heat warnings were issued across Washoe, Mineral, and parts of Lyon County. This was part of a larger pattern where Reno recorded temperatures over 100°F for 12 days in a row.

4.5.3.3 Extent and Probability

The probability for severe storms and extreme snow in Lyon County is **highly likely** that Lyon County and/or all other participating jurisdictions will have at least one of these events in a given year.

Atmospheric Rivers. NWS-Reno can often predict atmospheric rivers 5 or more days in advance as giant plumes of moisture cross the Pacific Ocean. Most atmospheric rivers are beneficial to the region and provide nearly 50% of the annual precipitation. Strong to extreme atmospheric rivers can produce hazardous flooding, wind, and/or snow. Snow levels (i.e. rain/snow lines) can be highly variable within an atmospheric river, with improved guidance from NWS Reno within 3-5 days of the event. Generally, the forecast error for the rain/snow lines will be within 500 feet, but it can be 1000' or greater in error at times. Each atmospheric river behaves differently in how much precipitation is produced, the rain shadow or spillover, duration of rain/snow, and wind speeds. Guidance for the local area and the highest threats are much more reliable within 2 to 5 days of the event. For example, an atmospheric river may stay positioned over neighboring Carson City and have minimal impacts to Lyon County and participating jurisdictions. Since the 2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan, the NWS has transitioned toward adding probabilities to forecast modeling to allow for better decision-making and more accurate response for local emergency managers and response agencies.

Extreme Heat. The NWS posts heat health messaging and possible warnings when temperature exceeds 100F and overnight lows remain above 69F for two or more consecutive days. This generally coincides with periods of increased heat health issues in the general population, based on historical studies of temperature anomalies. There is considerable variability in how often these thresholds are reached. In 2021 alone, the NWS reported 190 deaths due to extreme heat. This is more than twice as many people killed by tornados or flooding and 8 of those deaths occurred in Nevada. Children, older adults, people with certain medical conditions, and pregnant people, on average, are more physically vulnerable to the effects of high temperatures. People who work outdoors and who do not have access to indoor cooling at home have greater heat exposure. Access to functional home cooling and the resources to run it can reduce exposure to heat.

Winter storms. The current predictability of winter season heavy rain, snow, or high windstorms is generally good, with broad warning often possible 5-10 days in advance and with more specific details and potential impacts 1-4 days ahead. River forecasts of potential flooding can be seen out to 5 days into the future, but these are only for mainstem rivers such as the Carson and Walker. Other weather patterns which are favorable to heavy snow in Northern Nevada are:

- Slow moving cold low pressure off of the coast of California and Oregon,
- inside slider where a strong cold front drops in from the north producing a band of heavy snow,

- lake effect snow where cold air creates localized bands of heavy snow impacting communities and highways downwind of large lakes such as Lake Tahoe, Pyramid, Walker and Mono. Other lakes have produced lake effect snow if there is enough water present (i.e., Honey and Washoe Lake), but this is rare.

The predictability of these storm types is much less than the atmospheric river events, often only 1-3 days of lead time.

Unique Hazard Risk by Participating Jurisdiction(s)

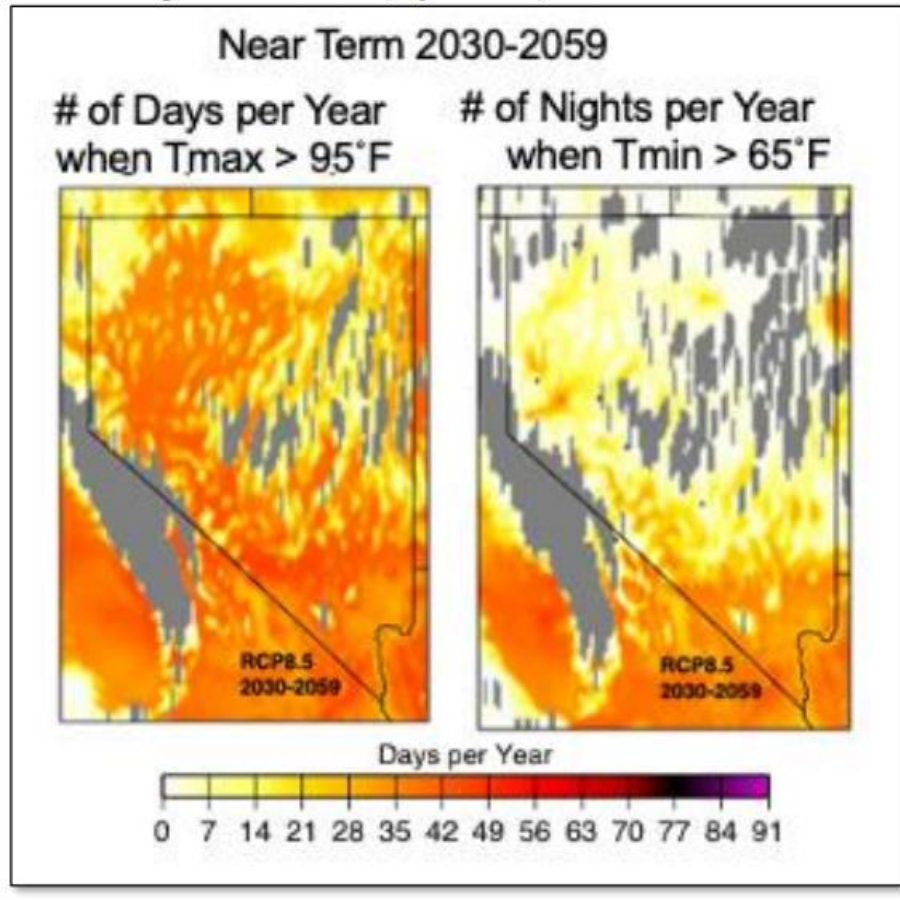
All participating jurisdictions have similar risk of severe storms and extreme snowfall.

4.5.3.4 Potential Impacts from Future Climate Conditions

According to the 2023 State of Nevada Enhanced Hazard Mitigation Plan, the State climate assessment projects that in the relatively near future – the middle of the century – Northern Nevada will experience, on average, 7-35 more extremely hot days. In the near-term, the number of warm nights is also expected to increase, with larger increases in the southern part of the state.

Representatives from the NWS-Reno office presented to the MPT in August 2023 that extreme weather events are more common and, in order to build climate resilience, jurisdictions should be prepared for not only for events experienced in the past, but for events the region has yet to experience. There are also models that suggest there may be more rain and less snow and larger drought/flood variability.

Figure 4-19. Near-Term Increase in Days with Highs above 95°F and Nighttime Lows above 65°F



4.5.3.5 Vulnerability by Jurisdiction(s)

Table 4-20. Severe Storm and Extreme Snowfall Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, Lyon County has received public assistance for severe storms. Severe storms and extreme snowfall may impact critical infrastructure and Lyon County will likely have costs associated with labor, equipment, and materials.
City of Fernley	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact critical infrastructure and the City of Fernley will likely have costs associated with labor, equipment, and materials.
City of Yerington	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact critical infrastructure and

		the City of Yerington will likely have costs associated with labor, equipment, and materials.
CLCFPD	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
NLCFPD	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
MVFPD	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
SVFPD	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
CWSD	Moderate	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact Carson River infrastructure.
WRID	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, WRID has received public assistance for severe storms. Severe storms and extreme snowfall may impact critical infrastructure and WRID will likely have costs associated with labor, equipment, and materials.
M&SVCD	Moderate	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact M&SVCD infrastructure.

Landslide

4.5.4 Landslide

Table 4-21. Severe Storm and Extreme Snowfall Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Weeks to months	HIGH 20

4.5.4.1 Hazard Description

Landslides (or mass movement) are caused by a combination of geological and climatological conditions. A landslide is the movement of a mass of rock, earth, or debris down a slope. Common types of landslides

include slump, rockslide, debris slide, lateral spreading, debris avalanche, earth flow, and soil creep. Landslides may be small or very large and can move at slow to very high speeds. They can be initiated by storms, earthquakes, fires, volcanic eruptions, and human modification of the land that result in slope instability. The susceptibility of an area to landslides depends on many variables, including steepness of slope, structure and physical properties of slope materials, water content, amount of vegetation, and proximity to areas undergoing rapid erosion or changes caused by human activities. These activities include mining, construction, and changes to surface drainage. Factors that directly cause a landslide include one or a combination of the following:

- Change in slope gradient or increased weight through development Shocks and vibrations
- Change in water content
- Weathering of rocks
- Removal of (for example, by wildland fire or through grading) or change in the type of vegetation covering slopes

4.5.4.2 History of Previous Landslides

Slide Mountain 1983 – On May 30, 1983, a mix of wet, snowy and dry winter caused a landslide to point into the lakes along the Ophir Creek in Washoe County. The rapidly moving flow emerged from a canyon and killed one person, injured several others, damaged 11 homes, and caused the evacuation of 5,000 people. The unusual hydraulics were the result of unseasonably hot weather, which accelerated an abnormally heavy snowpack. US Highway 395 and Freeway 395 were both closed.

Wilson Canyon Rockslide January 2023 - On January 10, 2023, a landslide and rockfall fell across roughly 400 feet of State Route 208 though the Wilson canyon, between Smith Valley and Yerington. SR-208 was closed from January 10 – March 17, 2023. Approximately 1,800 drivers travel through the area each day. Commuters between Yerington and Smith Valley were forced to utilize Mason Pass Road, a 20-mile dirt road maintained by Lyon County. The rockslide caused cascading effects and impacts to Lyon County resources. Lyon County Roads had to blade snow and mud off of Mason Pass Road to maintain access. In addition, schools, hospital, government, agriculture employees were commuting in harsh conditions. Road closures also impacted regional search and rescue resources from travelers attempting to utilize unmaintained dirt and forestry roads covered which resulted in vehicles stuck in snow and mud. The Nevada Department of Transportation (NDOT) partnered with Q&D Construction to remove 500 truckloads of landslide material which fell across the road, equaling nearly 15,000 cubic yards of material.





Image of Wilson Canyon Landslide, January 11, 2023, Taken by Jay Flakus, Yerington/Mason Valley Fire Protection District

Hoye Canyon March 2023 – During the March 2023 Atmospheric River Flood “AR-2” Event, soil erosion was discovered in multiple areas along Hoye Canyon Road, Saroni Canal, and Colony Ditch. Lyon County and the Walker River Irrigation District relied on geotechnical engineers for recommendations for slope stability.

4.5.4.3 Extent and Probability

Lyon County is surrounded by mountainous and hilly areas with steep slopes – just the sort of terrain that facilitates landslides. However, the geographic extent of potential landslides is relatively small, less than 10% of the planning area. Secondary impacts such as blocked roads can affect larger areas and cause detours or isolated communities. Landslides may also contribute to disruptions to community lifelines such as power and transportation.



Image of Slope Erosion in Hoye Canyon taken March 14, 2023 by Taylor Allison, Lyon County Emergency Manager

Unique Hazard Risk by Participating Jurisdiction(s)

The Smith Valley/Wellington area has the greatest risk of landslides due to the topography and steep slopes. Highest hazard risk is for Lyon County, Smith Valley Fire Protection District, Walker River Irrigation District, Mason Valley Fire Protection District, and Mason/Smith Valley Conservation Districts. Landslides in Wilson Canyon impact community lifelines for both Smith Valley and Yerington/Mason Valley. Slope erosion, such as what has been historically observed in Hoye Canyon, threaten Walker River Irrigation District drainage infrastructure. All other participating jurisdictions have minimal/moderate risk of landslides impacting community lifelines.

4.5.4.4 Potential Impacts from Future Climate Conditions

To the extent that climate change could bring heavy rains as well as high winds and storms that may trigger wildfires, the risk of landslides and debris flows will likely increase. Further, low elevation snow and runoff on loose fill and rock material may also increase conditions for landslides.

4.5.4.5 Vulnerability by Jurisdiction(s)

Table 4-22. Landslide Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in Lyon County. Lyon Co. was impacted by previous occurrences/history of landslides (Wilson Canyon) causing community isolation and disruption to community lifelines.
City of Fernley	Low	No estimates for potential losses/damages from landslides are available. However, there are few areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Fernley. City may experience impacts to labor, equipment, and material due to landslide incidents.
City of Yerington	Moderate	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Yerington. City of Yerington may have impacts from a landslide in Wilson Canyon (impacts to workforce)
CLCFPD	Moderate	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in the District (i.e., Silver City). CLCFPD may experience impacts to labor, equipment, and material due to landslide incidents.
NLCFPD	Low	No estimates for potential losses/damages from landslides are available. However, there are few areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Fernley. City may experience impacts to labor, equipment, and material due to landslide incidents.
MVFPD	Moderate	No estimates for potential losses/damages from landslides are available. However, MVFPD may experience impacts to labor, equipment, and material due to landslide incidents.
SVFPD	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in District and SVFPD was impacted by previous occurrences/history of landslides (Wilson Canyon) causing community isolation and disruption to community lifelines. SVFPD may experience impacts to labor, equipment, and material due to landslide incidents.

CWSD	Low	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in CWSD jurisdiction with potential to damage and limit access to infrastructure in the Carson River watershed.
WRID	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in WRID jurisdiction with potential to damage and limit access to water control infrastructure (i.e.; Hoyo Canyon)
M&SVCD	Low	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in M&SVCD jurisdiction with potential to damage and limit access to infrastructure.

Epidemic/Infectious Disease

4.5.5 Epidemic/Infectious Disease

Table 4-23. Epidemic/Infectious Disease Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	>50 Injuries/Deaths, Catastrophic	1-5 years	5-30 Days warning	Months to years	HIGH 20

4.5.5.1 Hazard Description

An **epidemic** is similar to a disease outbreak, but with a larger number of cases or occurring over a greater area or both.

Emerging Infection Diseases – can be defined as infectious diseases that have newly appeared in a population or have existed but are rapidly increasing in incidence or geographic range, or that are caused by one of the National Institute of Allergy and Infectious Diseases (NIAID) Category A, B, or C priority pathogens.

Category A pathogens – are those organisms/biological agents that pose the highest risk to national security and public health because they:

- Can be easily disseminated or transmitted from person to person
- Result in high mortality rates and have the potential for major public health impact
- Might cause public panic and social disruption
- Require special action for public health preparedness

Category B pathogens – are the second highest priority organisms/biological agents. They:

- Are moderately easy to disseminate
- Result in moderate morbidity rates and low mortality rates
- Require specific enhancements for diagnostic capacity and enhanced disease surveillance

Category C pathogens – are the third highest priority and include emerging pathogens that could be engineered for mass dissemination in the future because of:

- Availability
- Ease of production and dissemination
- Potential for high morbidity and mortality rates and major health impacts



Image taken in 2020 of drive thru testing at Fernley High School during the COVID-19 pandemic. Image provided by Quad- County Public Health Preparedness.

Based on historical influenza pandemic occurrences, the COVID-19 pandemic, and emerging infectious diseases, and environmental health continue to be of concern due to their estimated potential for severe impacts to the public's health and health care systems.

4.5.5.2 History of Previous Epidemics/Infectious Disease Outbreaks

Influenza Pandemics

Influenza pandemics are global outbreaks of a new influenza A virus that is very different from current and recently circulating human seasonal influenza A viruses. Influenza pandemics have included:

- 1918 Influenza Pandemic – Estimated 675,000 deaths in the U.S.; the pandemic lowered the average life expectancy in the U.S. by more than 12 years
- 1957-1958 H2N2 Pandemic – Estimated 116,000 deaths in the U.S.
- 1968 H3N2 Pandemic – Estimated 100,000 deaths in the U.S.
- 2009 H1N1 Pandemic – Estimated 60.8 million cases, 274,304 hospitalizations and 12,469 deaths in the U.S.

Source: <https://www.cdc.gov/flu/pandemic-resources/index.htm>

COVID-19 Pandemic

COVID-19 (coronavirus disease 2019) is a disease caused by a virus named SARS-CoV-2 and was discovered in December 2019 in Wuhan, China. It is very contagious and has quickly spread around the world. COVID-19 most often causes respiratory symptoms that can feel much like a cold, a flu, or pneumonia. COVID-19 may attack people's lungs and respiratory system as well as other parts of their bodies.

Most people with COVID-19 have mild symptoms, but some people become severely ill. Some people including those with minor or no symptoms may suffer from post-COVID conditions, e.g., "long COVID". Older adults and people who have certain underlying medical conditions are at increased risk of severe illness from COVID-19. Hundreds of thousands of people have died from COVID-19 in the U.S. Reference: <https://www.cdc.gov/coronavirus/2019-ncov/your-health/about-covid-19.html>

Table 4-24. Historic Occurrences of Epidemics Registered in Nevada

Date	Historic Occurrences of Epidemics Registered in Nevada
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 Las Vegas Strip.
2004	During October 13-19, a total of 200 cases of human West Nile Virus were reported in 20 states which included Nevada. During 2004, 40 states including Nevada reported a total of 2,151 cases of human West Nile Virus.
April 2006	Norovirus outbreak at a Reno, Nevada daycare, Noah's Ark. 30 norovirus cases were confirmed. 2 additional people were infected after the daycare had been cleaned and sanitized.

Date	Historic Occurrences of Epidemics Registered in Nevada
March 2007	A norovirus outbreak in Las Vegas, Nevada sickened at least 215 inmates and 41 staff members at the Clark County Detention Center. Most of those sickened complained of stomach-related distress such as diarrhea, vomiting and cramps. None were hospitalized.
April 2009	H1N1 virus confirmed by the WHO as a worldwide epidemic. The CDC is currently working on vaccinating the public for the 2015-2016 flu seasons.
2009 – 2012	The novel H1N1 influenza virus became a global pandemic and in Nevada thousands of people were infected leading to 40 deaths.
2014	On March 23, 2014, the World Health Organization (WHO) reported cases of Ebola Virus Disease (EVD) in the forested rural region of southeastern Guinea. The identification of these early cases marked the beginning of the West Africa Ebola epidemic, the largest in history. Overall, eleven people were treated for Ebola in the United States during the 2014-2016 epidemic.
2015-2016	In 2015 and 2016, large outbreaks of Zika virus occurred in the Americas, resulting in an increase in travel-associated cases in US states, widespread transmission in Puerto Rico and the US Virgin Islands, and limited local transmission in Florida and Texas. On February 1, 2016, WHO declared Zika virus-related microcephaly clusters and other neurologic disorders a Public Health Emergency of International Concern.
2020 - 2023	An outbreak of SARS-CoV-2 in humans was first identified in December 2019 in China. The highly infectious respiratory virus spread to the United States and globally within weeks. The President of the United States declared a national emergency on March 13, 2020. As of March 10, 2023, Nevada experienced 890,122 confirmed cases of COVID and 11,922 deaths since March 2020.

4.5.5.3 Extent and Probability

According to the CDC, “The U.S. experiences flu epidemics every year – it’s called the “flu season. It’s not possible to predict what this flu season will be like. Flu seasons are unpredictable in a number of ways. While flu spreads every year, the timing, severity, and length of the season varies from one year to another.”

Epidemics constitute a significant risk to population of Nevada, particularly considering the frequency with which the Lyon County population travels and the proximity to major tourist destinations such as Reno and Lake Tahoe. The transient nature of these areas attract international visitors and increase the potential for an epidemic, as well as its spread to Lyon County. Based on the previous occurrences and the range of potential diseases, the probability of future infectious disease outbreaks is **high**.

The CDC estimates that 1 in 6 Americans will get a foodborne illness in a given year. For Carson City, that would be approximately 10,264 people. Carson City Health and Human Services (the agency that provides epidemiology and disease investigation for Lyon County) has averaged 14 confirmed cases of foodborne illnesses in the last five years so the probability of having a foodborne epidemic is **low**.

Unique Hazard Risk by Participating Jurisdiction(s)

Due to the interconnectivity of Lyon County’s communities, all participating jurisdictions have similar risk of epidemic/infectious disease. Carson Water Subconservancy District, Mason/Smith Valley Conservation District, and Walker River Irrigation District have the lowest risk of probability due to the least public interface compared to the other participating jurisdictions. The four fire protection districts having the highest extent and probability due to the frontline healthcare interface emergency medical services has on the communities.

4.5.5.4 Potential Impacts from Future Climate Conditions

The projected trend toward higher temperatures is “expected to precipitate more frequent extreme events such as [. . .] infectious diseases,” according to the Strategic Foresight Initiative on Climate Change. Warmer weather brings people outdoors and increases numbers of mosquitos making contact between the people and mosquitos more likely—and vector-borne diseases more prevalent. Also, warmer weather brought on by climate change may allow species to live in areas previously too cold for their survival.

Temperature dependencies show correlation 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.

Source: “Key Trends and Drivers,” Climate Change: Long Term Trends and their Implications for Emergency Management, Strategic Foresight Initiative, August 2011, FEMA, accessed September 2023, https://www.fema.gov/pdf/about/programs/oppa/climate_change_paper.pdf

4.5.5.5 Vulnerability by Jurisdiction(s)

Infectious diseases have been known to spread quickly throughout communities. Many diseases spread through close contact, meaning highly populated areas like Dayton and Fernley are more prone to widespread outbreaks. Public gathering places where people may be together in close quarters, such as schools and child care facilities, offices, and grocery stores, provide more opportunities for diseases to pass from one person to another. Outbreaks of infectious diseases most often impact pockets of vulnerable populations. However, a worst-case scenario could overwhelm local hospitals and medical facilities and require a surge response. As the population of Lyon County and participating jurisdictions continue to rise, healthcare infrastructure has sustained at the same levels since the last plan was approved in 2019 creating increased vulnerability. However, fire/emergency medical services infrastructure has increased in both CLCFPD and NLCFPD due to ballot measures levying property taxes that passed in the 2022 election.

Table 4-25. Epidemic/Infectious Disease Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Lyon County received federal COVID-relief CARES Act and American Rescue Plan Act funding.
City of Fernley	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. The City of Fernley received federal COVID-relief CARES Act and American Rescue Plan Act funding.
City of Yerington	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Large migrant worker population may increase the potential exposure to epidemics/infectious diseases. There is also a hospital and 2 long-term care facilities located in the City of Yerington. The City of Yerington received federal COVID-relief CARES Act and American Rescue Plan Act funding.
CLCFPD	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
NLCFPD	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
MVFPD	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
SVFPD	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/ infectious disease hazards is high. Fire/EMS

		agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
CWSD	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. CWSD has limited interaction with the general public; however the jurisdiction is in proximity to transient tourist destinations and may delay planning projects on the Carson River Watershed.
WRID	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. WRID has limited interaction with the general public resulting in low vulnerability; however the jurisdiction is in proximity to transient tourist destinations and has a large migrant worker population.
M&SVCD	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. M&SVCD has limited interaction with the general public resulting in low vulnerability; however the jurisdiction is in proximity to transient tourist destinations and has a large migrant worker population.

Energy Emergency

4.5.6 Energy Emergency

Table 4-26. Energy Emergency Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Days to weeks	HIGH 19

4.5.6.1 Hazard Description

An **energy emergency** is defined as defined as an abrupt interruption in the availability of utility services. A utility failure represents any occurrence in which vital utilities or services are rendered inoperable. A utility failure may be caused by electrical blackouts, equipment malfunction or damage, or an unanticipated surge in demand. A utility failure may impact power, drinking water, wastewater, fuel availability or other community lifelines.

The electric utility provider for the planning area is NV Energy (formerly known as Sierra Pacific Power Company). Interruptions in energy services may also be planned as part of NV Energy's **Public Safety Outage Management (PSOM)** program – NV Energy will shut off power in one of more if it's extreme or elevated fire-risk zones when certain environmental conditions are met and an evaluation of risk is done with guidance from local emergency management stakeholders. This helps prevent power lines, things that are blown into power lines, and other equipment from causing a wildfire.



Image of a downed power line July 24, 2017 posted to the Lyon County Facebook page.

4.5.6.2 History of Previous Energy Emergencies

January 1, 2023 – Approximately 71,000 Nevada residents were affected by power outages for nearly 4 days following a New Year's Eve storm.

August 10, 2023 – NV Energy restored power to more than 6,800 customers in Lyon County after two early morning outages (before 6:30am).

4.5.6.3 Extent and Probability

The energy section faces a wide variety of risk that are evolving and may be difficult to assess or quantify due to a high level of uncertainty about the frequency or severity of the event. Some of these risks

include cyber and physical security threats, severe weather events, aging infrastructure and workforce challenges. The ability of energy infrastructure to continue to adapt to these threats is critical, especially during recovery from a disaster, because many critical infrastructure and essential functions—including hospitals, water and wastewater systems, transportation, agriculture, and telecommunication—depend on the reliable supply and delivery of electricity and other fuels to operate.

Table 4-27. Electricity Dependent Medicare Beneficiaries Lyon County (2022)

Zip Codes	Number of Electricity Dependent Beneficiaries
89403	439
89408	406
89428	11
89429	252
89430	16
89444	103
89447	255

Source: U.S. Department of Health and Human Services empower Map (June 2022)

<https://empowerprogram.hhs.gov/empowermap>

Critical Infrastructure – Fort Churchill Generating Station

Lyon County is home to NV Energy’s Fort Churchill Generating Station in Yerington, Nevada. The Fort Churchill Generating Station is a clean-burning natural gas fueled power plant capable of producing enough electricity to serve approximately 135,000 households. The Fort Churchill Generating Station is also home to an 18-megawatt solar array owned by Apple, Inc.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions have similar risk of energy emergencies as all participating jurisdictions have critical energy infrastructure and are energy dependent.

4.5.6.4 Potential Impacts from Future Climate Conditions

The potential for extreme weather events due to future climate conditions could further increase risk of weather-related equipment damage. In addition, increased demand during high intensity heat patterns could result in widespread power outages.

4.5.6.5 Vulnerability by Jurisdiction(s)

Prolonged power outages can result in health emergencies and increased demand for emergency medical services, especially in Nevada, where vulnerable people may be exposed to extreme summer or winter weather conditions. Power outages can also result in disrupted utilities or damaged infrastructure, such as frozen pipes, and economic impacts due to the loss of perishable food and other items. Depending on the cause, a power outage or other energy emergency can cause cascading impacts—most significantly, wildland fires, if an outage was caused by a downed line or other physical damage.

Future development will create increased demand for utility services. In general, utility providers plan for and complete capital improvements to meet future demands. Factors such as budget constraints or the

need to construct new utility plants, like wastewater treatment plants or power generation facilities, may affect the ability of utility providers to serve a significant number of new customers.

Table 4-28. Energy Emergency Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from energy emergencies are available. However, Lyon County is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
City of Fernley	High	No estimates for potential losses/damages from energy emergencies are available. However, City of Fernley is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
City of Yerington	High	No estimates for potential losses/damages from energy emergencies are available. However, City of Yerington is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
CLCFPD	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
NLCFPD	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
MVFPD	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
SVFPD	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
CWSD	Moderate	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact water control facilities and other critical infrastructure.
WRID	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact water control facilities and other critical infrastructure.
M&SVCD	Moderate	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact critical infrastructure.

Transportation Incident (including rail and aircraft)

4.5.7 Transportation Incident

Table 4-29. Transportation Incident Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	1-5 Injuries/Deaths, Minor Damage	Once per year	No warning	1-24 hours	HIGH 19

4.5.7.1 Hazard Description

Transportation incident, for the purposes of hazard mitigation planning, is a large automotive, aircraft, rail or other method of transportation incident that exceeds normal response capabilities and/or may result in casualties or fatalities.

Aircraft – an aircraft crash or incident may occur for many reasons, including mechanical failure, poor weather conditions, or criminal activity. Aircraft of varying sizes are subject to this hazard, from small single-engine aircraft and gliders to helicopters and commercial jets. The damage resulting from an aircraft crash is dependent on the location of the accident (densely versus sparsely populated) and the potential for the release of hazardous materials.

Rail – Railway tank cars transport a variety of hazardous materials. *See Section 2.5.14 for the hazardous materials hazard profile.*

Motor vehicle – a motor vehicle accident or multiple vehicle accident, recreational or commercial, that exceeds normal daily response capabilities.

Watercraft - a watercraft accident or multiple vehicle accident, recreational or commercial, that exceeds normal daily response capabilities. Due to limited waterways in Lyon County, watercraft accidents are primarily limited to recreation users at Lahontan Reservoir.

4.5.7.2 History of Previous Hazards

1998 Aircraft Collision (Yerington, NV)

A Yerington flight instructor, an Alaskan glider pilot and instructor who was taking a powered aircraft flying lesson, and a retired airline pilot from Washoe Valley died Nov. 12, 1998, when two Cessnas collided at 10:43 a.m., shortly after both took off from the airport. One plane crashed between houses on Main Street, while the other crashed into an unoccupied home a few blocks away on Sandy Avenue. No one on the ground was injured in the crashes.

2017 Aircraft Rollover Incident (Yerington, NV)



Image provided by Lyon County, NV of August 2017 Aircraft Rollover Incident in Yerington, NV.

On Thursday, August 17, 2017, a 1986 RV-4 aircraft veered sharply to the left after landing, leaving the runway. The landing gear came into contact with soft soil, causing it to roll over. Fire/EMS was able to extricate the pilot and transport for treatment. The pilot was released the same day. There were no additional injuries.

2023 REMSA Care Flight Incident (Stagecoach, NV)

On February 24, 2023 at 9:14pm, a Care Flight Pilatus PC-12/45, N273SM, was substantially damaged when it was involved in an accident near Stagecoach, Nevada shortly after taking off from Reno-Tahoe International Airport (RNO). The pilot and four passengers were fatally injured.



National Transportation Safety Board (NTSB) and Federal Aviation Administration (FAA) Investigators inspect Care Flight aircraft on February 26, 2023 near Stagecoach, Nevada.

2023 Union Pacific Derailment (Weeks, NV)

Four of 20 Union Pacific rail cars carrying cornmeal and grain veered off the track on March 13, 2023 near U.S. 95 at Buckland Station in Weeks, Nevada. Union Pacific reported the derailment to 911 at 2:10pm. There was no hazmat situation, no threat to the public, and no roads affected. This incident occurred during a high water year where floodwaters threatened and saturated rail infrastructure (as pictured).



Image provided by Central Lyon County Fire Protection District of 2023 Union Pacific Derailment near Weeks, NV.

4.5.7.3 Extent and Probability

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions have transportation incident hazard risk. Risk is outlined by mode of transportation below.

Aircraft

The majority of aircraft crashed in Lyon County are associated with small aircraft. Aircraft crashes, particularly crashes involving small aircraft, may happen farther away from the runway in the vicinity of flight tracks. Buildings and aboveground infrastructure may be damaged or destroyed as a result of an aircraft crash. Crashes are likely to cause injury or death to the pilot and passengers on a plane and can result in injuries and deaths on the ground. Aircraft crashes are localized events and can generally be handled by local government.

Lyon County has five public use airports: Dayton Valley Airpark (A34), Tiger Field (N58), Silver Springs (SPZ), Yerington Municipal (043), Rosaschi Airpark (N59).

Figure 4-30. Lyon County Airport Map



Source: Nevada Department of Transportation <https://www.dot.nv.gov/mobility/aviation/airport-directory/lyon-county>

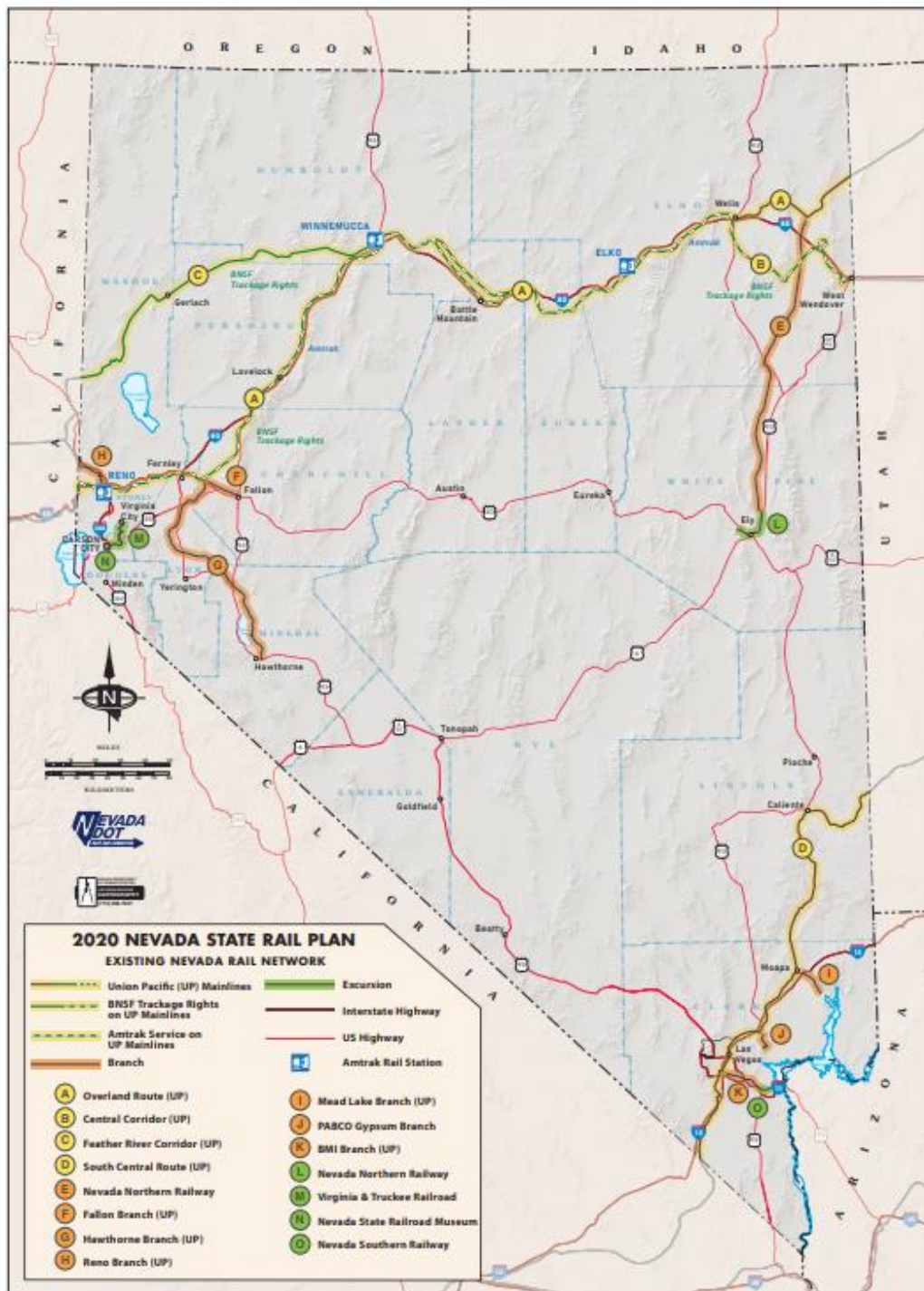
Table 4-31. Lyon County Airports Owners and Operators

Airport	Location	Public/ Private	Owner	Leased By (if applicable)
Dayton Valley Airpark (A34)	Dayton	Privately owned (public use)	Airpark Estates Homeowners Association	N/A
SAMSARG Field (N58) – formerly Tiger Field	Fernley	Public	US Bureau of Land Management (BLM)	Growth Resources, Assets, Safety, & Stability (GRASS)
Silver Springs (SPZ)	Silver Springs	Public	Lyon County	Silver Springs Airport, LLC
Yerington Municipal (043)	Yerington	Public	City of Yerington	N/A
Rosaschi Air Park (N59)	Smith Valley	Public	US Bureau of Land Management (BLM)	Michael G. Rosaschi

Rail

Lyon County and participating jurisdictions have recognized increased probability for rail hazards during high water years where prolonged ground saturation and floodwaters impact rail infrastructure, in particular if the rail lines cross drains, ditches, or near rivers, streams or creeks.

Figure 4-32. Lyon County 2020 Map of Nevada Rail Network



Motor Vehicle

Minor motor vehicle incidents occur on a daily basis in Lyon County and participating jurisdictions. The probability for major motor vehicle incidents that exceed daily operational capabilities is **high** as major transportation routes impact most areas of the county.

As location services/GPS technologies become more sophisticated in identifying routes, Lyon County and participating jurisdictions observe increased traffic, including commercial, and unsafe driving patterns along smaller residential roads. Ramsey Weeks Cut Off and the Miller Lane through Aiazzi Lane and Pete Henrichs Road are two corridors notable for trends in motor vehicle accidents due to increased traffic from location services. Local jurisdictions also do not have the ability to close roads on GPS platforms nor provide parameters such as limiting weight or commercial trucks. This continues to be a challenge and provides cascading effects.

Lyon County and participating jurisdictions coordinate with the Nevada Department of Transportation (NDOT) when conducting observation studies on State Highways to increase traffic safety and identify mitigation strategies. Lyon County crash data from 2016-2020 is available on the [NDOT website](#).

Watercraft

The probability of watercraft transportation incidents occurring in Lyon County and participating jurisdictions is **low** due to watercraft use primarily limited to recreational use only at Lahontan Reservoir in Lahontan State Park (within Lyon County, Central Lyon County Fire Protection District, and Carson Water Subconservancy District boundaries). If a watercraft transportation incident occurs, the extent is most likely manageable by local and state responders.

4.5.7.4 Potential Impacts from Future Climate Conditions

The potential for extreme weather events due to future climate conditions could further increase risk of major transportation incidents in Lyon County and participating jurisdictions. In addition, cold temperatures during extreme snow events limit the range of electric vehicle batteries creating increased risk for cascading effects such as demand for power during winter storms.

4.5.7.5 Vulnerability by Jurisdiction(s)

Transportation connects us to one another and to the resources we need to thrive. It is made up of the vehicles we travel with, like buses, bikes, cars, and railways, and the networks of trucks, trains, and planes that move goods across the country. The movement and storage of these vehicles is made possible by near- and long-term infrastructure investments. These connectors are critical and many are exposed to hazards. They are at risk if they are not protected.

Transportation engineers, planners and construction workers share a common goal with emergency managers: keeping the public safe. Local emergency managers and transportation professionals can collaborate throughout the disaster lifecycle to save lives, protect community investments, and quickly restore critical transportation assets and services after a disaster. Pre disaster mitigation is essential for protecting transportation systems and the communities they serve well into the future.

Table 4-33. Transportation Incident Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for County transportation infrastructure (roads and airport). Likely to have labor, equipment, and materials costs.
City of Fernley	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for City transportation infrastructure (roads). Likely to have labor, equipment, and materials costs.
City of Yerington	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for City transportation infrastructure (roads and airport). Likely to have labor, equipment, and materials costs.
CLCFPD	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
NLCFPD	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
MVFPD	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
SVFPD	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
CWSD	Low	No estimates for potential losses/damages from transportation incidents are available. Transportation incidents may cause limited access to ditches, drains, reservoirs, and other water control infrastructure.
WRID	Moderate	No estimates for potential losses/damages from transportation incidents are available. Transportation incidents may cause limited access to ditches, drains, reservoirs, and other water control infrastructure. In addition, WRID may experience costs and damages to ditch, drains, canals owned by the District that travel through roadways (and cascading effects such as vehicles/contaminants in waterways)
M&SVCD	Low	No estimates for potential losses/damages from transportation incidents are available.

Technological Hazards (including cyber)

4.5.8 Technological Hazards (including cyber)

Table 4-34. Technological Hazards Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	1-5 Injuries/Deaths, Minor Damage	1-5 years	No warning	Weeks to months	HIGH 19

4.5.8.1 Hazard Description

Technological hazards are any incidents involving technology such as building fires, power outages, structural failures, or cyber-attacks on networks and systems. Technology is central to the nation's security, economy, and public health and safety as businesses, governments, academia, and private citizens are increasingly dependent upon technological functions.

Cyberattacks – Key cyber risks include cyberattacks that target inadequate security controls, outdated patches, and unknown vulnerabilities; social engineering attempts designed to gain operator credentials; and intrusions from insider threats. All such attempts could allow attackers to access critical control systems and disrupt or control physical components and processes. For information on reducing the risk of a successful cyberattack, visit cisa.gov/cyber-hygiene-services

Cybercrime – Today's world is more interconnected than ever before. Yet, for all its advantages, increased connectivity brings increased risk of theft, fraud, and abuse. As Americans become more reliant on modern technology, we also become more vulnerable to cyberattacks, such as corporate security breaches, spear phishing, and social media fraud. Complementary cybersecurity and law enforcement capabilities are critical to safeguarding and securing cyberspace. For information on combating cybercrime, visit cisa.gov/combating-cyber-crime

Ransomware – A type of malicious software or malware designed to deny access to a computer system or data until a ransom is paid. Ransomware typically spreads through phishing emails or by a victim unknowingly visiting an infected website. For ransomware guidance and resources, visit cisa.gov/ransomware.

4.5.8.2 History of Previous Hazards

Major cyberattacks in Nevada have mostly been targeted toward the gaming industry causing cascading impacts to local jurisdictions, the safety and security of the community, and impacts to the local economy. Below is a list of major cyberattacks on the gaming industry in Nevada since 2014.

2014 Las Vegas Sands Corp. Cyberattack

The Las Vegas Sands Corp. experienced a cyberattack linked to Iran infecting the casino company's computer systems with malware and shut down three-quarters of its Las Vegas servers. The recovery of data and building new systems cost Las Vegas Sands roughly \$40 million.

2019 MGM Resorts Cyberattack

MGM Resorts was the victim of a cyberattack in 2019 that targeted a cloud server hosting the personal information of hotel guests. Some 10.6 million records were stolen and 1,300 people had critical personal information such as driver's license and passport numbers compromised.

2023 MGM Resorts and Caesars Cyberattacks

In September 2023, MGM Resorts and Caesars, operators of more than 60 casinos in nearly 20 states, were victims of separate cyberattacks. Analysts estimate the attacks each cost MGM and Caesars millions of dollars in lost revenue and damaged their reputation with customers and employees, many of whom had their personal data stolen in the attack.

2020 Clark County School District Ransomware Attack

Government entities are not immune to technological hazards and cyberattacks. Clark County School District, Nevada's largest school district and the nation's fifth largest school district serving more than 320,000 students, was subject to a ransomware attack on August 27, 2020. After demanding ransom, the hacker published documents online containing sensitive information, including employee Social Security numbers, and student names, addresses, and grades.

4.5.8.3 Extent and Probability

Cyberattacks can be expensive and debilitating, especially for small organizations or public entities, such as local governments, schools, and special districts.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions rely on technology and will have similar risk of technological hazards. Participating jurisdictions will work with the Nevada Threat Analysis Center and the US Cybersecurity & Infrastructure Security Agency (CISA) to monitor threats and fortify technological systems against vulnerabilities.

4.5.8.4 Potential Impacts from Future Climate Conditions

There are no direct connections between technological hazards and future climate conditions.

4.5.8.5 Vulnerability by Jurisdiction(s)

Table 4-35 Technological Hazards Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure. Lyon County will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
City of Fernley	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
		cause disruptions to community lifelines and critical infrastructure. The City of Fernley will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
City of Yerington	Moderate	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure. The City of Yerington will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
CLCFPD	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. CLCFPD may experience losses to labor and equipment.
NLCFPD	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. NLCFPD may experience losses to labor and equipment.
MVFPD	Moderate	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. MVFPD may experience losses to labor and equipment.
SVFPD	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. SVFPD may experience losses to labor and equipment; however, the probability is low of a technological incident in the District.
CWSD	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as water control facilities; however, the probability is low of a technological incident in the District.
WRID	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as water control facilities; however, the probability is low of a technological incident in the District.
M&SVCD	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
		water control facilities; however, the probability is low of a technological incident impacting M&SVCD.

Flood

4.5.9 Flood

Table 4-36. Flood Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	1-5 Days warning	Weeks to months	HIGH 18

4.5.9.1 Hazard Description

Flooding is the temporary overflow of water caused by heavy rains, high river flows, snow runoff, and when dams/levees breach.

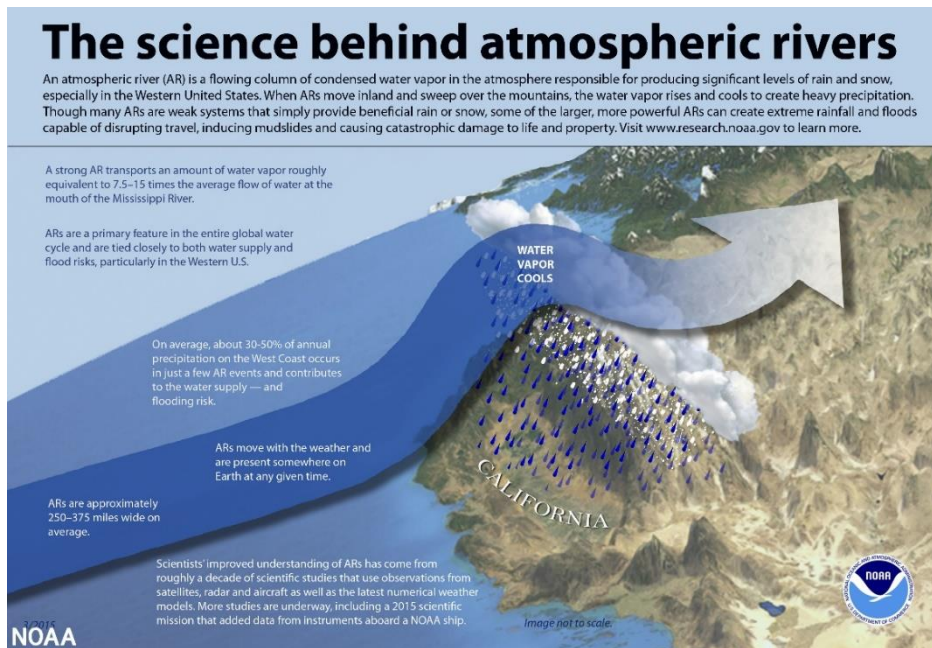
Riverine Flooding – is when streams and rivers exceed the capacity of their natural or constructed channels to accommodate water flow and water overflows the banks, spilling out into adjacent low-lying, dry land.

Alluvial Fan Flooding – is a type of flooding that occurs on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transportation, and deposition; and unpredictable flow paths.

Many floods in western Nevada are caused by atmospheric river weather systems.

Atmospheric River – are long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. While atmospheric rivers can vary greatly in size and strength, the average atmospheric river carries an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. Exceptionally strong atmospheric rivers can transport up to 15 times that amount. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow. While atmospheric rivers are responsible for great quantities of rain that can produce flooding, they also contribute to beneficial increases in snowpack.

Figure 4-37. NOAA The Science Behind Atmospheric Rivers



4.5.9.2 History of Previous Hazards

January 1997 Flood

The flood event of January 1997 represented one of the most significant and most devastating floods in recorded history within the water basins of Western Nevada. In late December 1996, storms built up a large snowpack (more than 180 percent of normal) in the higher altitudes of the Sierra Nevada and also covered the valleys along the eastern Sierra Nevada. Then, a subtropical storm system originating in the central Pacific Ocean near the Hawaiian Islands brought heavy, unseasonably warm rain to the Sierra Nevada from December 30, 1996, through January 2, 1997. Flood waters in the Carson River Basin contributed to \$55 million in projected damages (\$19.5 million in Lyon County).

Flood waters from the Walker River washed away a two-mile segment of Nevada State Route 208 through Wilson Canyon between Smith and Mason Valleys and, when combined with the flood waters from the East Fork of the Walker, caused extensive flooding in Mason Valley and particularly within the City of Yerington.



Image of home in Dayton, NV damaged by the Carson River during the 1997 flood. (Lisa J. Tolda, Reno Gazette Journal)



Image of flooded residential area in Yerington, NV January 4, 1997. (Rich Johnston, Nevada Department of Transportation)

January 2008 Fernley Flood

On January 5, 2008, water burst through a 50-foot breach in the Truckee Canal's earthen embankment flooding 590 homes in Fernley, Nevada. A 2-foot-tall wave poured into the neighborhood and water collected 8 feet deep in some areas impacting approximately 1200 residents. No one was killed or seriously injured; however, damages from the 2008 flood are estimated in the millions of dollars and resulted in an \$18.1M settlement between the Truckee-Carson Irrigation District (TCID) and flood victims. The 31-mile canal is a key component of the nation's first federal reclamation project, started in 1903. It's owned by the U.S. Bureau of Reclamation but managed by the Truckee-Carson Irrigation District (TCID). The Bureau concluded within two months of the breach that burrowing rodents had weakened the canal, causing it to fail. A similar rupture occurred in the same vicinity and flooded 60 homes in December 1996.

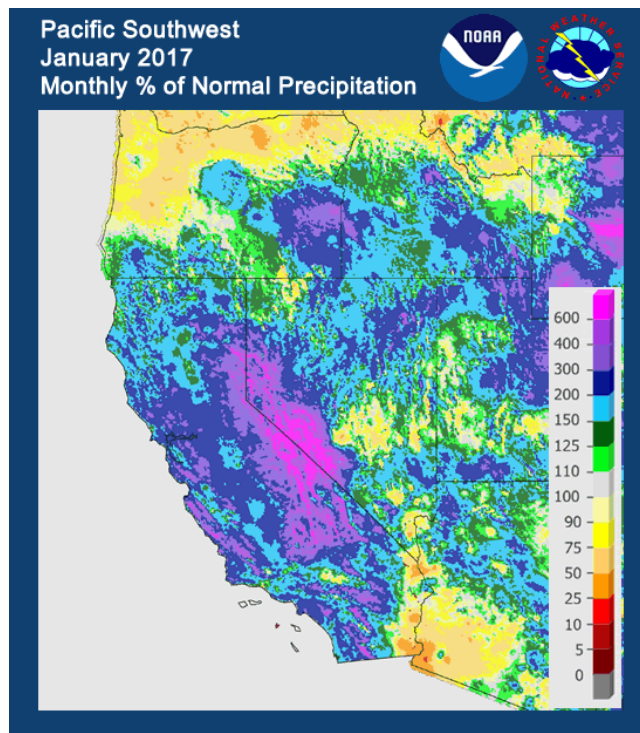


Image of flooded residential area following Truckee Canal breach in Fernley, NV January 6, 2008. (Nevada Appeal)

2017 Atmospheric River Floods

After several years of drought conditions, California and Nevada received historical amounts of precipitation between October 2016 and February 2017. Several series of moist atmospheric river systems moved through the region bringing abundant precipitation and flooding.

Figure 2- NOAA/NWS Percentage (%) of Normal Precipitation January 2017 Pacific Southwest



2023 Atmospheric River and Spring Thaw Floods

A near-record breaking snow pack in Eastern California and Western Nevada caused a series of alluvial and river flood events in Lyon County between January and July 2023. Beginning in January, shortly after the New Year, snow storms followed by rain, caused alluvial flooding damages primarily to residences and infrastructure in Dayton, Nevada.

March 2023 Atmospheric River Floods

Severe storms beginning March 9, 2023 led to a major federal declaration (NV DR-4708) for public infrastructure damages across the State of Nevada. Flooding in Lyon County and participating jurisdiction(s) primarily impacted areas of Dayton, Mound House, Stagecoach, Silver Springs, Yerington, and Smith Valley. Lyon County experienced damage to roads and culverts countywide, as well as to Rolling A Open Space Park and Santa Maria Ranch Park Walking Trail in Dayton and Dressler Park and Hillcrest Cemetery in Smith Valley. Residences, businesses, and agriculture producers in Dayton and Smith Valley were also impacted. Nevada is estimated to have received over \$10 million in public infrastructure damages from March 9-18, 2023. Lyon County and Walker River Irrigation District submitted for FEMA public assistance.

May - July 2023 Spring Thaw

As temperatures began to rise on the historic snow pack levels, Lyon County experienced flooding on the Walker River in Smith Valley and . Fortunately, due to early warning of potential flooding and proactive reservoir management, Lyon County worked alongside the Walker River Irrigation District, City of Yerington and a private business partner to act ahead of peak flows to build over seven miles of levees along low-lying areas of the Walker River to protect residences, businesses, and critical infrastructure in the City of Yerington (such as the water/waste water system from inflow and inundation). Four homes in the Mason area (nearest the bridge on Mason Road) were completely surrounded by floodwaters. In addition, downstream the area North of Miller Lane in Yerington to the Lyon

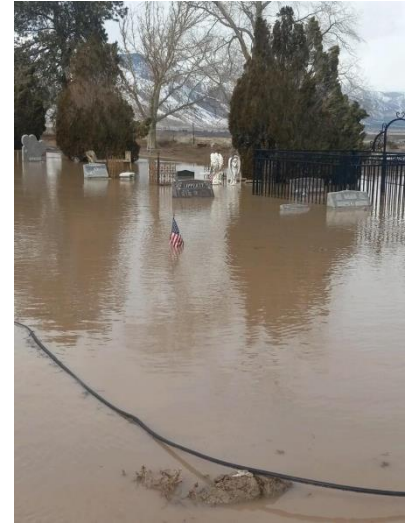


Image of flooded Hillcrest Cemetery in Smith Valley during March 2023 atmospheric river floods (Lyon County Facilities)



Image of flooding from the Walker River across Miller Ln near Yerington during Spring Thaw 2023 (Jay Flakus, City of Yerington)



Image of home on Walker River inundated with floodwaters near bridge on Mason Rd. during Spring Thaw 2023 (Lyon County Emergency Management)

County border (near Weber Reservoir) experienced significant flooding. This area is mostly comprised of State Wildlife Management Area, private lands used for agriculture, and the Walker River Paiute Tribe reservation. Lyon County, Walker River Irrigation District, and the City of Yerington were subject to an estimated \$2 million in combined damages, but did not meet the criteria for a major disaster declaration. [Mitigation strategies identified in this plan were developed based on lessons learned from the 2023 floods.](#)

Table 4-38. Historical Flood Stage/Pleak Flows Lyon County (Oct 1938 – Present)

River	USGS Gage	Date	Peak Discharge (cfs)	Stage (feet)
Carson	Carson River at Carson City (STWN2)	Jan 3, 1997	30,500	18.43
		Dec 24, 1955	30,000	15.00
		Feb 1, 1963	21,900	13.11
		Nov 22, 1950	15,500	11.40
		Feb 11, 2017	10,500	11.98
Walker	East Fork of the Walker River at Strosnider	Mar 11, 2023	2,370	11.229
		Jan 1, 1997	2,610	9.61
		Jun 30, 2017	1,570	9.35
		Jul 10, 1995	1,470	8.33
		Jun 30, 2011	1,220	8.10
		Feb 1, 1963	2,380	7.60
Walker	West Fork of the Walker River near Hudson	Jan 3, 1997	11,400	12.18
		Dec 24, 1955	2,700	7.42
		Jul 11, 1995	2,530	6.90
		Jun 7, 2023	3,220	6.66
		Jun 7, 1922	2,530	6.35
		Jun 22, 2017	3,030	6.26
Walker	West Fork of the Walker River near Hoyer	Jan 3, 1997	11,400	13.68
		Jun 18, 1927	1,520	10.05
		Jun 29, 1932	1,460	9.43
		Jul 11, 1995	2,600	9.32
		July 8, 1983	2,310	8.75
		June 7, 2023	2,730	8.43
		Jun 20, 2017	2,860	8.33
Walker	Walker River near Snyder Ln (MASN2)	Jan 4, 1997	3,900	12.72
		Jun 8, 2023	3,830	11.64
		Jul 11, 1995	2,980	10.62
		Jun 22, 2017	2,910	10.52
		Jun 19, 1983	2,790	10.34
		Jul 1, 2011	2,420	9.78

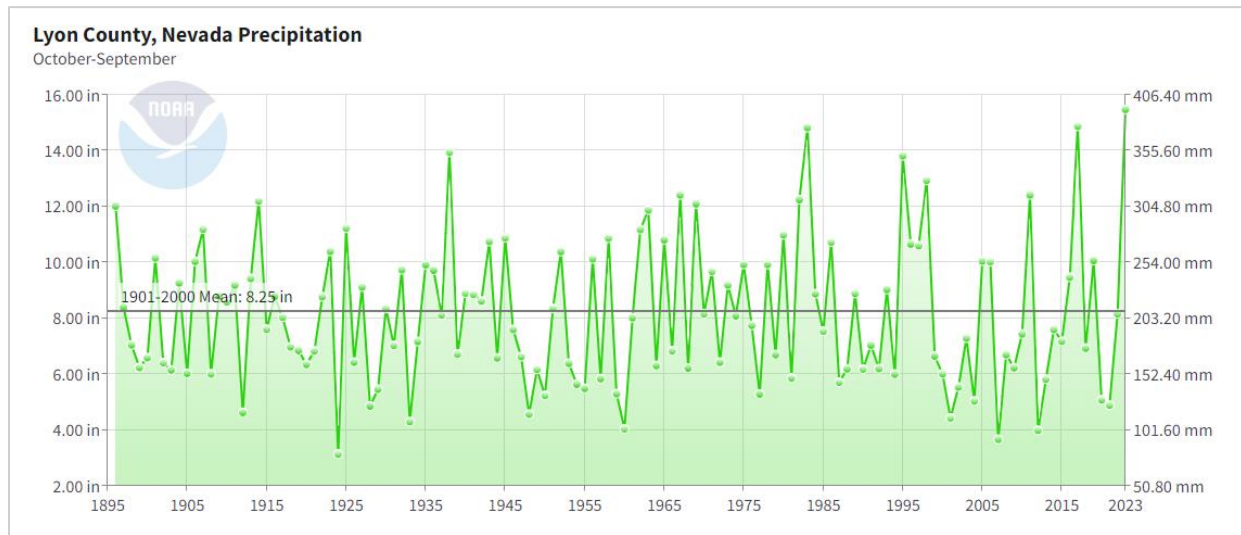
Source: USGS Historical Conditions, Peak-Flow Data (2023)

Note, 2023 peak flow rates are preliminary findings. USGS will produce finalized peaks after the 2023 water year. Also, the peak flows for the 1997 Flood are estimated as the gage was not in service.

4.5.9.3 Extent and Probability

Floods are one of the most frequent hazards in the United States. Flooding in Lyon County is mostly associated with periods of high precipitation in the Eastern Sierra and Western Nevada region.

Figure 4-39. NOAA Lyon County, Nevada Annual Precipitation (1895-Present)



Source: NOAA Climate at a Glance County Time Series <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series>

Lyon County, with support from participating jurisdictions, has made significant strides in identifying the potential extent of flooding since the last multi-jurisdictional hazard mitigation plan by developing and adopting regional Drainage Area Master Plans.

Lyon County Drainage Area Master Plans aim to identify potential flood and sedimentation hazards, including data collection, hydrologic and hydraulic modeling, geomorphic assessments, and field surveys. The plans also develop a series of alternatives to partially or wholly mitigate identified hazards and provide stakeholder coordination and public outreach to present mitigation alternatives.

Table 4-40. Lyon County Drainage Area Master Plans (DAMP)

DAMP Coverage/Study Area	Status (as of November 2023)
North Dayton Valley	Completed – 2019
South Dayton Valley	Completed
Stagecoach	In progress
Silver Springs	In progress
Mound House/ Silver City	In progress – Lyon County and CWSD submitted Letter of Intent to DEM and FEMA Region IX
Walker River Watershed	Lyon County, CWSD, and WRID leading a Flood Risk Analysis of Walker River Watershed (initial step toward Drainage Area Master Plans)

North Dayton Valley Area Drainage Master Plan – Hazard to Buildings

Figure 4-41. North Dayton Valley Flood Hazards to Buildings (based on 100-year, 24-hour FLO 2D)

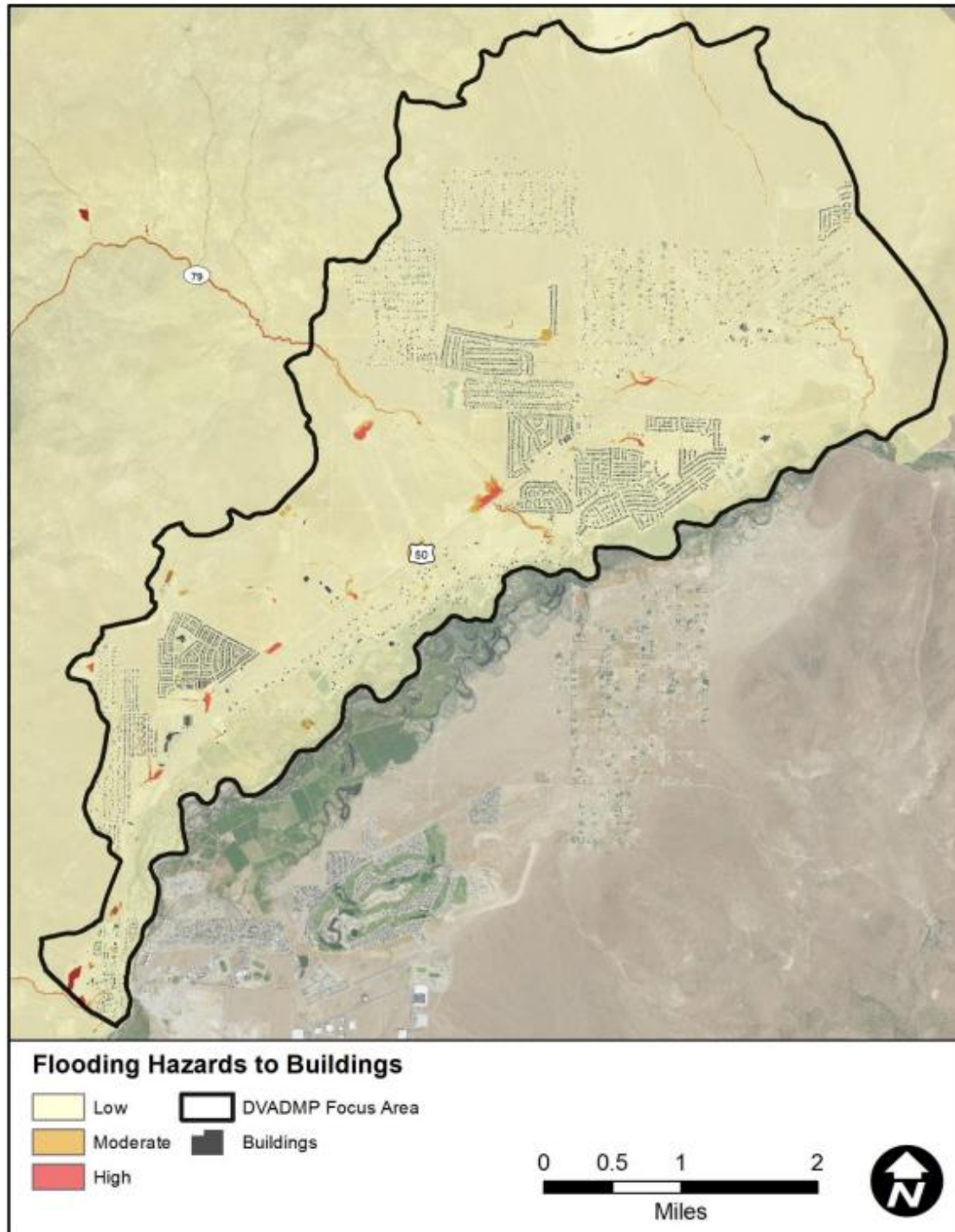


Table 4-42. North Dayton Valley Flood Hazards to Buildings – Building Counts by Flow Depth (Inundation)

Recurrence Interval	Building Count Flow Depth	Building Count Flow Depth	Building Count Flow Depth	Total Building Count
	0.25' < h ≤ 0.5'	0.5' < h ≤ 1'	1' < h	0.25' < h
25Y24H	562	146	57	765
100Y24H	658	231	81	970
100Y6H	714	161	53	928

From the building footprint data (i.e., a building polygon shapefile), there are 7,891 structures within the North Dayton Valley Area Drainage Master Plan focus area (including a slight buffer); however, not all these structures are habitable. Buildings with less than 600 square feet (e.g., unattached garages or sheds) were not considered because they were assumed to be uninhabited due to their size. After applying this filter, there are 5,022 structures in the study area.

The estimates below only include direct building loss, estimated costs to repair or replace the damage caused to the building and its contents. All estimates are based on the HAZUS GBS database, which is tied to 2010 census data and 2018 dollars.

Table 4-43. North Dayton Valley Flood Hazards – Estimated Costs

Base Conditions					
Recurrence Interval	Direct Building Economic Loss				
	Residential	Commercial	Industrial	Others	Total Property*
	\$ millions	\$ millions	\$ millions	\$ millions	\$ millions
25Y24H	6.93	0.89	0.22	1.28	9.32
100Y24H	12.11	1.43	0.45	1.43	15.41
100Y6H	6.25	0.73	0.16	1.05	8.20
*May not be additive due to rounding in internal HAZUS calculations					

South Dayton Valley Area Drainage Master Plan – Hazard to Buildings

Figure 4-44. South Dayton Valley Flood Hazards to Buildings

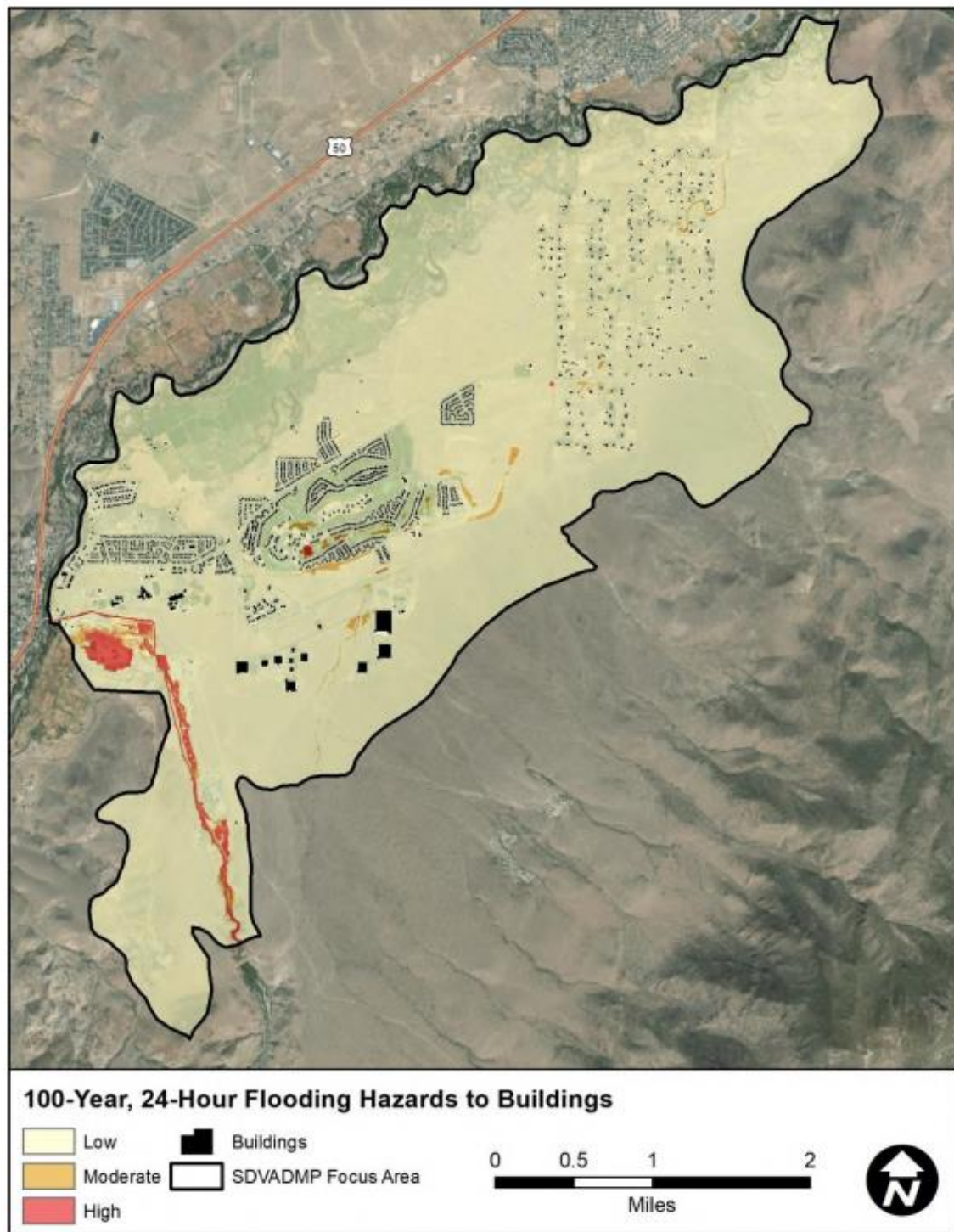


Table 4-45. South Dayton Valley Flood Hazards to Buildings – Building Counts by Flow Depth (Inundation)

Recurrence Interval	Building Count Flow Depth	Building Count Flow Depth	Building Count Flow Depth	Total Building Count
	0.25' < h ≤ 0.5'	0.5' < h ≤ 1'	1' < h	0.25' < h
25Y24H	329	79	37	445
100Y24H	371	118	91	580
100Y6H	437	54	8	499

From the building footprint data, there are 2,150 structures within the HAZUS study area; however, not all these structures are habitable structures (e.g. - water tanks or sheds). For this analysis, the same 600 square foot filter that was used in the “flooding hazard to structures” analysis (see Section 4.4) was applied. After applying this filter, there are 2,106 structures in the study area.

The estimates below only include direct building loss, estimated costs to repair or replace the damage caused to the building and its contents. All estimates are based on the HAZUS GBS database, which is tied to 2010 census data and 2018 dollars.

Table 4-46. South Dayton Valley Drainage Flood Hazards to Buildings – Estimated Costs

Base Conditions					
Recurrence Interval	Direct Building Economic Loss				
	Residential	Commercial	Industrial	Others	Total Property*
	\$ millions	\$ millions	\$ millions	\$ millions	\$ millions
25Y24H	2.68	0.21	0.45	0.43	3.77
100Y24H	5.93	0.36	0.69	0.67	7.65
100Y6H	0.78	0.05	0.08	0.06	0.97
*May not be additive due to rounding in internal HAZUS calculations					

Unique Hazard Risk by Participating Jurisdiction(s)

Lyon County throughout the entire planning area is at risk of alluvial and riverine flooding. Lyon County has received multiple major disaster declarations due to flooding due to damages to public infrastructure such as roads, culverts, and parks. In addition, Walker River Irrigation District received public assistance as part of the DR-4708 March 2023 atmospheric river flooding declaration due to damages to irrigation canals, ditches, drains, and other water operations equipment. The City of Fernley is at risk of alluvial flooding as well as a breach on the TCID canal such as what occurred in 2008. The City of Yerington has historic flooding impacts such as the 1997 and 2023 flooding on the Walker River. Walker River Irrigation District owns and operates Bridgeport and Topaz Reservoirs as well as over 200 miles of drainage systems that become inundated during high snow melt and runoff years. Carson Water Subconservancy District floodplain management projects are highly at risk of flooding. The Mason/Smith Valley Conservation Districts conservation projects also have historically been impacted by flooding. Fire Protection Districts infrastructure and resources are impacted during flood incidents and personnel may have to perform swift water rescue. All participating jurisdictions may have communities that are isolated during flood events. Drainage Area Master Plans and Floodplain Management Plans help participating jurisdictions

better understand flood risk to specific neighborhoods and communities within each jurisdictional boundary.

4.5.9.4 Potential Impacts from Future Climate Conditions

The potential for extreme weather events due to future climate conditions could further increase risk of floods in Lyon County and participating jurisdictions.

4.5.9.5 Vulnerability by Jurisdiction(s)

Table 4-47. Flood Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	Has received public assistance for multiple major flood declarations (most recently 2017 and 2023). Lyon County experienced damages to critical infrastructure (roads, culverts, utilities and parks) and incurred expenses related to emergency protective measures, labor, equipment, and materials during recent flood responses. County-owned facilities at risk of flood inundation.
City of Fernley	High	Has received public assistance for major flood declaration (2008). City of Fernley experienced damages to critical infrastructure (water/wastewater) and incurred expenses related to emergency protective measures, labor, equipment, and materials during flood response.
City of Yerington	High	Has received public assistance for major flood declaration. City of Yerington experienced damages to critical infrastructure (water, wastewater) and incurred expenses related to emergency protective measures, labor, equipment, and materials during recent flood responses. City-owned facilities at risk of flood inundation.
CLCFPD	Moderate	Areas with high-risk of flooding to buildings identified in CLCFPD jurisdiction in both North and South Dayton Drainage Area Master Plans contributing to the moderate vulnerability. CLCFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
NLCFPD	Moderate	Has not received public assistance for major flood declaration; however, NLCFPD infrastructure would be impacted by major flood inundation in the City of Fernley. NLCFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
MVFPD	High	Has not received public assistance for major flood declaration; however, MVFPD infrastructure would be impacted by major flood inundation on the Walker River and to the City of Yerington. MVFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
SVFPD	High	Has not received public assistance for major flood declaration; however, SVFPD infrastructure would be impacted by major flood inundation on the Walker River. SVFPD may experience costs related

		to labor, equipment, and materials during a flood response within the District.
CWSD	High	Has not received public assistance for major flood declaration. Infrastructure and projects on the Carson River and identified in the Floodplain Management plan may be impacted or lost during a major flood.
WRID	High	Has received public assistance for major flood declaration (2017 and 2023) for damages to WRID infrastructure and incurred labor, equipment, and material expenses.
M&SVCD	Moderate	Has not received public assistance for major flood declaration. Infrastructure and projects on the Walker River may be impacted or lost during a major flood.

Water/Wastewater Emergency

4.5.10 Water/Wastewater Emergency

Table 4-48. Water/Wastewater Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	0 Injuries/Deaths, Minimal Damage	Once per year	No warning	1-24 hours	HIGH 18

4.5.10.1 Hazard Description

Safe drinking water is a prerequisite for protecting public health and all human activity, and properly treated wastewater is vital for preventing disease and protecting the environment. On August 1, 2023, FEMA modified its Community Lifelines construct to include an eighth Lifeline called ‘Water Systems’, comprised of two components 1) Potable Water Infrastructure and 2) Wastewater Management. For the purposes of hazard mitigation, Lyon County and participating jurisdictions will define **water/wastewater emergencies** as incidents that disrupt the Water Systems Community Lifeline and corresponding components.

Potable Water Infrastructure – critical infrastructure designed to control the intake, treatment, storage, and distribution of potable water.

Wastewater Management – critical infrastructure designed to control the collection, storage, treatment, and discharge of wastewater.

4.5.10.2 History of Previous Hazards

Historically, significant water/wastewater disruptions in Lyon County and participating jurisdictions have occurred due to inflow and inundation from floodwaters. Notably the 1997 Flood and the Spring Thaw Flood in 2023 threatened the City of Yerington’s sewer system. In 2023, the City of Yerington installed emergency pumps to pump up to an additional 750,000 gallons (compared to a normal 250,000) of effluent water to sewer lagoons.

Lyon County Utilities and the Cities of Fernley and Yerington experience ongoing challenges related to disruptions in water and wastewater systems. For example in May 2022, Lyon County Utilities issues a preliminary boil water notice for the area of Copper Canyon Estates in Dayton following a water line break. For the purposes of mitigation, this plan will address incidents that exceeded daily operations in responding to system disruptions.



Image of man hole secured from floodwaters during Spring Thaw 2023 (Lyon County Emergency Management)

4.5.10.3 Extent and Probability

The majority of water/wastewater incidents have minimal impacts to the community and occur on a daily basis impacting limited service users. According to CISA, water and wastewater systems are vulnerable to a variety of attacks, including contamination with deadly agents; physical attacks, such as the release of toxic gaseous chemicals; and cyberattacks.

Lyon County and participating jurisdictions experience disruptions in water/wastewater systems due to aging infrastructure; however, Lyon County and the Cities of Fernley and Yerington are actively pursuing replacing aging infrastructure. In 2015, the City of Yerington began to process of securing \$39 million in funding from the U.S. Department of Agriculture's Rural Development to replace 120,000 feet of water and sewer piping, some dating back to being installed in the ground in 1905.

Unique Hazard Risk by Participating Jurisdiction(s)

Lyon County, the Cities of Fernley, City of Yerington, and Walker River Irrigation District are most at risk of hazards due to owning and operating public water systems; however, all participating jurisdictions are dependent on public water systems. Fire protection districts maintain local codes for minimum fire flow requirements that must be available to respond to fire incidents.

4.5.10.4 Potential Impacts from Future Climate Conditions

The potential for extreme weather events due to future climate conditions could further increase risk of water/wastewater emergencies in Lyon County and participating jurisdictions. During high water years, prolonged ground saturation, erosion, and floodwaters can damage critical potable water and wastewater infrastructure. Further, there is increased threats to inflow and inundation of water and wastewater management systems as well as threats of contamination.

4.5.10.5 Vulnerability by Jurisdiction(s)

Critical services, such as Fire/EMS and healthcare (hospitals), and other dependent and interdependent sectors such as energy, agriculture, and transportation systems are vulnerable to impacts from water/wastewater emergencies.

Table 4-49. Water/Wastewater Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, Lyon County Utilities will have risk to water/wastewater critical infrastructure and labor, equipment, and material expenses related to water/wastewater hazards.
City of Fernley	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, City of Fernley will have risk to water/wastewater critical infrastructure and labor, equipment, and material expenses related to water/wastewater hazards.
City of Yerington	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, City of Yerington will have risk to water/wastewater critical infrastructure and labor, equipment,

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
		and material expenses related to water/wastewater hazards. History of inflow and inundation during high water years and floods.
CLCFPD	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will impact demand for CLCFPD fire/EMS services.
NLCFPD	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for NLCFPD fire/EMS services.
MVFPD	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for MVFPD EMS services.
SVFPD	Low	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for MVFPD EMS services.
CWSD	Low	No estimates for potential losses/damages from water/wastewater emergencies are available.
WRID	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, water/wastewater emergencies may impact water used for irrigation and controlled by the District. If so, WRID may be impacted with labor, equipment, and material losses.
M&SVCD	Low	No estimates for potential losses/damages from water/wastewater emergencies are available.

Drought

4.5.11 Drought

Table 4-15 Drought Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Highly likely	5-25 Injuries/Deaths, Severe damage	1-5 years	>30 Days warning	Months to years	HIGH 18

4.5.11.1 Hazard Description

A **drought** is a deficiency of precipitation over an extended period of time resulting in a water shortage.

4.5.11.2 History of Previous Hazards

After a wet winter and unusually wet spring, much of Nevada is drought-free as of August 2023 (see Figure 4-50). Summer precipitation is unpredictable, with equal chances of wet, dry, or normal summer.

Figure 4-50. U.S. Drought Monitor Nevada (August 22, 2023)

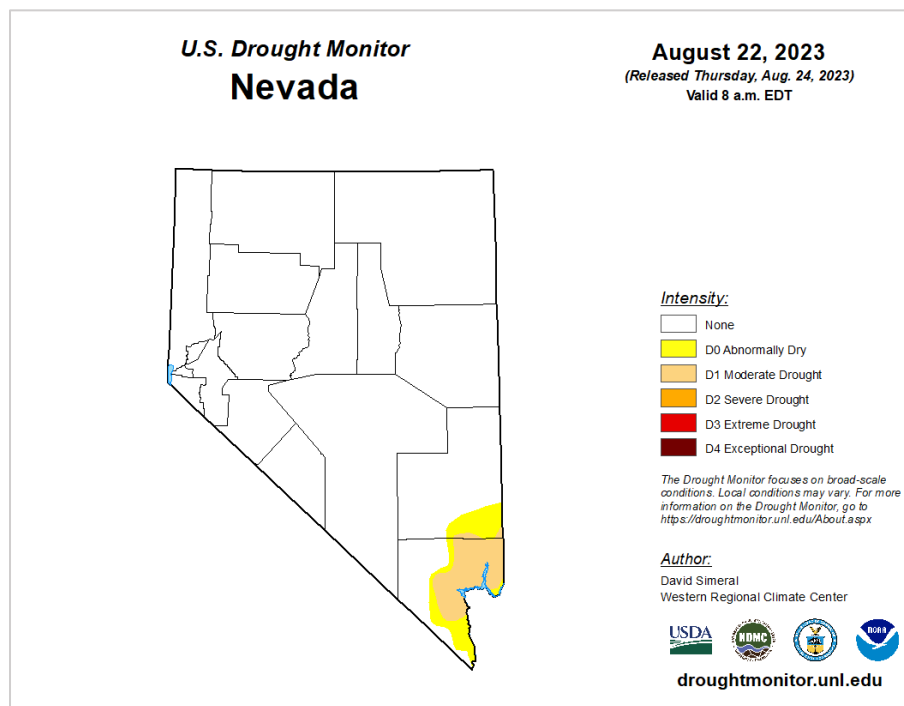
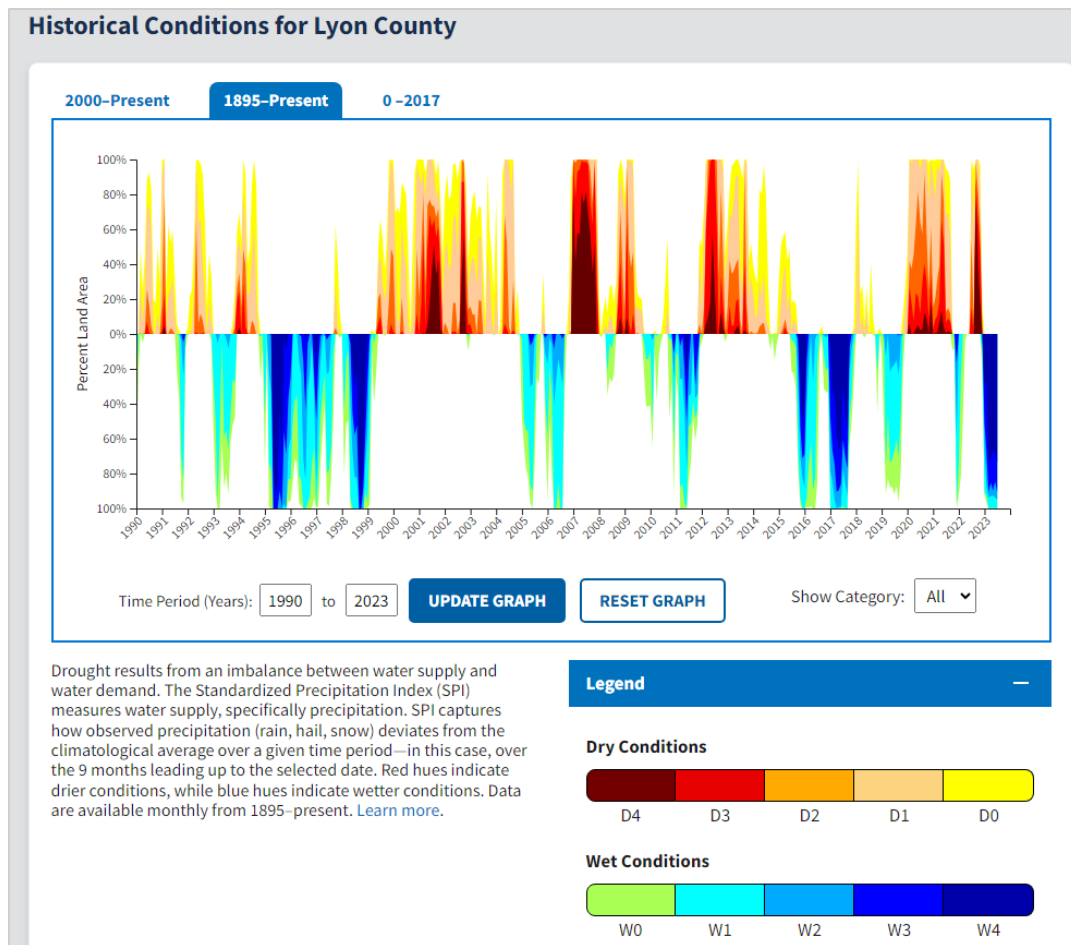


Figure 4-51. U.S. Drought Monitor Historical Drought Conditions for Lyon County, Nevada (1990 – 2023)



Source: U.S. Drought Monitor, National Integrated Drought Information System (2023)
<https://www.drought.gov/states/nevada/county/lyon>

4.5.11.3 Extent and Probability

The start and end timing of drought periods and are very difficult to predict. Water supply greatly concerns agriculture and livestock industries in Lyon County. Years of below average flows in rivers are not uncommon and many water users are prepared to cope with one year of low stream flows by resorting to supplemental sources such as reservoirs and groundwater. For most of Nevada's water users, who depend mostly upon surface water, problems can begin to occur when below average flows are experienced for two or more consecutive years. Over time, reservoir and groundwater levels tend to decline due to increased uses and these supplemental sources may become depleted. Droughts can also create quality problems for both surface water and groundwater sources. The decreased flows experienced during a drought tend to result in diminished quality for the remaining water.

Drought conditions occurring in Lyon County can have an impact on the viability of agriculture, industry as well as water recreational activities. Drought conditions would impact the amount of water available for crops grown for commercial and domestic use, and could be reduced by the snow pack available in our local mountain passes, which could have a negative results on the areas water related sporting and

tourism activities. Additional impacts to Lyon County industry may include a negative impact on the capabilities of firefighters in the area, as water shortages may result in reduced water flow and pressure available to combat Wildland and structure fires that may take place in the region.

Unique Hazard Risk by Participating Jurisdiction(s)

Lyon County, the Cities of Fernley, City of Yerington, and Walker River Irrigation District are most at risk of droughts hazards due to owning and operating public water systems; however, all participating jurisdictions are dependent on the availability of water. Fire protection districts maintain local codes for minimum fire flow requirements that must be available to respond to fire incidents which may be impacted by prolonged periods of drought.

4.5.11.4 Potential Impacts from Future Climate Conditions

Long-term models are trending toward warmer temperatures; however, there is significant variability in levels of precipitation. Northern Nevada is recorded to have experienced several years of drought conditions followed by years of high precipitation. Lyon County and participating jurisdictions will plan for significant drought pattern during drier patterns in upcoming years.

4.5.11.5 Vulnerability by Jurisdiction(s)

Table 4-52. Drought Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from drought are available. However, Lyon County has a high vulnerability for potential losses from drought due to disruptions to community lifelines. Lyon County may experience labor, equipment and material losses.
City of Fernley	High	No estimates for potential losses/damages from drought are available. However, City of Fernley has a high vulnerability for potential losses from drought due to disruptions to community lifelines. City of Fernley may experience labor, equipment and material losses.
City of Yerington	High	No estimates for potential losses/damages from drought are available. However, City of Yerington has a high vulnerability for potential losses from drought due to disruptions to community lifelines. City of Yerington may experience labor, equipment and material losses.
CLCFPD	High	No estimates for potential losses/damages from drought are available. However, CLCFPD has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
NLCFPD	High	No estimates for potential losses/damages from drought are available. However, NLCFPD has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing

		a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
MVFPD	High	No estimates for potential losses/damages from drought are available. However, MVFPD has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
SVFPD	High	No estimates for potential losses/damages from drought are available. However, SV has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
CWSD	Moderate	No estimates for potential losses/damages from drought are available. Drought conditions may impact the Carson River Watershed ecosystem and CWSD may experience losses to projects and planning capabilities.
WRID	High	No estimates for potential losses/damages from drought are available. However, WRID has a high vulnerability to potential losses from drought to irrigation infrastructure and the agriculture community lifelines.
M&SVCD	Moderate	No estimates for potential losses/damages from drought are available. Drought conditions may impact the Walker River ecosystem and the conservation districts may experience losses related to projects.

Earthquake

4.5.12 Earthquake

Table 4-53. Earthquake Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Moderate	>50 Injuries/Deaths, Catastrophic	<Every 25 years	No warning	Weeks to months	HIGH 18

4.5.12.1 Hazard Description

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 can cause massive damage and extensive casualties in a few seconds. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can amplify ground motions.

In addition to ground motion, several secondary natural hazards can occur from earthquakes, such as the following:

- **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.
- **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. Pore water 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.
- **Landslides/Debris Flows** - occur as a result of horizontal seismic inertia forces induced in the slopes by the ground shaking. The most common earthquake-induced landslides include shallow, disrupted landslides such as rock falls, rockslides, and soil slides. Debris flows are created when surface soil on steep slopes becomes totally saturated with water. Once the soil liquefies, it loses the ability to hold together and can flow downhill at very high speeds, taking vegetation and/or structures with it. Slide risks increase after an earthquake during a wet winter. The severity of an earthquake can be expressed in terms of intensity and magnitude. Intensity is based on the damage and observed effects on people and the natural and built environment. It varies from

place to place depending on the location with respect to the earthquake epicenter, which is the point on the Earth's surface that is directly above where the earthquake occurred. The severity of intensity generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake.

The **Richter scale**, developed by Charles F. Richter of the California Institute of Technology in 1935, is often used to rate the strength of an earthquake and is an indirect measure of seismic energy released. The scale is logarithmic, with each 1-point increase corresponding to a 10-fold increase in the amplitude of the seismic shock waves generated by the earthquake. However, in actual energy released, each 1-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a magnitude (M) 7 earthquake is 100 times (10×10) more powerful than an M 5 earthquake and releases 1,024 times (32×32) the energy.

The **Modified Mercalli Intensity (MMI) scale** is another way of rating earthquakes. This method attempts to quantify the intensity of ground shaking. Intensity in this scale is a function of distance from the epicenter (the closer a site is to the epicenter, the greater the intensity at that site), ground acceleration, duration of ground shaking, and degree of structural damage. The MMI rates the level of severity of an earthquake by the amount of damage and the perceived shaking, as shown in **Table 4-__**.

4.5.12.2 History of Previous Hazards

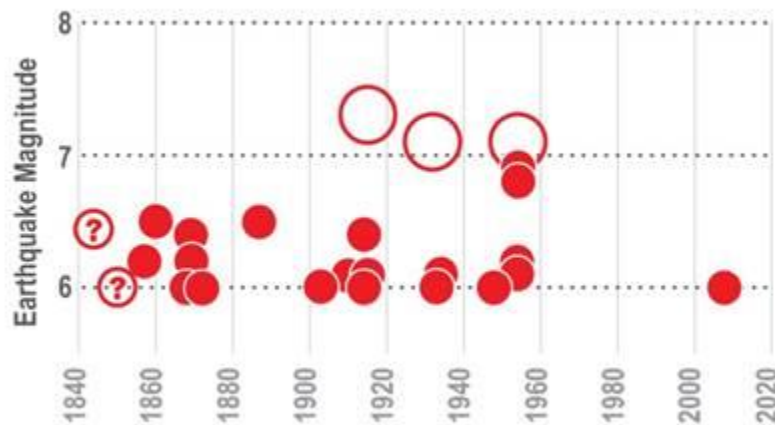
Nevada is the third most seismically active state in the United States (after Alaska and California), with the vast majority of quakes occurring in the western portion of Nevada. Lyon County is located in the Walker Lane belt, which is a transition zone between the strike-slip plate boundary system and extensional tectonics of the Basin and Range Province (where all of Nevada is located). The belt contains many strike-slip faults which in addition to the normal-slip faults lead to a higher earthquake hazard. Four different fault zones are present in Lyon County: Antelope Valley, Smith Valley, Sweetwater and Singatze Range

Table 4-54. Large Historic Earthquakes near Lyon County

Date	Magnitude	Near
1994	5.8	Double Spring Flat
1959, March 23	6.3	Dixie Valley
1954, December 16	6.8	Dixie Valley
1954, December 16	7.1	Fairview Peak
1954, August 24	6.8	Stillwater
1954, July 6	6.0	Fourmile Flat
1954, July 6	6.6	Rainbow Mountain
1933, June 25	6.0	Wabuska
1932	7.1	Cedar Mountain
1915	7.3	Pleasant Valley

Source: Nevada Bureau of Mines and Geology, Presentation to the Nevada Hazard Mitigation Planning Committee, 2011

Table 4-56. Large Historic Earthquakes (Magnitude 6 or Greater) in Nevada 1840 - 2020



Source: Nevada Bureau of Mines and Geology, Living with Earthquakes, 2018

Small earthquakes occur on a very regular basis, for example, the week of July 25, 2018 a series of rather small magnitude earthquakes occurred around the City of Yerington and the City of Fernley, these ranged in magnitude from .06 to .08. On July 31, 2018 a M1.3 event occurred 4.5 miles southwest of Dayton, NV. However, due to the low magnitude very little shaking, if any, would have been felt.

Figure 4-57 illustrates the locations of the identified fault zones in Lyon County. The cities of Dayton and Yerington are closer to earthquakes of a higher magnitude, M5 or greater. A number of M4 to M5 earthquakes have occurred in the southern portion of Lyon County, however, most are a significant distance from any city or community.

Figure 4-57. Lyon County Fault Zones (2018)

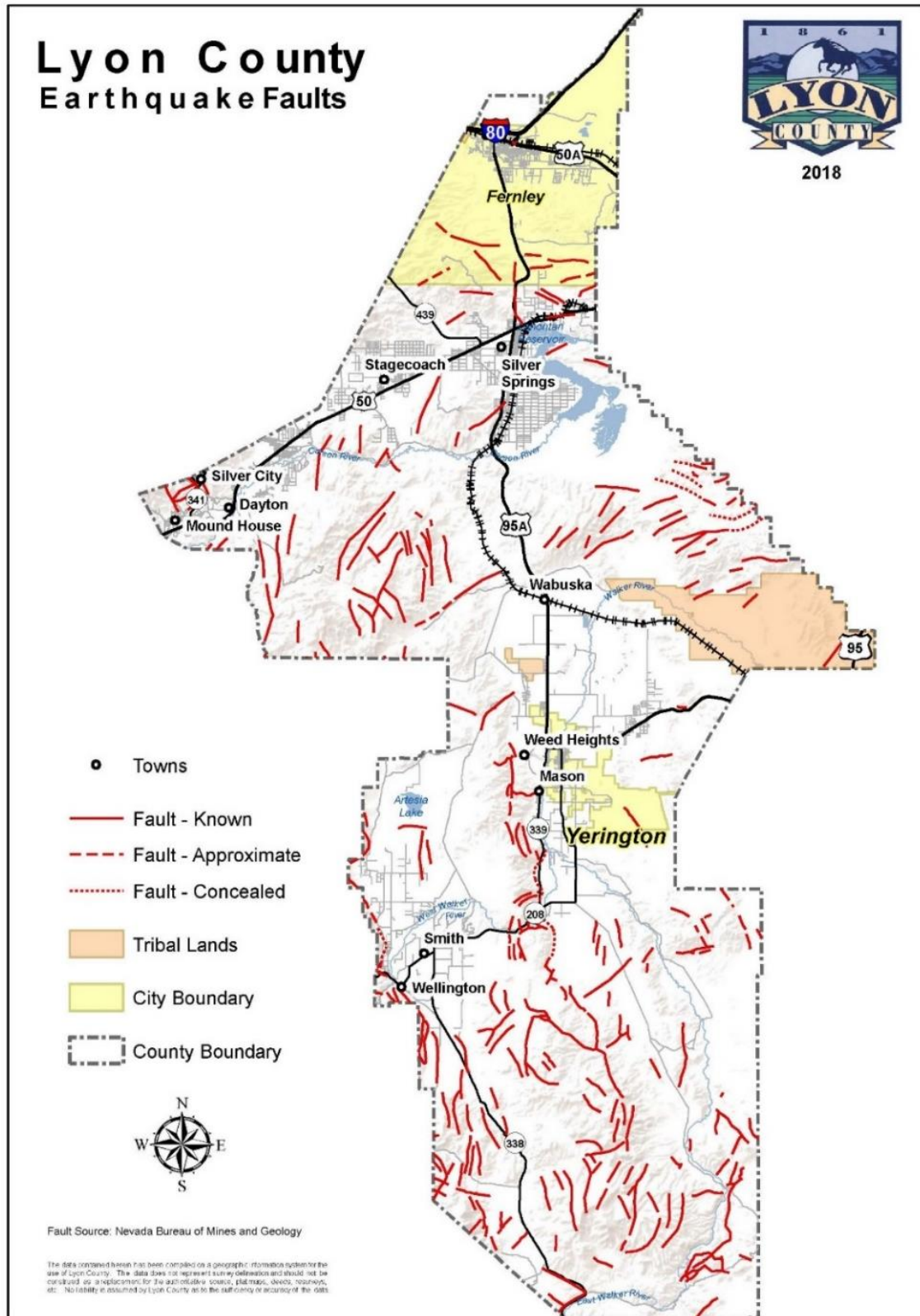
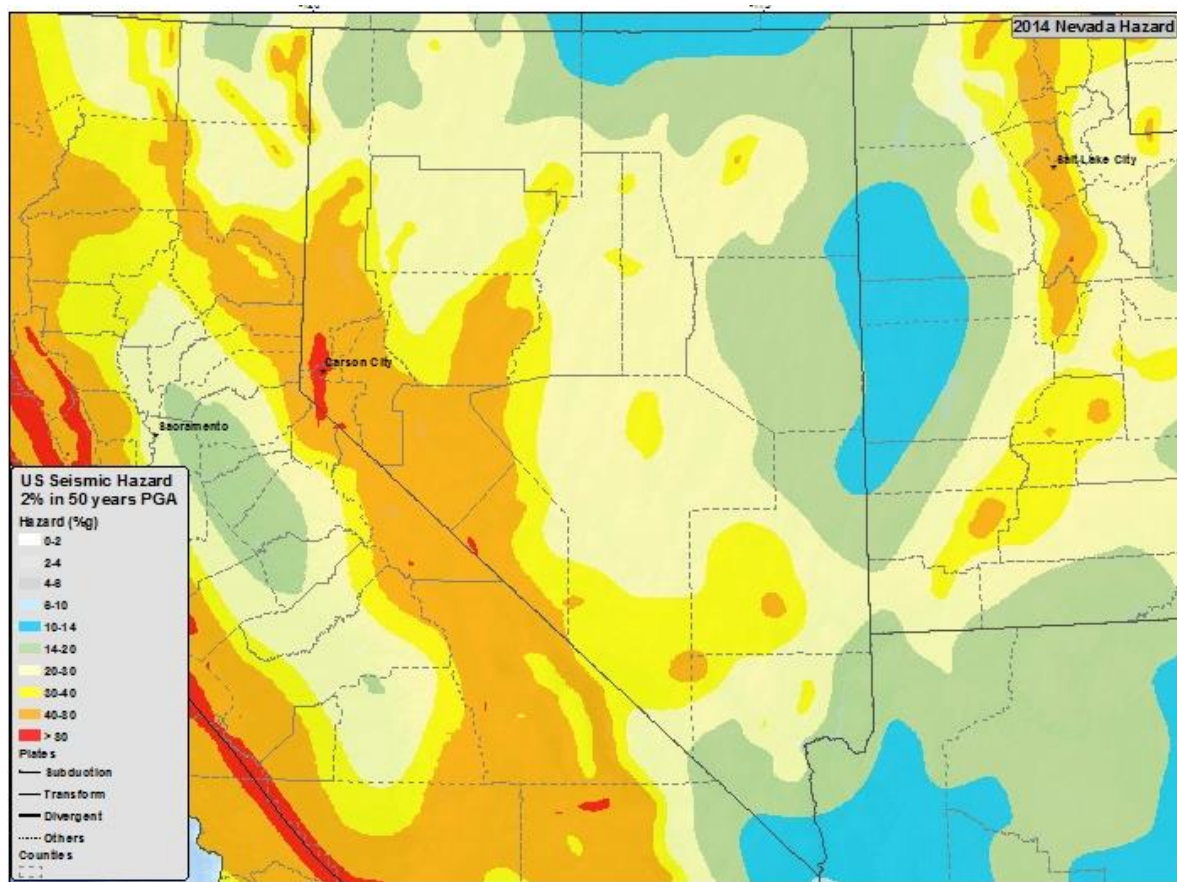


Figure 4-58. 2014 USGS Seismic Hazard Map



Source: USGS Earthquake Hazards Program Information by Region – Nevada

<https://earthquake.usgs.gov/earthquakes/byregion/nevada-haz.php>

4.5.12.3 Extent and Probability

Recent earthquakes show a pattern of steadily increasing damage and losses that are primarily due to four key factors: (1) substantial growth in earthquake-prone urban areas; (2) higher contribution due to non-structural damage, content, and functional losses; (3) vulnerability of aging building stock, including poorly engineered, non-ductile concrete and unreinforced masonry buildings; and (4) an increased interdependency in terms of supply and demand for the businesses that operate in different parts of the world results in economic impacts far beyond the impact areas. Understanding the seismic hazard requires studying earthquake characteristics and the locales in which they occur, whereas understanding the risk requires an assessment of the potential damage from earthquake shaking to the built environment and public welfare—especially in high-risk areas.

Unreinforced Masonry (URM) Buildings are buildings made of brick or stone that lack steel rebar or other reinforcement. They commonly have deficiencies beyond construction style. URM buildings are the most vulnerable structures to having earthquake damages. Approximately 30-40% of URM buildings can have partial collapse during strong shaking. Because URMs in Nevada are mostly over 50 years old, many have

deteriorated and need maintenance. Some may have been damaged from shaking during previous distant or small earthquakes.

Case Study – URM Buildings Impacted by 6.0 Earthquake in Wells, Nevada in 2008

On February 21, 2008, a magnitude 6.0 earthquake occurred about 9 km (5.5 mi) northeast of Wells, Nevada. The earthquake occurred at 6:16 am and brought down many unreinforced masonry structures in the historical district at a time when it was largely empty of people; thus, injuries were limited to four individuals. The duration of shaking from the earthquake, estimated by eye witness accounts and surveillance video, was as long as 40 seconds, much longer than usual during a magnitude 6.0 event. The earthquake damaged more than half of the 80 non-residential buildings in town, 17 of them severely damaged, and it completely destroyed 3 homes. Losses exceeded \$10.5 million from the Wells earthquake, \$4.8 million of which was covered by earthquake insurance on school and government buildings. (Source: Nevada Bureau of Mines and Geology, *Damaging Earthquakes in Nevada 1840s to 2008*, 2012)

Of the 15 commercial unreinforced masonry buildings impacted and surveyed for damage following the 2008 Wells, NV earthquake, 10 of 15 (67%) were identified as moderately to severely damaged and were potentially life threatening. In addition, 15 of 33 (45%) of exits had potentially deadly debris.



Image of 2008 Wells Earthquake Damage by Nevada Bureau of Mines and Geology, Presentation on Seismic Risk of Unreinforced Masonry Buildings in Nevada, October 2019

As of a 2012 study by the Nevada Bureau of Mines and Geology, there are 410 potential unreinforced masonry buildings in Lyon County. Of the total potential URM buildings, 235 were identified as commercial and public, while 175 were residential.

Table 4-59. Number of potential URMs in Nevada by county (2012)

Table 2. Number of potential URMs in Nevada by county.				
County	Commercial & Public	State	Residential	Total[#]
Carson City	487	72	175	734
Churchill	177		192	369
Douglas	114		294	408
Elko	39		23	62
Eureka	0		35	35
Humboldt	192	1	184	377
Lander	57		67	124
Lyon	234	1	175	410
Mineral	60		57	117
Pershing	37		31	68
Storey	3		21	24
Washoe	2,445	21	3,322	5,788
White Pine	138	1	93	232
Subtotal, N. Nevada	3,983	96	4,669	8,748
Clark	11,963		2,396	14,359
Esmeralda	2		14	16
Lincoln	53	2	47	102
Nye	144		228	372
Subtotal, S. Nevada	12,162	2	2,685	14,849
All of Nevada	16,145	98	7,354	23,597

The Nevada Resilience Advisory Committee (NRAC) recognizes URM buildings as dangerous earthquake risks and encourages actions to reduce this risk. Lyon County, the Cities of Fernley and Yerington and participating entities have made modest progress in reducing its overall URM building seismic risk through implementing modern building codes and regulations. Through hazard mitigation planning, participating entities will identify opportunities to seismic retrofit and rehabilitate URM buildings in Lyon County.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions are impacted communities in proximity to fault lines. Lyon County, the Cities of Fernley, City of Yerington, and Walker River Irrigation District, and the four Fire Protection Districts own and operate critical infrastructure that may be affected by a large earthquake. Communities and jurisdictions in all participating jurisdictions may become isolated to the nature of earthquakes and damages to transportation routes.

4.5.12.4 Potential Impacts from Future Climate Conditions

An article published by YaleEnvironment360 describes the theory that climate change will increase the frequency of earthquakes due to the changing pressure of water on the earth's crust. This theory is not corroborated by climate scientists, and geologists are skeptical. Therefore, based on current science, the probability of increased future frequency of earthquake events due to climate change is **low**.

4.5.12.5 Vulnerability by Participating Jurisdiction(s)

Earthquakes pose a threat to water lines, the electrical grid, and the sewer system. An earthquake has the potential to damage and create ground deformations through liquefaction, surface rupture, and landslides. The pipeline is constructed of high-grade steel using modern full penetration welding techniques. Pipelines have withstood major earthquakes in the past with minor to no damage due to the ability of welded steel pipe to withstand considerable ground deformation without failure. The ductility of high-grade steel pipe provides the pipe with a large amount of resistance to rupture from most ground deformation and shaking. The pipeline was constructed to withstand a 7.5 magnitude earthquake and has a proven track record in this area.

Damage to tanks and connections, however, are common during events of extreme shaking. Tank damage such as sidewall buckling, separation of sidewalls from the bottom plate, and sloshing of liquids can result from severe shaking. If connections between pipes and tanks are not flexible, they are vulnerable to damage during earthquakes. Containment dikes serve as a good line of defense in the event pipe connections break. Once contained within the dikes, the petroleum products can be kept from ignition sources and the spill can be controlled. Earthquake has a high probability of impacting the water and wastewater in Lyon County due to underground and above ground piping that would be damaged.

Table 4-60. Earthquake Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to Lyon County facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. Lyon County may experience losses related to labor, equipment, infrastructure and materials.
City of Fernley	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to the City of Fernley facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. The City of Fernley may experience losses related to labor, equipment, infrastructure and materials.
City of Yerington	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to the City of Yerington facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. The City of Yerington may experience losses related to labor, equipment, infrastructure and materials.

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
CLCFPD	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to CLCFPD infrastructure and create a demand for fire/EMS services. CLCFPD may experience losses related to labor, equipment and materials.
NLCFPD	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to NLCFPD infrastructure and create a demand for fire/EMS services. NLCFPD may experience losses related to labor, equipment and materials.
MVFPD	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to MVFPD infrastructure and create a demand for fire/EMS services. MVFPD may experience losses related to labor, equipment and materials.
SVFPD	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to SVFPD infrastructure and create a demand for fire/EMS services. SVFPD may experience losses related to labor, equipment and materials.
CWSD	Moderate	No estimates for potential losses/damages from earthquakes are available. Earthquakes may disrupt the Carson River ecosystem and cause losses related to planning projects.
WRID	High	No estimates for potential losses/damages from earthquakes are available. However, vulnerability to WRID water control infrastructure such as canals, ditches, drains and reservoirs is high. WRID may also experience losses related to labor and equipment.
M&SVCD	Moderate	No estimates for potential losses/damages from earthquakes are available. Earthquakes may disrupt the Walker River ecosystem and cause losses related to planning projects.

Hazardous Materials

4.5.13 Hazardous Materials

Table 4-61 Hazardous Materials Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Moderate	1-5 Injuries/Deaths, Minor Damage	1-5 years	No warning	Days to weeks	HIGH 17

4.5.13.1 Hazard Description

Hazardous material 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, medical marijuana production facilities, storefronts, warehouses, single-family residences, 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 (EHS). 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 cutoff 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.

The four fire protection districts issue hazardous materials permits and act as the first responder to hazardous materials spills or releases. The Nevada Division of Environmental Protection (NDEP) investigates spill reports in Lyon County and participating jurisdictions.

4.5.13.2 History of Previous Hazards

Carson River Mercury Superfund Site

During the 1850s Comstock Lode mining era, mercury was imported and used for processing gold and silver. Over 250 historic mill sites are located near Carson River and Steamboat Creek. During the height of the mining era, the mills discharged an estimated 14,000,000 pounds of mercury into the two drainages, primarily in the form of mercury contaminated tailings. The rivers then conveyed and dispersed the mercury throughout their entire networks. The Carson River Mercury Site (CRMS) was added to the National Priority List (NPL) in August of 1990 under CERCLA (Superfund Act) and is jointly managed by NDEP and EPA, Region 9. The original EPA CRMS study area spans Washoe, Carson City, Storey, Lyon and Churchill Counties. In 2010, an effort was made to compress the CRMS into smaller investigative footprint areas where the contamination is most prevalent: mill sites, tailing piles, current and historic river channels and canals, Washoe Lake, Lahontan reservoir, Carson Lake, Carson sink, Stillwater Marsh and areas of sediment deposition (e.g. the 100 year flood plain). The two smaller investigative footprint areas created in 2010 are called Operable Units One and Two (OU-1 and OU-2). OU-1 in general is the land above the Carson River's banks and includes the historic mill sites, tailing piles and the Carson River floodplain from Carson City to the Six-Mile Canyon alluvial fan. OU-2 is comprised of sediments and biota found in the main channel of the Carson River below the customary and high water mark from Carson City to the terminal water bodies and wetlands east of Lahontan Reservoir, including contaminated floodplain deposits due to overbank deposits and/or flood irrigation practices downstream (east) of the Six-Mile Canyon alluvial fan. Many areas in the CRMS have yet to be characterized so the investigation into the extent of mercury contamination in these two areas is ongoing.

Table 4-62. Significant Hazardous Materials Incidents in Lyon County (1991-2023)

Date	Location	Details and Damages
1991	Dayton	Concerns over the possible exposure of vehicle users to contaminated materials prompted the removal of mercury-contaminated tailings near Dayton, NV. Also in 1991, a second removal action was completed at a park in Dayton. The contaminated materials were transported to a mineral resource recovery facility.
January 2004	Fernley	There was an evacuation of Fernley's Nevada Pacific Industrial Park in Lyon County, due to a strange vapor emanating from a disposal bin at the Philip Services Corporation (PSC) facility. PSC recycles chemicals including acids, alkaline substances, cyanide, and battery waste. The smoke-like vapor was found to be nontoxic.

Date	Location	Details and Damages
March 2007	Mound House	A chemist at Niotan Inc. in Mound House accidentally spilled two liters of hydrochloric acid causing the evacuation of employees from the building. No one was injured and the Quad County Haz Mat Team cleaned up the spill.
January 2008	Fernley	Following intense rain and snowmelt, a canal bank gave way flooding a residential portion of the City of Fernley. Local, State and Federal Disasters were declared. Potentially damaged household hazardous material was identified as a potential threat to the community. NDEP, EPA Region 9, the United States Coast Guard, and FEMA cooperated to hold a household hazardous waste collection event for the flood-impacted residents.
June 2012	Fernley	A trucking facility in Fernley reported that a tote containing 10-15% nitric acid and 30% sulfuric acid fell from a forklift spilling 150 gallons which flowed across pavement to a storm water sump. NDEP worked with the facility and its contractor to clean the pavement and excavate the sand filter in the storm water sump.
August 2013	Fernley	Sewer force main break in Fernley caused 200 gallons of raw sewage to flow into a storm drain ditch. NDEP worked with the City of Fernley to ensure that the standing water was removed and the affected storm drain ditch was disinfected.
December 2014	Fernley	City of Fernley lift station failure caused 30,000 gallon spill of raw sewage onto soil. NDEP worked with the City of Fernley to ensure lift station repairs were completed and to ensure affected area was disinfected.
June 2016	Lyon County	A viral video surfaced showing employees dumping 55-gallon drums with unknown liquid contents through the chain-link fence of a facility. NDEP contacted EPA regarding the incident. The day the video surfaced, NDEP Bureaus of Corrective Actions, Water Pollution Control and Waste Management visited the facility to conduct inspections and inquire about the dumping. Subsequently, NDEP worked with EPA to conduct soil sampling outside the fence where the liquids were poured. Analytical results showed that the soil was not impacted with harmful chemicals. The facility was ordered to discontinue dumping drums through the fence and to provide documentation of all future disposal activities.

4.5.13.3 Extent and Probability

Probability of future hazardous materials events varies based on the type of accident considered. Based on the frequency of past incidents, particularly during transportation of hazardous materials. Potential for contact with hazardous materials is present throughout all areas of Lyon County, due to three main factors:

- The widespread distribution of hazardous materials storage locations (fixed facility);
- The transport of hazardous materials via motor transportation and rail (transportation); and
- The transport of hazardous materials via pipeline (pipeline).

Fixed Facility - Under Nevada State law (Nevada Administrative Code 477.323), entities may not store hazardous materials in quantities above a designated limit, unless permitted annually through the Department of Public Safety, State Fire Marshal's Division.

Title III of the Federal Superfund Amendments and Reauthorization Act is a freestanding statute titled the Emergency Planning and Community Right-To-Know-Act (EPCRA). Under EPCRA, certain businesses are required to annually export information about hazardous substances used and stored at their facilities. These reports, known as Tier II reports, are submitted to County Local Emergency Planning Committees (LEPCs), State Emergency Response Commissions (SERCs), and local fire departments.

EPCRA includes planning requirements for facilities that store or utilize any of the 355 chemicals known as Extremely Hazardous Substances (EHSs). Facilities that contain quantities of one or more EHSs above an amount that could pose a threat are considered emergency planning facilities and must notify SERCs and LEPCs of the chemicals' presence and assist with local emergency planning efforts as requested. Approximately one-third of the chemicals on the EHS list are also included in the list of materials designated as Hazardous Substances by the Comprehensive Environmental Response, Compensation, and Liability Act, which includes hundreds of other chemicals.

In the event of a release of a chemical above its reportable quantity (as designated by the Occupational Safety and Health Administration), responsible parties are required to notify the community emergency management coordinator for the LEPC and local emergency response agency of any areas likely to be affected by the release. SERC must also be notified.

Agriculture – Producers and agricultural facilities store hazardous materials such as gasoline, waste engine oil, fertilizers, pesticides, oxygen, acetylene, argon, carbon dioxide, propane and many other chemicals. Workers employed in the fertilizer storage, mixing/blending, and distribution industry with exposure to fertilizer-grade ammonium nitrate and agricultural anhydrous ammonium can face hazards that can lead to serious injury, illness and death, including fire and explosions, as well as exposure to toxic gases and hazardous chemicals.

Highway Transportation – Hazardous material events have the potential to occur along all major transportation routes including Interstate 80, U.S. 50, U.S. 95A. The commercial trucks that travel on 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.

Rail Transportation – Similar to highway transportation, rail cars commonly carry a variety of hazardous materials. Lyon County has two major rail networks, the Amtrack service on the Union Pacific (UP) Mainline that travels through Fernley along I-80 and the UP Hawthorne Branch that travels through Central Lyon County to the Depot in Hawthorne (Mineral County). The Hawthorne Branch carries military munition for storage at the Hawthorne Army Depot.

Mines/Abandoned Mines – Mitigation of historical mining sites such as the Carson River Mercury Site are often complex and may take many years to complete. In addition, due to historic hazardous materials practices prior to Federal, State and Local regulations and ordinances, future discovery events in Nevada are probable. In response to this possibility, the Abandoned Mine Lands Program (AML) was established within BCA to evaluate the potential human health and ecological concerns associated with contamination from legacy heavy metal mining operations by assessing AML throughout Nevada. The sites are evaluated and prioritized for future site restoration activities.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions have risk of hazardous materials incidents as they each have fixed facilities and major transportation routes with hazardous materials. Lyon County, Central Lyon County Fire Protection District, and Carson Water Subconservancy District monitor impacts from the Carson River Mercury Superfund Site. Lyon County, the City of Yerington, Walker River Irrigation District and Mason/Smith Valley Conservation Districts monitor the Anaconda Mine Superfund Site. Further, agricultural hazardous materials hazards are greater in the rural areas of Lyon County including within the City of Yerington, Yerington/Mason Valley Fire Protection District, Smith Valley Fire Protection District, Walker River Irrigation District, and Mason/Smith Valley Conservation District jurisdictions.

4.5.13.4 Potential Impact from Future Climate Conditions

While a direct relationship between hazardous materials events and climate change is tenuous, future extreme weather or fire events that occur as a secondary effect of climate change could trigger the release of hazardous materials harbored in storage facilities or en route on state or local roadways. The probability of increased frequency of hazardous materials events due to climate change is **low**.

4.5.13.5 Vulnerability by Participating Jurisdiction(s)

Hazardous materials incidents can be caused by a number of factors, including technological failures, natural hazards such as earthquakes or floods, and human factors. The County and local governments maintain records of hazardous materials storage sites in the Regional Hazardous Materials Response Plan and maintain communications with Nevada Highway Patrol regarding shipments of hazardous materials on all transportation routes throughout the County. Hazardous materials incidents can be caused by a number of factors. The region's most pressing vulnerability is presented by a transportation incident occurring on I-80, US 50, and/or US 95A highways. Many of the critical facilities and valuable assets are in close proximity to USA Parkway and the growing industrial parks in Dayton, Fernley, and Yerington.

NDEP regulates 1 Hazardous Waste Treatment, Storage and Disposal (TSD) facility located in Lyon County the City of Fernley, and North Lyon County Fire Protection District boundary. In addition, there are two US EPA designated superfund sites in Lyon County, the [Carson River Mercury Site](#) and the [Anaconda Copper Mine](#).

Table 4-63. Hazardous Materials Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from hazardous materials incidents are available. EPA Superfund site, mining operations, large agriculture producers and major transportation routes increase vulnerability in Lyon County for hazardous material spills. Lyon County may experience losses to labor and equipment and impacts to the County water/wastewater system.
City of Fernley	High	No estimates for potential losses/damages from hazardous materials incidents are available. Major manufacturing in the Fernley Industrial Park and major transportation routes increase vulnerability in the City of Fernley for hazardous material spills. Fernley also has history of

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
		significant spill events. The City of Fernley may experience losses to labor and equipment and impacts to the City's water/wastewater system.
City of Yerington	High	No estimates for potential losses/damages from hazardous materials incidents are available. EPA Superfund site, mining operations, large agriculture producers and major transportation routes increase vulnerability in the City of Yerington for hazardous material spills. The City of Yerington may experience losses to labor and equipment and impacts to the City's water/wastewater system.
CLCFPD	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. CLCFPD may experience losses to labor and equipment.
NLCFPD	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. NLCFPD may experience losses to labor and equipment.
MVFPD	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. MVFPD may experience losses to labor and equipment.
SVFPD	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. SVFPD may experience losses to labor and equipment.
CWSD	Moderate	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous materials incidents may impact the Carson River ecosystem. The Carson River Mercury Site is in the CWSD planning area.
WRID	High	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous Material spills threaten WRID water control and irrigation infrastructure, cascading effects to agriculture critical infrastructure.
M&SVCD	Low	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous materials incidents may impact the Walker River ecosystem and conservation district projects.

Economic / Supply Chain Emergency

4.5.14 Economic/Supply Chain Emergency

Table 4-64. Economic/Supply Chain Hazard Vulnerability Rating

Probability	Magnitude/ Severity	Frequency	Onset	Duration	TOTAL
Likely	1-5 Injuries/Deaths, Minor Damage	Once per year	5-30 Days warning	Weeks to months	HIGH 17

4.5.14.1 Hazard Description

A **supply chain** is the socio-technical network that identifies, targets, and fulfills demand for goods and services. Each day, individuals and families routinely receive critical goods and services such as water, food, pharmaceuticals, medical goods, power, and fuel from healthy, functioning supply chains. However, in times of disaster, even supply chains that were previously functioning well can experience significant disruption, generating acute life-safety challenges and quickly turning a disaster into a catastrophe. Supply chains that effectively adapt to disasters, disruptions, and fluctuating needs greatly benefit the community and can reduce the need for a larger response and recovery operation.

Supply chain resilience is the ability of a preexisting network of demand and supply to deploy surviving capacity, and/or introduce new capacity, under severe duress. It is the ability of a network, or portion of a network, to continue moving (directing, redirecting, flowing) goods and services even when important elements of the network are no longer operating. For example, the Supply Chain Resilience Guide 4 continued flow of water, food, and fuel while the electric power grid is not operating would be an expression of supply chain resilience.

4.5.14.2 History of Previous Hazards

The Great Depression 1929-1939

When the Great Depression struck an unprepared nation in 1929, Nevada was significantly impacted. The state's farmers and stock growers suffered as well. In 1932 alone, Nevada's gross revenue from livestock and crops plummeted from \$22.1 million to \$6.4 million. A newly appointed State Agricultural Relief Committee worked to obtain lower feed costs and shipping rates, but it was not enough to bail out the stockmen. At this juncture, Governor Fred Balzar appealed for federal aid.

Although many growers went bankrupt—their lands and stock taken over by East and West Coast moneyed interests—some did benefit from federal relief. When a crippling drought struck in 1934, the federal government poured huge sums of money into such projects as well-drilling, installation of windmills, cultivation of springs, and the purchase of undernourished sheep and cattle from stockmen impacted by the drought.

Source: Soodalter, Ron (2014) Nevada Magazine, After struggling to maintain momentum through the Great Depression, Nevadans are aided by the sinful schemes that supported the infamy of the Silver State.

2008 Great Recession

Of all economic recessions experienced by the United States in the postwar period, the Great Recession that began in 2008 was the deepest, longest, and most destructive. Nevada was among the hardest hit states, its people reeling from the aftereffects, and the state government also experiencing a severe fiscal crisis. Nevada faced a housing shut down, an unemployment rate that continued to climb and bleak revenue projections that served as the basis of the 2009-2011 biennial budget. The 2009 Nevada Legislature faced difficult decisions to resolve the budget deficit causing cascading effects to essential programs.

COVID-19 Pandemic Supply Chain Disruption 2020-2023

The global pandemic associated with the COVID-19 virus generated a shock to Nevada's economy as industries were recommended to close or adapt to limit the spread and exposure to the viral illness. Nevada's gaming and hospitality sector was largely impacted from the closures and a reduction in domestic and international tourism. Widespread panic and supply chain challenges caused supply chain shortages in staple items such as toilet paper and eggs. In 2023, the United States economy continues toward recovery.

4.5.14.3 *Extent and Probability*

Limited studies and data evaluating the extent and probability of potential economic/supply chain emergencies in Nevada are available. Major manufacturing, agriculture, health care and other essential services impacting community lifelines are most at-risk for potential supply chain emergencies in Lyon County and participating jurisdictions. The economy in Lyon County and participating jurisdictions is greatly influenced on a national and global scale by policy, environmental, and other factors. The probability Lyon County and participating jurisdictions will experience an economic/supply chain emergency by 2028 is **likely**.

Unique Hazard Risk by Participating Jurisdiction(s)

All participating jurisdictions may be impacted by supply chain disruption due to community isolation, impacts to transportation of goods and services. Jurisdictions with major industrial parks such as Lyon County, City of Fernley, City of Yerington, Central Lyon County Fire Protection District, North Lyon County Fire Protection District, Yerington/Mason Valley Fire Protection District, and Walker River Irrigation District will have greater challenges with supply chain disruption. Smith Valley Fire Protection District, Yerington/Mason Valley Fire Protection District, Lyon County, City of Yerington, Walker River Irrigation District, and Mason/Smith Valley Conservation Districts will be impacted by disruptions to agriculture supply chain. Commercial agriculture producers in these jurisdictions are considered critical to supply chain security. In addition, citizens and businesses in all participating jurisdictions will be impacted by food, water, and health care supply chain disruptions due to the impacts to community lifelines.

4.5.14.4 Vulnerability by Participating Jurisdiction(s)

Table 4-65. Economic/Supply Chain Vulnerability by Participating Jurisdiction(s)

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
Lyon County	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. Lyon County relies on tax revenues and County investments to provide essential services. Lyon County may experience budget decline and other losses during an economic/supply chain emergency.
City of Fernley	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. The City of Fernley relies on tax revenues and County investments to provide essential services. The City may experience budget decline and other losses during an economic/supply chain emergency.
City of Yerington	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. The City of Yerington relies on tax revenues and County investments to provide essential services. The City may experience budget decline and other losses during an economic/supply chain emergency.
CLCFPD	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. CLCFPD relies on tax revenues and investments to provide essential services. CLCFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, CLCFPD may face impacts to emergency medical/firefighting supplies shortages.
NLCFPD	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. NLCFPD relies on tax revenues and investments to provide essential services. NLCFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, NLCFPD may face impacts to emergency medical/firefighting supplies shortages.
MVFPD	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. MVFPD relies on tax revenues and investments to provide essential services. MVFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, MVFPD may face impacts to emergency medical/firefighting supplies shortages.
SVFPD	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. SVFPD relies on tax revenues and investments to provide essential services. SVFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, SVFPD may face impacts to emergency medical/firefighting supplies shortages.

Participating Jurisdiction	Vulnerability Rating	Vulnerability Summary
CWSD	Moderate	No estimates for potential losses/damages from economic/supply chain emergencies are available. CWSD may experience budgetary impacts during economic/supply chain emergencies.
WRID	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. WRID relies on revenues and investments from irrigators to provide essential services. WRID may experience budget decline and other losses during an economic/supply chain emergency.
M&SVCD	Moderate	No estimates for potential losses/damages from economic/supply chain emergencies are available. M&SVCDs may experience budgetary impacts during economic/supply chain emergencies.

CHAPTER 5: VULNERABILITY ASSESSMENT

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(ii)	B2. Does the plan include a summary of the jurisdiction’s vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods?

A vulnerability assessment estimates the extent of exposure that may result from specific hazard events of a given intensity in the HMP’s planning area. The assessment provides quantitative and qualitative data to identify and prioritize mitigation actions (identified in Chapter 7). According to the DMA 2000, the vulnerability assessment should include potential impacts of each of the identified hazards on each participating jurisdiction.

To improve the readability of the HMP, vulnerability assessments have been incorporated into each hazard profile (Identified in Chapter 4), where appropriate. Summaries of vulnerability by participating jurisdiction are provided in Section 5.1.

5.1 Jurisdictional Vulnerability Summaries

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(ii)	B2-a. Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards?

5.1.1 Lyon County Vulnerability Summary

Table 5-1 summarizes Lyon County’s vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-1. Lyon County Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	High	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airports, schools, businesses and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day. Heightened vulnerability during general election cycles. Lyon County houses the Lyon County Sheriff’s Office which will likely have the greatest labor, equipment, and material losses during a criminal activity/terrorism incident.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Severe Storm/ Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, Lyon County has received public assistance for severe storms. Severe storms and extreme snowfall may impact critical infrastructure and Lyon County will likely have costs associated with labor, equipment, and materials.
Landslide	High	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in Lyon County. Lyon Co. was impacted by previous occurrences/history of landslides (Wilson Canyon) causing community isolation and disruption to community lifelines.
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Lyon County received federal COVID-relief CARES Act and American Rescue Plan Act funding.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, Lyon County is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for County transportation infrastructure (roads and airport). Likely to have labor, equipment, and materials costs.
Technological Hazards	High	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure. Lyon County will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
Flood	High	High	Has received public assistance for multiple major flood declarations (most recently 2017 and 2023). Lyon County experienced damages to critical infrastructure (roads, culverts, utilities and parks) and incurred expenses related to emergency protective measures, labor, equipment, and materials during recent flood responses. County-owned facilities at risk of flood inundation.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Water/ Wastewater Emergencies	High	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, Lyon County Utilities will have risk to water/wastewater critical infrastructure and labor, equipment, and material expenses related to water/wastewater hazards.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, Lyon County has a high vulnerability for potential losses from drought due to disruptions to community lifelines. Lyon County may experience labor, equipment and material losses.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to Lyon County facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. Lyon County may experience losses related to labor, equipment, infrastructure and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. EPA Superfund site, mining operations, large agriculture producers and major transportation routes increase vulnerability in Lyon County for hazardous material spills. Lyon County may experience losses to labor and equipment and impacts to the County water/wastewater system.
Economic/ Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. Lyon County relies on tax revenues and County investments to provide essential services. Lyon County may experience budget decline and other losses during an economic/supply chain emergency.

5.1.2 City of Fernley Vulnerability Summary

Table 5-2 summarizes the City of Fernley's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-2. City of Fernley Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, schools, businesses and other critical infrastructure in jurisdictional boundary. Mass gathering event(s) drawing 1,000+ participants per day.
Wildland Fire	Very High	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Severe Storm/ Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact critical infrastructure and the City of Fernley will likely have costs associated with labor, equipment, and materials.
Landslide	High	Low	No estimates for potential losses/damages from landslides are available. However, there are few areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Fernley. City may experience impacts to labor, equipment, and material due to landslide incidents.
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. The City of Fernley received federal COVID-relief CARES Act and American Rescue Plan Act funding.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, City of Fernley is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for City transportation infrastructure (roads). Likely to have labor, equipment, and materials costs.
Technological Hazards	High	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure. The City of Fernley will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
Flood	High	High	Has received public assistance for major flood declaration (2008). City of Fernley experienced damages to critical infrastructure (water/wastewater) and incurred expenses related to emergency protective measures, labor, equipment, and materials during flood response.
Water/ Wastewater Emergencies	High	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, City of Fernley will have risk to water/wastewater critical infrastructure and labor, equipment, and material expenses related to water/wastewater hazards.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Drought	High	High	No estimates for potential losses/damages from drought are available. However, City of Fernley has a high vulnerability for potential losses from drought due to disruptions to community lifelines. City of Fernley may experience labor, equipment and material losses.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to the City of Fernley facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. The City of Fernley may experience losses related to labor, equipment, infrastructure and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Major manufacturing in the Fernley Industrial Park and major transportation routes increase vulnerability in the City of Fernley for hazardous material spills. Fernley also has history of significant spill events. The City of Fernley may experience losses to labor and equipment and impacts to the City's water/wastewater system.
Economic/Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. The City of Fernley relies on tax revenues and County investments to provide essential services. The City may experience budget decline and other losses during an economic/supply chain emergency.

5.1.3 City of Yerington Vulnerability Summary

Table 5-3 summarizes the City of Fernley's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-3. City of Yerington Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day. City Police Department will likely have labor, equipment, and material losses during a criminal activity/terrorism incident.
Wildland Fire	Very High	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. May have labor, equipment, and material losses during a wildfire incident.
Severe Storm/Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
			snowfall. However, severe storms and extreme snowfall may impact critical infrastructure and the City of Yerington will likely have costs associated with labor, equipment, and materials.
Landslide	High	Moderate	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Yerington. City of Yerington may have impacts from a landslide in Wilson Canyon (impacts to workforce)
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Large migrant worker population may increase the potential exposure to epidemics/infectious diseases. There is also a hospital and 2 long-term care facilities located in the City of Yerington. The City of Yerington received federal COVID-relief CARES Act and American Rescue Plan Act funding.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, City of Yerington is likely to experience labor, equipment, and material losses due to staffing warming/cooling shelters for medically fragile during energy emergencies. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for law enforcement services. There is risk to impacts for City transportation infrastructure (roads). Likely to have labor, equipment, and materials costs.
Technological Hazards	High	Moderate	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure. The City of Yerington will likely experience losses related to infrastructure, labor, equipment and materials during a technological hazard.
Flood	High	High	Has received public assistance for major flood declaration. City of Yerington experienced damages to critical infrastructure (water, wastewater) and incurred expenses related to emergency protective measures, labor, equipment, and materials during recent flood responses. City-owned facilities at risk of flood inundation.
Water/ Wastewater Emergencies	High	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, City of Yerington will have risk to water/wastewater critical infrastructure and labor, equipment, and material expenses

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
			related to water/wastewater hazards. History of inflow and inundation during high water years and floods.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, City of Yerington has a high vulnerability for potential losses from drought due to disruptions to community lifelines. City of Yerington may experience labor, equipment and material losses.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to the City of Yerington facilities and utilities infrastructure. Earthquakes may also cause disruption to community lifelines. The City of Yerington may experience losses related to labor, equipment, infrastructure and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. EPA Superfund site, mining operations, large agriculture producers and major transportation routes increase vulnerability in the City of Yerington for hazardous material spills. The City of Yerington may experience losses to labor and equipment and impacts to the City's water/wastewater system.
Economic/Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. The City of Yerington relies on tax revenues and County investments to provide essential services. The City may experience budget decline and other losses during an economic/supply chain emergency.

5.1.4 Central Lyon County Fire Protection District (CLCFPD) Vulnerability Summary

Table 5-4 summarizes CLCFPD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-4. CLCFPD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Severe Storm/ Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
Landslide	High	Moderate	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in the District (i.e., Silver City). CLCFPD may experience impacts to labor, equipment, and material due to landslide incidents.
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
Technological Hazards	High	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. CLCFPD may experience losses to labor and equipment.
Flood	High	Moderate	Areas with high-risk of flooding to buildings identified in CLCFPD jurisdiction in both North and South Dayton Drainage Area Master Plans contributing to the moderate vulnerability. CLCFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
Water/ Wastewater Emergencies	High	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will impact demand for CLCFPD fire/EMS services.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, CLCFPC has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to CLCFPD infrastructure and create a demand for fire/EMS services. CLCFPD may experience losses related to labor, equipment and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. CLCFPD may experience losses to labor and equipment.
Economic/Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. CLCFPD relies on tax revenues and investments to provide essential services. CLCFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, CLCFPD may face impacts to emergency medical/firefighting supplies shortages.

5.1.5 North Lyon County Fire Protection District (NLCFPD) Vulnerability Summary

Table 5-5 summarizes the NLCFPD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-5. NLCFPD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
Severe Storm/Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
Landslide	High	Low	No estimates for potential losses/damages from landslides are available. However, there are few areas with loose fill material, burn scars, and unstable slopes prone to landslides in City of Fernley. City may experience impacts to labor, equipment, and material due to landslide incidents.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
Technological Hazards	High	High	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. NLCFPD may experience losses to labor and equipment.
Flood	High	Moderate	Has not received public assistance for major flood declaration; however, NLCFPD infrastructure would be impacted by major flood inundation in the City of Fernley. NLCFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
Water/ Wastewater Emergencies	High	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for NLCFPD fire/EMS services.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, NLCFPC has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to NLCFPD infrastructure and create a demand for fire/EMS services. NLCFPD may experience losses related to labor, equipment and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. NLCFPD may experience losses to labor and equipment.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Economic/ Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. NLCFPD relies on tax revenues and investments to provide essential services. NLCFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, NLCFPD may face impacts to emergency medical/firefighting supplies shortages.

5.1.6 Mason Valley Fire Protection District Vulnerability Summary

Table 5-6 summarizes the MVFPD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-6. MVFPD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary. Mass gathering event(s) drawing 1,000+ participants per day.
Wildland Fire	Very High	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
Severe Storm/ Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
Landslide	High	Moderate	No estimates for potential losses/damages from landslides are available. However, MVFPD may experience impacts to labor, equipment, and material due to landslide incidents.
Epidemic/ Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
Technological Hazards	High	Moderate	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. MVFPD may experience losses to labor and equipment.
Flood	High	High	Has not received public assistance for major flood declaration; however, MVFPD infrastructure would be impacted by major flood inundation on the Walker River and to the City of Yerington. MVFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
Water/Wastewater Emergencies	High	Moderate	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for MVFPD EMS services.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, MVFPD has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to MVFPD infrastructure and create a demand for fire/EMS services. MVFPD may experience losses related to labor, equipment and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. MVFPD may experience losses to labor and equipment.
Economic/Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. MVFPD relies on tax revenues and investments to provide essential services. MVFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, MVFPD may face impacts to emergency medical/firefighting supplies shortages.

5.1.7 Smith Valley Fire Protection District Vulnerability Summary

Table 5-7 summarizes the SVFPD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-7. SVFPD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Low	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, airport, agriculture, schools and other critical infrastructure in jurisdictions boundary.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings High and/or Previous Occurrence/History of major wildfire in jurisdictional boundary. Will have the greatest labor, equipment, and material losses during a wildfire incident.
Severe Storm/Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact District infrastructure and create a demand for fire/EMS services.
Landslide	High	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in District and SVFPD was impacted by previous occurrences/history of landslides (Wilson Canyon) causing community isolation and disruption to community lifelines. SVFPD may experience impacts to labor, equipment, and material due to landslide incidents.
Epidemic/Infectious Disease	High	High	No estimates for potential losses/damages from epidemics/infectious diseases are available. However, based on the previous occurrences and the range of potential diseases, the jurisdiction's vulnerability to losses due to epidemics/infectious disease hazards is high. Fire/EMS agencies are on the frontlines of epidemic/infectious disease response increasing potential exposure to infectious diseases.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies create a demand for EMS services for electricity-dependent population. Impacts to electricity-dependent critical infrastructure and generators/back-up power.
Transportation Incident	High	High	No estimates for potential losses/damages from transportation incidents are available. However, major transportation incidents create a demand for Fire/EMS services. Fire Protection Districts will have labor, equipment, and material costs.
Technological Hazards	High	Moderate	No estimates for potential losses/damages from technological hazards are available. However, major technological hazards can cause disruptions to community lifelines and critical infrastructure creating a demand for Fire/EMS services. SVFPD may experience losses to labor and equipment.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Flood	High	High	Has not received public assistance for major flood declaration; however, SVFPD infrastructure would be impacted by major flood inundation on the Walker River. SVFPD may experience costs related to labor, equipment, and materials during a flood response within the District.
Water/ Wastewater Emergencies	High	Low	No estimates for potential losses/damages from water/wastewater emergencies are available. However, disruption will increase demand for SVFPD EMS services.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, SV has a high vulnerability for potential losses from drought due to disruptions to community lifelines causing a demand for fire/EMS services. Drought also can cause cascading effects impacting wildfire risk.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, earthquakes pose a threat to SVFPD infrastructure and create a demand for fire/EMS services. SVFPD may experience losses related to labor, equipment and materials.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Fire/EMS is first responders to hazardous materials spills. SVFPD may experience losses to labor and equipment.
Economic/ Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. SVFPD relies on tax revenues and investments to provide essential services. SVFPD may experience budget decline and other losses during an economic/supply chain emergency. In addition, SVFPD may face impacts to emergency medical/firefighting supplies shortages.

5.1.8 Carson Water Subconservancy District Vulnerability Summary

Table 5-8 summarizes the CWSD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-8. CWSD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Low	CWSD does not have any infrastructure that would be impacted by potential losses associated with criminal acts and terrorism.
Wildland Fire	Very High	Moderate	Communities with CAT Assessment ratings Moderate in jurisdictional boundary. Does not have infrastructure that may experience damages from wildland fire.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Severe Storm/ Extreme Snow	High	Moderate	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact Carson River infrastructure.
Landslide	High	Low	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in CWSD jurisdiction with potential to damage and limit access to infrastructure in the Carson River watershed.
Epidemic/ Infectious Disease	High	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. CWSD has limited interaction with the general public; however the jurisdiction is in proximity to transient tourist destinations and may delay planning projects on the Carson River Watershed.
Energy Emergency	High	Moderate	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact water control facilities and other critical infrastructure.
Transportation Incident	High	Low	No estimates for potential losses/damages from transportation incidents are available. Transportation incidents may cause limited access to ditches, drains, reservoirs, and other water control infrastructure.
Technological Hazards	High	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as water control facilities; however, the probability is low of a technological incident in the District.
Flood	High	High	Has not received public assistance for major flood declaration. Infrastructure and projects on the Carson River and identified in the Floodplain Management plan may be impacted or lost during a major flood.
Water/ Wastewater Emergencies	High	Low	No estimates for potential losses/damages from water/wastewater emergencies are available.
Drought	High	Moderate	No estimates for potential losses/damages from drought are available. Drought conditions may impact the Carson River Watershed ecosystem and CWSD may experience losses to projects and planning capabilities.
Earthquake	High	Moderate	No estimates for potential losses/damages from earthquakes are available. Earthquakes may disrupt the Carson River ecosystem and cause losses related to planning projects.
Hazardous Materials	High	Moderate	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous materials incidents may impact the Carson River ecosystem. The Carson River Mercury Site is in the CWSD planning area.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Economic/ Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. CWSD may experience budgetary impacts during economic/supply chain emergencies.

5.1.9 Walker River Irrigation District

Table 5-9 summarizes the WRID's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-9.WRID Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Moderate	No estimates are available to determine potential losses associated with criminal acts and terrorism. However, government facilities, water control infrastructure, reservoirs, agriculture, and other critical infrastructure in jurisdictions boundary.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings Moderate and High in jurisdictional boundary. WRID infrastructure that may experience damages from wildland fire. Wildland fires may limit access to water control facilities causing cascading effects.
Severe Storm/ Extreme Snow	High	High	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, WRID has received public assistance for severe storms. Severe storms and extreme snowfall may impact critical infrastructure and WRID will likely have costs associated with labor, equipment, and materials.
Landslide	High	High	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in WRID jurisdiction with potential to damage and limit access to water control infrastructure (i.e.; Hoyer Canyon)
Epidemic/ Infectious Disease	High	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. WRID has limited interaction with the general public resulting in low vulnerability; however the jurisdiction is in proximity to transient tourist destinations and has a large migrant worker population.
Energy Emergency	High	High	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact water control facilities and other critical infrastructure.
Transportation Incident	High	Moderate	No estimates for potential losses/damages from transportation incidents are available. Transportation incidents may cause limited access to ditches, drains, reservoirs, and other water

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
			control infrastructure. In addition, WRID may experience costs and damages to ditch, drains, canals owned by the District that travel through roadways (and cascading effects such as vehicles/contaminants in waterways)
Technological Hazards	High	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as water control facilities; however, the probability is low of a technological incident in the District.
Flood	High	High	Has received public assistance for major flood declaration (2017 and 2023) for damages to WRID infrastructure and incurred labor, equipment, and material expenses.
Water/Wastewater Emergencies	High	High	No estimates for potential losses/damages from water/wastewater emergencies are available. However, water/wastewater emergencies may impact water used for irrigation and controlled by the District. If so, WRID may be impacted with labor, equipment, and material losses.
Drought	High	High	No estimates for potential losses/damages from drought are available. However, WRID has a high vulnerability to potential losses from drought to irrigation infrastructure and the agriculture community lifelines.
Earthquake	High	High	No estimates for potential losses/damages from earthquakes are available. However, vulnerability to WRID water control infrastructure such as canals, ditches, drains and reservoirs is high. WRID may also experience losses related to labor and equipment.
Hazardous Materials	High	High	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous Material spills threaten WRID water control and irrigation infrastructure, cascading effects to agriculture critical infrastructure.
Economic/Supply Chain	High	High	No estimates for potential losses/damages from economic/supply chain emergencies are available. WRID relies on revenues and investments from irrigators to provide essential services. WRID may experience budget decline and other losses during an economic/supply chain emergency.

5.1.10 Mason & Smith Valley Conservation Districts Vulnerability Summary

Table 5-10 summarizes the M&SVCD's vulnerability rating by hazards profiled in the 2023 HMP.

Table 5-10. M&SVCD Vulnerability Summary

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Criminal Acts/Terrorism	Very High	Low	M&SVCD does not have any infrastructure that would be impacted by potential losses associated with criminal acts and terrorism.
Wildland Fire	Very High	High	Communities with CAT Assessment ratings Moderate and High in jurisdictional boundary.
Severe Storm/Extreme Snow	High	Moderate	No estimates for potential losses/damages are available due to the high variability in impacts from severe storms and extreme snowfall. However, severe storms and extreme snowfall may impact M&SVCD infrastructure.
Landslide	High	Low	No estimates for potential losses/damages from landslides are available. However, there are areas with loose fill material, burn scars, and unstable slopes prone to landslides in M&SVCD jurisdiction with potential to damage and limit access to infrastructure.
Epidemic/Infectious Disease	High	Low	No estimates for potential losses/damages from epidemics/infectious diseases are available. M&SVCD has limited interaction with the general public resulting in low vulnerability; however the jurisdiction is in proximity to transient tourist destinations and has a large migrant worker population.
Energy Emergency	High	Moderate	No estimates for potential losses/damages from energy emergencies are available. However, energy emergencies may impact critical infrastructure.
Transportation Incident	High	Low	No estimates for potential losses/damages from transportation incidents are available.
Technological Hazards	High	Low	No estimates for potential losses/damages from technological hazards are available. Major technological hazards can cause disruptions to community lifelines and critical infrastructure such as water control facilities; however, the probability is low of a technological incident impacting M&SVCD.
Flood	High	Moderate	Has not received public assistance for major flood declaration. Infrastructure and projects on the Walker River may be impacted or lost during a major flood.
Water/Wastewater Emergencies	High	Low	No estimates for potential losses/damages from water/wastewater emergencies are available.
Drought	High	Moderate	No estimates for potential losses/damages from drought are available. Drought conditions may impact the Walker River ecosystem and the conservation districts may experience losses related to projects.
Earthquake	High	Moderate	No estimates for potential losses/damages from earthquakes are available. Earthquakes may disrupt the Walker River ecosystem and cause losses related to planning projects.

Hazard	Hazard Ranking	Vulnerability Rating	Damages and Description
Hazardous Materials	High	Low	No estimates for potential losses/damages from hazardous materials incidents are available. Hazardous materials incidents may impact the Walker River ecosystem and conservation district projects.
Economic/Supply Chain	High	Moderate	No estimates for potential losses/damages from economic/supply chain emergencies are available. M&SVCDs may experience budgetary impacts during economic/supply chain emergencies.

5.2 Identifying Critical 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, the Cities and participating entities and fulfilling important public safety, emergency response, and disaster recovery functions. They are identified in Table 6-3.

Critical infrastructure is defined as infrastructure that is essential to preserve the quality of life and safety in the County. Existing County and City roads were not critical to evacuation or response. Critical infrastructure are located in *Appendix F – Lyon County Tables*.

5.3 Asset Inventory

Regional assets that may be affected by hazards include the regional population, properties, and utilities and infrastructure.

5.3.1 Population and Building Stock

Population data for the County and City was obtained from the NV State Demographer estimate of 2022 and shown in Table 5-11. 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 5-11, were obtained from the County Assessor's office and were verified by photo and by parcel data. To achieve a value, the net assessed value was not used due to the value being a depreciated value and not reflective of replacement cost, therefore the building count was multiplied by an average replacement value of \$141,000, which represents a 1,200 sq. ft. home at \$116/sq. ft. building cost.

Table 5-11. Estimated Population and Building Stock

Population	Residential Buildings		Nonresidential Buildings	
NV Demographer Projected 2022 Population	Total Building County	Total Value of Buildings (in millions)	Total Building County	Total Value of Buildings (in millions)
Lyon County				
60,454	23,751	8,810	2,377	2,870
City of Fernley				
23,210	8,166	3,424	303	1,239
City of Yerington				
3,423	1,631	283	260	335

5.4 Data Limitations

Due to a lack of data, numerous risk assessments relied on limited and/or qualitative analyses of risk. The risk assessments provided within this section used the best available data and methodologies to estimate risk. However, large gaps exist within the available datasets, and that impacted the ability to provide, with full certainty, accurate estimations of several hazard concerns.

5.5 Repetitive Loss Properties

 FEMA REQUIREMENT 44 CFR §201.6(c)(2)(ii)	B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?

Lyon County and the Cities of Fernley and Yerington participate in the National Flood Insurance Program (NFIP); however, there are no repetitive loss properties in Lyon County. Therefore, repetitive loss properties are not included in the vulnerability analysis.

5.6 Exposure Assessment

Impacts associated with identified hazards are outlined in the Chapter 4.

Note: Not all considered hazards can be mapped for vulnerability. Risk assessments for hazards that cannot be mapped rely upon qualitative data.

5.7 Community Lifelines

Beyond just buildings, community lifelines are critical for life safety and economic vitality. The operation of these lifelines and facilities during and after a disaster is crucial. Their ability to keep functioning affects both the severity of the impacts and the speed of recovery. The National Response Framework identifies eight community lifelines.

Figure 5-12. Community Lifelines



CHAPTER 6: CAPABILITY ASSESSMENT

 FEMA REQUIREMENT 44 CFR §201.6(c)(3)	C1. Does the plan document each participant’s existing authorities, policies, programs, and resources and its ability to expand on and improve these existing policies and programs?

Chapter 6 identifies the County’s existing mitigation capabilities. These are the resources, plans and policies, programs, and projects that are currently in place to reduce the County’s vulnerability to hazards. It also includes key mitigation accomplishments that have been completed since the last plan update in 2019. As mitigation actions identified in the County’s mitigation strategy (Chapter 7) are completed, they become new mitigation capabilities.

6.1 Legal and Regulatory Capabilities

The County, Cities and participating entities currently support hazard mitigation through their regulations, plans, and public outreach 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 6.7.

 FEMA REQUIREMENT 44 CFR §201.6(c)(3)	C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?

The following table, **Table 6-1**, summarizes the County’s and Cities’ hazard mitigation legal and regulatory capabilities. Regulatory plans identified below provide ongoing opportunity for integration of hazard mitigation. The County, Cities, and participating entities will work with stakeholders when these plans are updated to consider hazard mitigation data and principles and ensure plans align with the regional HMP.

Table 6-1 Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Title	Participating Entity/ Jurisdiction	Effect on Hazard Mitigation
Plans	Lyon County Master Plan	Lyon County	Adopted 2020. Provides the overall foundation and framework for directing the county's future growth and development. The Master Plan is a roadmap for Lyon County as it continues to grow and evolve. The Master Plan helps guide day-to-day decision-making, short-term actions, and longer-term initiatives and strategies including mitigation activities.
	City of Fernley Comprehensive Master Plan	City of Fernley	Adopted 2018. Guides decision-making regarding the physical development of the City.
	Lyon County Emergency Operations Plan	Lyon County City of Fernley City of Yerington CLCFPD MVFPD NLCFPD SVFPD WRID	Updated 2010. Provides an all-hazards approach to responding to emergencies and disasters in the community. The plan integrates concepts from all phases of emergency management, including mitigation and prevention, preparedness, response and recovery. The plan integrates the following hazard mitigation strategies: • Integrate with local, regional, and statewide hazard mitigation plans • Address accessing mitigation grant and insurance programs, including the National Flood Insurance Program • Prioritize property preservation and protect critical infrastructure • Utilize the recovery period to institute and invest in mitigation strategies
Plans	Drainage Area Master Plans	Lyon County CWSD WRID MSVCD	Lyon County is working to develop drainage area master plans in the Carson River and Walker River watersheds to 1) evaluate and identify flooding and sediment hazards, 2) develop a series of alternatives to either partially or wholly mitigate hazards identified, and 3) provide stakeholder and public outreach to inform of existing hazards and present mitigation alternatives. Lyon County currently has completed Drainage Area Master Plans for the North Dayton (2019) and South Dayton Valley (2020). As of 2023, Lyon County is in the process of completed Drainage Area Master Plans for the areas of Stagecoach and Silver Springs, NV. In addition, Lyon County is working on a flood threat analysis on the Walker River Basin, the first step toward a Drainage Area Master Plan.
	Carson River Geographic Response Plan	Lyon County CWSD	Establishes the emergency response organization for hazardous materials incidents occurring within the Carson River watershed.

Regulatory Tool	Title	Participating Entity/ Jurisdiction	Effect on Hazard Mitigation
	Carson River Watershed Discovery Report	Lyon County CWSD	Provides flood hazard identification and mitigation measures within the Carson River Watershed.
	Carson River Watershed Floodplain Management Plan	Lyon County CWSD	Completed 2018. This plan provides strategies for floodplain management that can be applied regionally as well as locally. Carson Water Subconservancy District is leading the update to the Carson River Watershed Floodplain Management Plan (due to be finalized Fall 2024).
	Walker River Geographic Response Plan	Lyon County WRID MVFPD M&SVCD	Establishes the emergency response organization for hazardous materials incidents occurring within the Walker River watershed.
	Lyon County Community Wildfire Protection Plan (CCWP)	Lyon County CLCFPD MVFPD NLCFPD SVFPD NDF	Updated 2023. The purpose of the 2023 CWPP Update is to serve as a framework for a comprehensive long-term resiliency plan used to prioritize future wildfire protection projects and foster a collaborative approach with adjacent neighborhoods and jurisdictions.
Programs	National Flood Insurance Program	Lyon County City of Fernley City of Yerington	Lyon 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.
	Fire Prevention	Lyon County City of Fernley City of Yerington CLCFPD MVFPD NLCFPD SVFPD	Fire Prevention includes plan reviews of new construction and tenant improvements, business and occupancy inspections and fire code compliance reviews. While not as exciting as kicking in the door and spraying water firefighting, it provides a level of reassurance. When parents living in our communities send their children off to school they can be assured their facility is constructed to the exact requirements of the International Fire Code, the teachers have been drilled on emergency evacuation, the fire alarms work, the sprinkler system works, the fire hydrants function and fire apparatus and personnel can get there quickly.
	Defensible Space	Lyon County City of Fernley City of Yerington CLCFPD MVFPD NLCFPD SVFPD	A properly designed defensible space can provide our firefighters with a safe place from which to defend your home from an approaching wildland fire. At the same time, homes with adequate defensible space are more likely to survive a wildland fire, even without firefighter assistance. Remove dead or flammable vegetation. Reduce vegetation by pruning or mowing. Providing space between plants and trees removes the continuous fuel bed that might otherwise exist throughout your yard.

Regulatory Tool	Title	Participating Entity/ Jurisdiction	Effect on Hazard Mitigation
	Fuels Management	Lyon County City of Fernley City of Yerington CLCFPD MVFPD NLCFPD SVFPD WRID MSVCD	The goal of this program is to assist homeowners in clearing yards and neighborhoods of debris to significantly reduce any threats to homes in high fire hazard areas. This program offers as a community service to assist our residents in making their homes safer from the threat of wildfire and creating defensible space.
Ordinances and Policies	Building Code Title 19, 24, & 25 (CBC 2013 & its appurtenances)	Lyon County	Master Plan, Land Use Plan Element. Provides regulations to reduce hazard impact.
	Zoning Ordinances	Lyon County	
	Lyon County Development Standards	Lyon County	Subdivision ordinance or regulations, wildfire ordinances, hazard set back requirements, well and on-site wastewater standards.
	Roadway, Driveway, and Lane Standards	Lyon County	Provides development standards to mitigate floods in the roadways and access for emergency personal
	Utility District Development Standards	Lyon County	Water and wastewater standards.
Codes	International Fire Code 2018 edition	Lyon County City of Fernley City of Yerington CLCFPD MVFPD NLCFPD SVFPD	Regulates and governs the safeguarding of life and property for Fire Hazard.

6.2 Administrative and Technical Capabilities

The administrative and technical capability assessment identifies the staff and personnel resources available within the County, Cities, and participating entities to engage in mitigation planning and carry out mitigation projects.

Table 6-2. Administrative and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department / Agency
Emergency Manager(s) or emergency management personnel with understanding of natural, man-made, or technological hazards	Emergency Management
Planner(s) or engineer(s) with knowledge of land development and land management practices	Planning & Public Works
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Building & Public Works
Planner(s) Fire District personnel or engineer(s) with an understanding of manmade or natural hazards	Building, Planning, Fire Districts, Emergency Management, Public Health Emergency Preparedness
Staff with education or expertise to assess the community's vulnerability to hazards	Building, Fire Districts, Public Works
Floodplain manager	Community Development
Personnel skilled in GIS and/or HAZUS-MH	GIS Program, Community Development
Emergency Services	Sheriff's Department
Finance (purchasing) – Fiscal Management	Finance Department
Public Information Officers, Planner(s), Fire District Chief	Administration, Planning, Fire Districts

6.3 Financial Capabilities

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

Financial Resources	Effect on Hazard Mitigation
Local	
Authority to levy taxes for specific purposes.	Yes. Upon approval of the Board of Commissioners, staying within the stipulations set forth in Nevada Code.
Capital Improvement Plans and Fire Impact Fees	Assigns impact development fees to finance fire control capital improvement programs.
Community Development Block Grants	Yes. Subject to grant from Fed/State.
Capital Improvement Project funding	Yes. Budgets.
Fees for water, sewer, gas or electric service	Yes, for utility districts and private entities.
Incur debt through general obligation bonds	Yes. Upon voter approval, staying within the stipulations set forth in Nevada Code.
Incur debt through special tax and revenue bonds	Yes. Upon voter approval, staying within the stipulations set forth in Nevada Code.

Financial Resources	Effect on Hazard Mitigation
Incur debt through private activity bonds	Yes. Upon voter approval, staying within the stipulations set forth in Nevada Code.
Withhold spending in hazard-prone areas	Yes.
HMGP, FMA, PDM Grants	Yes. Subject to grant from Fed/State.

6.4 Current Mitigation Capabilities & Analysis

 FEMA REQUIREMENT 44 CFR §201.6(c)(3)	C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?

Table 6-3 identifies Lyon County's ability to expand and improve the identified capabilities to achieve mitigation.

Table 6-3 Lyon County Mitigation Capability Assessment

Agency Name (Mission/ Function)	Programs, Plans Policies, Regulations, Funding, or Practices	Point of Contact Position and Phone	Ability to Expand and Improve Identified Capabilities			Comments
			Support	Facilitate	Hinder	
Building	Code Enforcement, Permitting, Flood Plain Mgmt.	Community Development Director (775) 463-6591	√			Engineering and Flood Management
Planning	Floodplain Management Economic Development	Sr. Planner(s) (775) 463-6591	√			Planning Support and Flood Management
Roads	Roads and Improvements in County ROW	Roads Director (775) 246-6220	√			Construction/Culverts/Storm Drainage
Utilities & Capital Projects	Water, Sewer, Capital projects, building maintenance, parks	Utilities Director (775) 246-6220 Facilities Director (775) 463-6551	√			Engineering, detailed knowledge of infrastructure and Storm Drainage
Emergency Management	Emergency Management Mitigation Plan	Emergency/ Communications Mgr. (775) 344-8325	√	√		Familiar with Mitigation Grants, knowledge of Vulnerability
Fire Districts and Volunteers	Fuels mitigation, public education,	Central Lyon Co Fire; (775) 246-6209 Mason Valley Fire; (775) 463-6535 North County Fire. (775) 575-	√			Detailed knowledge of vulnerability

		3310 Smith Valley Fire (775) 465-2577				
School District	Identify and implement mitigation actions for school property	District Mgr. (775) 291-7444	√			Familiar w/school district infrastructure
Health/Human Services	Human Services, Behavioral Health, Public Health Officer	Human Services Director (775) 577-5009	√			Familiar w/ epidemic and CDC grants, health capability
Information Technology	Information Technology, Radios, Cybersecurity	IT Director (775) 463-6510				
Sheriff's Office	Public Safety	Sheriff 775-463-6600	√			Familiar w/ criminal acts mitigation

The programs, plan, policies and regulations listed above provide a basic framework for mitigation projects. These programs cover the County's infrastructure and program needs and are effective. However, the funding for mitigation projects may not always be available. The County does have strong legal, administrative and financial capabilities in relation to smaller rural counties within Nevada. The County, is able to enforce the International Building Code & International Fire Code, Building Code Title 11 and 12 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. For the remaining participating jurisdictions, current mitigation programs, projects, and plans, are shown in Table 6-4 below.

Table 6-4. Participating Jurisdictions Mitigation Capability Assessment

Agency Name (Mission/ Function)	Programs, Plans Policies, Regulations, Funding, or Practices	Point of Contact Position and Phone	Ability to Expand and Improve Identified Capabilities			Comments
			Support	Facilitate	Hinder	
City of Fernley	City Master Plan, Permitting, Floodplain Mgmt, Roads and Utilities Improvements, Facilities maintenance	Deputy City Manager (775) 344-8325 Public Works Director (775) 344-8325	√			Planning & support, engineering, detailed knowledge of infrastructure, construction/culverts, drainage
City of Yerington	City Master Plan, Permitting, Floodplain Mgmt, Roads and Utilities Improvements, Facilities	City Manager (775) 463-3511 Public Works Director (775) 463-3511	√			Planning & support, engineering, detailed knowledge of infrastructure, construction/culverts, drainage

CLCFPD	Fuels mitigation, public education, CWPP	Chief (775) 246-6209	√			Detailed knowledge of vulnerability
MVFPD	Fuels mitigation, public education, CWPP	Chief (775) 463-6535	√			Detailed knowledge of vulnerability
NLCFPD	Fuels mitigation, public education, CWPP	Chief (775) 575-3310	√			Detailed knowledge of vulnerability
SVFPD	Fuels mitigation, public education, CWPP	Chief (775) 465-2577	√			Detailed knowledge of vulnerability
Walker River Irrigation District	Ditches/Rivers/Canals	General Manager (775) 463-3523	√			Control Flood Ditches/Rivers and Channels
Carson Water Subconservancy District	Carson River	General Manager (775) 887-7450	√	√		Planning support for floodplain mitigation
Mason and Smith Valley Conservation Districts	Walker River	Districts Manager (775) 463-2265	√			Planning support for floodplain mitigation

6.5 Continuity of Operations Planning

Continuity of government and continuity of operations planning is an integral piece to any mitigation program. Ensuring that partner agencies have the ability to operate following an incident immediately mitigates the magnitude of many hazards. The region has contract support for continuity of operations planning. All partners participate in this program, and plans are updated on an annual basis.

6.6 National Flood Insurance Program Participation

 FEMA REQUIREMENT §201.6(c)(3)	C2. Does the Plan address [Lyon County's] participation in the NFIP and continued compliance with NFIP requirements, as appropriate? C2-a. Does the plan contain a narrative description or a table/list of the participation activities?

All NFIP participating jurisdictions are required to meet the minimum standards set forth in the program. The jurisdictions' NFIP coordinator ensures all new construction projects are properly surveyed and receive an elevation certificate.

NFIP participants are committed to continued involvement and compliance. To help facilitate compliance, NFIP participating jurisdictions:

- Adopted floodplain regulations through local ordinance
- Enforces floodplain ordinances through building restrictions
- Regulates new construction in Special Flood Hazard Areas as outlined in their floodplain ordinance
- Utilizes FEMA DFIRMs, where available
- Monitors floodplain activities

Lyon County, the City of Fernley, and the City of Yerington are the only jurisdictions in the 2023 Regional Lyon County Hazard Mitigation Plan that participate in the NFIP and has the following policies in force (as of July 31, 2023):

County	Community Name	Policies in Force	Total Coverage	Total Written Premium + Federal Policy Fee
Lyon County	Lyon County	170	\$40,404,000	\$124,942
	City of Fernley	41	\$12,862,000	\$24,207
	City of Yerington	46	\$13,498,000	\$41,111
	Unknown	175	\$38,891,000	\$148,391

Source: NFIP Pivot Analytical Reporting Tool (PART), Policy Information by State and Community Report July 31, 2023

While most floodplain requirements have been incorporated into the current Building Codes, some additional provisions and regulations may be required by a community. Communities participating in the NFIP are required to adopt, enforce and maintain a local floodplain ordinance as a stipulation of compliance with the program. The purpose of this ordinance is to ensure public safety, minimize impact to persons and property from flooding, protect watercourses from encroachment, and maintain the capability of floodplains to retain and carry off floodwaters. The local floodplain administrator is typically the municipal official responsible for overseeing the enforcement and update of the document.

Further, Lyon County, the City of Fernley, City of Yerington, Carson Water Subconservancy District, and Walker River Irrigation District coordinate with the Nevada Division of Water Resources and FEMA Region IX to provide current information on Lyon County regional flood risk to inform flood maps.

Table 6-5 Participating Jurisdictions Floodplain Managers

NFIP Community	Local Floodplain Manager	Phone #	Email
Lyon County	Danny Sommers	(775) 853-7265	ldsommers@dowl.com
City of Fernley	Derek Starkey	(775) 784-9910	dstarkey@cityoffernley.org
City of Yerington	Joel Brown	(775) 309-5457	joelb@yerington.net

6.6.1 Local Floodplain Management

6.6.1.1 Lyon County

Lyon County Regulations

The Lyon County floodplain management regulations are contained in Chapter 800-811 within Title 15 Land Use and Development Code. Bill number 18-07 which adopted the most updated floodplain ordinance was approved on November 1, 2018. Additional floodplain management regulations are also found in Title 15 – Buildings and Construction, which adopts the 2018 edition of the International Building Code (IBC 2018), and the International Residential Code 2018 (IRC 2018).

Administrative and Enforcement Procedures

The County Engineer, or their designee, is identified as the local floodplain management administrator responsible for implementing the County's floodplain management ordinance. The County Director, within the Public Works Department, is the designated floodplain management administrator for Lyon County.

Currently, Lyon County (County) requires all those seeking a building permit to first complete a floodplain development application. Requirements for constructing in special flood hazard areas (A, AE, AH, or AO) or within the shaded-X flood zones in the County include, but are not limited to the following:

1. Determine the flood zone designation of the property.
2. If the property is within a special flood hazard area (SHFA) Zones: A, AE, AH, or AO the applicant must submit the following prior to applying for a building permit:
 - a. Floodplain Development Permit Application;
 - b. Elevation Certificate based on construction drawings prepared by an engineer or surveyor licensed in the State of Nevada; and
 - c. Construction drawings to include: Site plan, Floor plan, Section drawings, and any/all plans required by the Building Department.
3. If the project is the installation of a new/replacement or/or relocating a Manufactured Home the above requirements 1 and 2 a. b. and c. apply.
4. If the property is within the x-flood zone, the applicant must submit the following prior to applying for a building permit:
 - a. Floodplain Development Permit Application;
 - b. Construction drawings to include: Site plan, Floor plan, Section drawings, and any/all plans required by the Building Department;

- c. Three (3) elevation certificates are required during the course of construction when constructing in the SHFA:
 - i. First elevation certificate based on Construction Drawings submitted with Building Permit application;
 - ii. Second elevation certificate based on Building Under Construction at finished door inspection; and
 - iii. Third elevation certificate based on Finished Construction at Final Inspection.

Per Lyon County Title 15 – Land Use and Development Code Chapters 15.800-15.811, if a project is out of compliance with floodplain requirements, the floodplain manager shall remedy the violation by means of stop work orders or other provisions of applicable laws (see Title 15 Chapter 15.800.06 E).

Engineering, Flood Maps, and Study

The first Flood Insurance Rate Map (FIRM) was issued on December 28, 1972. The most current index is dated October 20, 2016. No issues were brought up regarding the FIRMs during the May 2, 2023 Community Assistance Visit (CAV) and no findings were noted in the CAV Report.

Prior to the CAV, County personnel provided copies of all permits for new construction that were permitted since the last visit in 2020. During the CAV, a visit of 14 sites of new development in Special Flood Hazard Areas was conducted. Per the CAV Report, all structures appeared to have been built in compliance with floodplain management building requirements. Lyon County provided all appropriate documentation along with applicable final construction elevation certificates requested after the field inspection and all clarified questions.

Community Rating System (CRS)

Lyon County does not currently participate in the CRS, but plans to submit an application letter of interest by December 2024 as a mitigation action identified as part of this plan.

6.6.1.2 City of Fernley

City of Fernley Regulations

The Fernley's building regulations are contained in Title 8 – Building and Building Regulations of the City of Fernley Municipal Code.

To ensure quality construction for the City's residents and visitors, the City of Fernley's Building Department has adopted Building Codes such as the International Building Code, 2018 edition (including appendix C, E, H and I) and the International Residential Code, 2018 edition (including appendix A, B, C, G H and Q). A full list of adopted building codes and regulations are available on the [Building Department website](#).

Further, Section 32.09.060 – Floodplain Management of Title 32 – Development Code, Chapter 32.09 of the City of Fernley Municipal Code outlines the standards for development and construction in Special Flood Hazard Areas.

Administrative and Enforcement Procedures

The City's Building Department Official is identified as the local floodplain management administrator responsible for implementing the County's floodplain management ordinance.

Engineering, Flood Maps, and Study

The first Flood Insurance Rate Map (FIRM) was issued on September 30, 1982. The most current index is dated January 16, 2009.

6.6.1.3 City of Yerington

City of Yerington Regulations

To ensure quality construction for the City's residents and visitors, the City of Fernley's Building Department has adopted Building Codes such as the International Building Code, 2018 edition (including appendix C, E, H and I) and the International Residential Code, 2018 edition (including appendix A, B, C, G H and Q). A full list of adopted building codes and regulations are available on the [Building Department website](#).

Further, Title 12 – Flood Control, Chapter 4 – Flood Hazard Reduction outlines the construction standards in all Special Flood Hazard Areas.

Administrative and Enforcement Procedures

The City's Building Department Official is identified as the local floodplain management administrator responsible for implementing the County's floodplain management ordinance.

Engineering, Flood Maps, and Study

The first Flood Insurance Rate Map (FIRM) was issued on September 30, 1982. The most current index is dated January 16, 2009.

6.6.1.4 Carson Water Subconservancy District

The Carson Water Subconservancy District (CWSD) is a political subdivision of the State of Nevada and is the lead entity for coordinating floodplain management activities in the Carson River Watershed, of which Lyon County is a participant.

CWSD's Watershed Program Manager works closely with partners through the Carson River Coalition (CRC) stakeholder process to coordinate, plan and identify funding sources to create watershed-wide solutions that reduce the flood risk and protect the floodplain. The CRC Floodplain Management Working Group meets regularly to address floodplain management in the Carson River Watershed and serves as the steering committee for the regional [Carson River Watershed Floodplain Management Plan](#).

In 2005, CWSD signed a [Cooperative Technical Partner Agreement](#) with FEMA. In 2012, the various counties located along the Carson River, State and Federal agencies entered into a [Risk MAP Charter](#) agreement with FEMA. The Charter agreement enables FEMA, CWSD, and counties to work on flood related issues on a watershed basis instead on a county by county basis. CWSD currently continues to pursue CTP planning funding opportunities to support mitigation activities such as the development of local area drainage master plans.

6.6.1.5 Walker River Irrigation District

While Lyon County has not currently identified an entity to pursue a Cooperative Technical Partner Agreement with FEMA for the Walker River Basin, the Walker River Irrigation District (WRID) has supported coordination of mitigation activities among public and private purveyors of the Walker River and its tributaries. In addition, building applicants may request a Certificate of Review of application of Lyon County and the City of Yerington building permits through WRID.

6.6.2 Post-Disaster Floodplain Management

When a disaster occurs in any of the participating jurisdictions, the Lyon County Emergency Manager is ultimately responsible to coordinate with local building officials and floodplain managers to conduct initial damage assessments for all public infrastructure and private structures. The Lyon County Office of Emergency Management will then submit a request to the Nevada Division of Emergency Management (NDEM) for a joint preliminary damage assessment (PDA) between DEM and FEMA's PDA teams. If thresholds for disaster declarations are confirmed by joint PDA teams, the State of Nevada will submit a request for a major disaster declaration the Federal Government. If public assistance or individual assistance is granted, Lyon County and participating jurisdictions may pursue post-disaster and 406 mitigation funds to implement mitigation improvements.

The following figure represents both pre- and post- disaster community NFIP requirements:

Figure 6-6 Pre- and Post- Disaster Community NFIP Requirements



Source: FEMA

When structures located in the SFHAs are substantially modified (more than 50% damaged or improved) they are required to be brought into compliance with current NFIP standards and local building codes. In cases of repairs being conducted as a result of damage, jurisdictional NFIP Coordinators are responsible for substantial damage and improvement determinations. These determinations are required for compliance in the NFIP and must be completed before residents begin repairs or permits are issued.

However, the May 2020 Report to Congressional Committees on the National Flood Insurance Program by the United States Government Accountability indicates “FEMA generally does not collect or analyze the results of these assessments, limiting its ability to ensure the process operates as intended. Furthermore, FEMA has not clarified how communities can access NFIP claims data. Such data would help communities target substantial damage assessments after a flood.” This has been found to be true in the Lyon County, with submitted information and data underutilized and some FEMA available data unshared and/or unadvertised.

Section 1206 of the Disaster Recovery Reform Act of 2018 authorizes the FEMA to provide communities with the resources to administer and enforce building code and floodplain management ordinances

following a major disaster declaration through FEMA's Public Assistance Program. To be eligible for reimbursement under the Public Assistance Program, including for the Disaster Recovery Reform Act of 2018 Section 1206, communities must be designated for Public Assistance permanent work under a major disaster declaration and be legally responsible to administer and enforce building codes or floodplain management regulations. Communities must also be in good standing with the NFIP. Available assistance includes:

Figure 6-7 Disaster Recovery Reform Act of 2018 Available Assistance



It is worth noting that this assistance is available for a variety of hazards occurrence types, not just flooding. Key to achieving across the board reduction in flood damages is a robust community assistance, education, and awareness program. As such, NFIP participating jurisdictions will continue to develop both electronic (including social media) and in person outreach activities.

CHAPTER 7: MITIGATION STRATEGY

Chapter 7 describes the region’s mitigation strategy, which is the primary focus of the Lyon County regional hazard mitigation planning efforts. This strategy represents the blueprint for the approach chosen by the County to reduce or prevent losses flowing from the hazards identified in Chapter 4. The strategy is made up of three main required components: mitigation goals and objectives, mitigation actions, and a mitigation action plan for implementation (see Figure 6-1). These components provide the framework to identify, prioritize, and implement actions to reduce risk from hazards.

Figure 7-1. Mitigation Strategy Process



 FEMA REQUIREMENT 44 CFR §201.6(d)(3)	E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? E2-a. Does the plan describe how it was revised due to changes in community priorities? E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan? E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?

Lyon County experienced changes in leadership in the fall of 2022 as the Board of County Commissioners appointed a new County Manager and former Community Development Director. In addition, the Board of County Commissioners supported adding a full-time Emergency Manager. The full-time dedicated Emergency Management program and new leadership at the County-level is contributing to a more robust Hazard Mitigation program for all participating agencies in this regional update of the plan. The 2023 Regional Hazard Mitigation Plan was also designed to be more inclusive of political subdivisions that may have an impact or be able to achieve mitigation projects during the planning period. Community priorities and lessons learned from previous disasters have been incorporated into all sections of the plan.

During the November 8, 2023 MPT meeting, participating jurisdictions reviewed the mitigation strategies and actions identified in the 2018 Multi-Jurisdictional Hazard Mitigation and completed a Final Progress Report provided in Appendix C section C.1. The Final Progress report identified strategies that were completed, in progress, not started, or abandoned during the last planning period. The 2023 plan was

revised to reflect changes in the final progress report. In addition, mitigation strategies and actions in this Chapter were developed based on the updated jurisdictional community profiles and each community's unique needs identified in Chapter 2.

All participating agencies integrated the information from the 2023 Lyon County Regional Hazard Mitigation into existing planning mechanisms. For example, Lyon County and Carson Water Subconservancy District are working together to enhance Regional Drainage Area Master Plans based on lessons learned from hazards identified in the 2023 HMP update. The 2023 update of the Regional HMP ties multiple plans together with complimentary priorities such as the 2023 Community Wildfire Protection Plan. The Fire Protection Districts are utilizing the data in the wildland fire hazard profile to implement fuel breaks, defensible space awareness, and other mitigation projects.

7.1 Mitigation Goals and Objectives

 FEMA REQUIREMENT 44 CFR §201.6(c)(3)(i)	C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? C3-a. Does the plan include goals to reduce the risk of hazards identified in the plan?

On November 8, 2023, the Mitigation Planning Team (MPT) identified the following mitigation goals to reduce and/or avoid long-term vulnerabilities to hazards identified in the 2023 regional HMP:

Goal 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects

Goal 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.

Goal 3: Reduce the possibility of damage and losses due to **criminal acts and terrorism**.

Goal 4: Reduce the possibility of damage and losses due to **wildland fire**.

Goal 5: Reduce the possibility of damage and losses due to **severe weather and extreme snow**.

Goal 6: Reduce the possibility of damage and losses due to **landslide**.

Goal 7: Reduce the possibility of damage and losses due to **epidemic/infectious disease**.

Goal 8: Reduce the possibility of damage and losses due to **energy emergency**.

Goal 9: Reduce the possibility of damage and losses due to **transportation incidents**.

Goal 10: Reduce the possibility of damage and losses due to **technological hazards**.

Goal 11: Reduce the possibility of damage and losses due to **floods**.

Goal 12: Reduce the possibility of damage and losses due to **water/wastewater emergencies**.

Goal 13: Reduce the possibility of damage and losses due to **drought**.

Goal 14: Reduce the possibility of damage and losses due to **earthquake**.

Goal 15: Reduce the possibility of damage and losses due to **hazardous materials**.

7.1.1 Mitigation Actions

 FEMA REQUIREMENT 44 CFR §201.6(c)(3)(ii), 44 CFR §201.6(c)(3)(iii)	C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administering the identified mitigation actions, as well as potential funding sources and expected time frame.

The MPT also identified the following mitigation actions for the 2024 – 2028 hazard mitigation planning cycle. The MPT identified at least one mitigation action for each mitigation goal. In addition, the mitigation strategy outlines lead agency(ies) responsible for implementing/administering the identified mitigation actions, as well as potential funding sources and estimated timeline.

The MPT evaluated and prioritized each of the mitigation actions using the STAPLE+E evaluation criteria using rankings for one for the lowest and five the highest priority. The rankings for each action were totaled and used as a starting point by the committee. See Table 7-1 for the evaluation criteria.

Table 7-1. STAPLE+E Evaluation Criteria for Mitigation Actions

Evaluation Criteria	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 whether the community must pass new regulations.	Local, State, and Federal authority; Potential legal challenge
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 from the MPT, mitigation actions were selected for each participating jurisdiction that best fulfill the goals of the HMP and were appropriate and feasible to implement in the 5-year lifespan. In reviewing the mitigation actions, the MPT considered the following:

- Actions that strengthen, elevate, relocate or otherwise improve critical infrastructure or other facilities the 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 specific action
- Actions that either address multi-hazard scenarios or address a hazard that present the greatest risk to the jurisdiction.

Of note, the STAPLE+E was used as a starting point and through discussions and consensus the MPT made adjustments to include actions that were considered a high, moderate, and low priority to each participating agency. These are shown in Table 7-2 and Section 7.1.2 Mitigation Actions by Participating Entity.

Table 7-2. 2024-2028 Mitigation Strategy All Participating Jurisdictions

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1B. N	All	Establish a budget and identify funding opportunities for mitigation outreach, including the possibility of funding a County Mitigation Coordinator to facilitate project implementation	Lyon County Emergency Management, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1D. N	All	Review and update Master Plan(s) to be consistent with hazard area maps and HMP strategies. Review and update ordinances, as appropriate.	Lyon County, City of Fernley, City of Yerington	Staff time	Local Budgets	Ongoing	All	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley, City of Yerington, Fire Protection Districts	Staff time	Local Budgets	Ongoing	All	High
1F. N	All	Establish a budget and identify funding opportunities to enhance County workforce development to foster professional development the	Lyon County Community Development, All	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	Moderate

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		ability to provide project technical assistance through professional engineering.	Participating Agencies					
1F. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
1G. N	Flood	Collaborate and support update to the Carson River Watershed Floodplain Management Plan.	Carson Water Subconservancy District, Lyon County Community Development, Lyon County Emergency Management	No/ minimal staff time	CTP	Started - In Progress	2024	High
1H. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP	Not started	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's	TBD	Local Budgetss, EOC grant	Not started	2028	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Office, All Participating Entities					
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2D. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2E. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2F. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, City of Fernley, City of Yerington, Fire Protection Districts, Schools	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3B. N	Criminal Acts/ Terrorism	Enhance public mass gathering event security and safety plans. Review and update special event ordinances, as appropriate.	Lyon County Community Development, City of Fernley, City of Yerington, Lyon County Sheriff's Office	No/ minimal staff time	SERC, EMPG	Ongoing	All	High
3C. N	Criminal Acts/ Terrorism	Increase education and referrals for the Mobile Outreach Safety Team (MOST) co-responder behavioral program	Lyon County Sheriff's Office, Lyon County Human Services	TBD - Staff time	DHHS MOST, DOJ	Ongoing	All	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
3E. E	Criminal Acts/ Terrorism	Continue School Resource Officers (SRO) program with Lyon County School District	Lyon County Sheriff's Office, Lyon County School District	TBD – Staff Time (# of .FTE SRO)	Local Budgets	Ongoing	All	High
3F. E	Criminal Acts/ Terrorism	Continue agreement with Nevada Threat Analysis Center (NTAC)	Lyon County Sheriff's Office, Lyon County Emergency Management	No/ minimal staff time	Local Budgets	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly,	Fire Protection Districts	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.						
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts	TBD	Local Budgets, NV Living with Fire, NDF	Ongoing	All	Medium
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Building Dept., City of Yerington Building Dept., Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County Emergency Mgmt.	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps	Lyon County Emergency	TBD – including Staff time,	EMPG, HMPG	Not started	2024 - 2025	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
	extreme snow	individuals can take during periods of extreme heat and to reduce energy consumption/	Management, All Participating Entities	campaign materials				
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads and Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6A. N	Landslide	Evaluate natural slopes to determine where slope stabilization projects are appropriate to prevent landslides (i.e., Hoyo Canyon)	Lyon County Emergency Management	TBD – including Staff time	EMPG	Ongoing	All	Medium
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Emergency Mgmt., City of Fernley Public Works, City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7A. N	Epidemic/ Infectious Disease	Conduct feasibility study for foundational public health services, and local/regional health district	Lyon County Human Services, Quad- County PHP	\$100,000	State and Fed Public Health Infrastructure Funds	Started – In progress	2024	High
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington IT	TBD	EMPG	Ongoing	All	Medium
7C. N	Epidemic/ Infectious Disease	Adopt quad-county multi-agency coordination guide (MACG), exercise quad-county intrastate mutual aid agreement	Lyon County Emergency Management, Lyon County Manager's Office	No / minimal staff time	EMPG	Ongoing	2024	High
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad- County PHP	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets		2026	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Mgmt., Lyon County IT, City	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			of Fernley IT, City of Yerington IT					
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Mgmt., Lyon County IT, City of Fernley IT, City of Yerington IT	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportati on Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Mgmt., Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportati on Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technologica l Hazards	Secure and reinforce priority cyber- dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber- security grants, CISA, Local Budgets	Ongoing	All	High
10B. N	Technologica l Hazards	Add a redundant internet connection for Lyon County	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber- security grants,	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
					CISA, Local Budgets			
10C. N	Technologica l Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	TBD - Staff Time	FEMA CTP	Ongoing	All	High
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	Lyon County Roads, Facilities, Utilities, and Emergency Mgmt.; City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Carson Water Subconservancy District, Conservation Districts, Walker River Irrigation District	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11B. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in North Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Projects up to \$56,640,000	Local Budgets, BRIC, Private developers	Ongoing	All	High
11C. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in South Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Project costs up to \$44,000,000	Local Budgets, BRIC, Private developers	Ongoing	All	High
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts	\$100,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Started - In Progress	2024	High
11E. N	Floods	Identify funding to develop a Yerington/Mason Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11F. N	Floods	Identify funding to develop a Wellington/Smith Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11G. E	Floods	Work with appropriate entities to discuss proper maintenance of the Walker River and identify solutions to sediment challenges	Lyon County Emergency Management, Carson Water Subconservancy	Staff time	HMPG, BRIC, WRID, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			District, Walker River Irrigation District, Mason/SV Conservation Districts					
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, SRF, USDA	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
12B. N	Water/ wastewater emergencies	Where appropriate, pursue funding for backup power for critical water/ wastewater infrastructure	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, HMPG	Ongoing	All	High
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	Medium (as needed)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities and Emergency Mgmt., City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12E. N	Water/ wastewater emergencies	Update water/wastewater system vulnerability assessments and response plans	Lyon County Utilities and Emergency Mgmt., City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Carson Water Subconservancy District, Conservation	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Districts, Walker River Irrigation District.					
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	Lyon County Planning and Facilities Department, City of Fernley Planning, City of Yerington Public Works	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	Lyon County Utilities and Emergency Mgmt., City of Fernley Public Works, City of Yerington Public Works	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13D. E	Drought	Apply studies from Carson Water Subconservancy District on water/aquifer recharge to Lyon County	Lyon County, Carson Water Subconservancy District	No / minimal staff time	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	Conservation Districts, Lyon County Emergency Mgmt., City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Carson Water Subconservancy District	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Planning, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley, City of Yerington	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	Lyon County Emergency Management and Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Carson Water Subconservancy District, Conservation Districts, Walker River Irrigation District	TBD	Local Budgets, BRIC, FEMA PA, 406 Mitigation	Not started	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, City of Fernley, Building Department, City of Yerington Building Department, Fire Protection Districts	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads and Emergency Mgmt.	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Mgmt., Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2 Mitigation Actions by Participating Entity/Jurisdiction(s)

 FEMA	C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment? C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment? C5. Does the plan contain an action plan that describes how the actions will be prioritized (including a cost benefit review), implemented, and administered by each jurisdiction? C5-a. Does the plan describe the criteria used for prioritizing actions? C5-b. Does the plan provide the position, office, department, or agency responsible for the implementing/administrating and identified mitigation actions, as well as potential funding sources and expected time frame?

The following sections include tables that identify the priority levels (criteria for prioritizing actions), lead agencies, timeline for implementation, and potential funding sources to administer identified mitigation actions.

7.1.2.1 Lyon County Mitigation Actions

Table 7-3. 2024-2028 Mitigation Strategy – Lyon County

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1B. N	All	Establish a budget and identify funding opportunities for mitigation outreach, including the possibility of funding a County Mitigation	Lyon County Emergency Management, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		Coordinator to facilitate project implementation						
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1D. N	All	Review and update Master Plan(s) to be consistent with hazard area maps and HMP strategies. Review and update ordinances, as appropriate.	Lyon County Community Development, City of Fernley Community Development, Yerington City Manager	Staff time	Local Budgets	Ongoing	All	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley, City of Yerington, Fire Protection Districts Prevention Officers	Staff time	Local Budgets	Ongoing	All	High
1F. N	All	Establish a budget and identify funding opportunities to enhance County workforce development to foster professional development the ability to provide project technical assistance through professional engineering.	Lyon County Community Development, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	Moderate
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts Chiefs, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
1H. N	Flood	Collaborate and support update to the Carson River Watershed Floodplain Management Plan.	Carson Water Subconservancy District, Lyon County Community Development, Lyon County Emergency Management	No/ minimal staff time	CTP Planning	Started - In Progress	2024	High
1I. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP	Not started	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office,	TBD	Local Budgets, EOC grant	Not started	2028	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Fire Protection Districts					
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, City of Fernley, City of Yerington, Fire Protection Districts, Schools	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3B. N	Criminal Acts/ Terrorism	Enhance public mass gathering event security and safety plans. Review and update special event ordinances, as appropriate.	Lyon County Community Development, City of Fernley, City of Yerington, Lyon County Sheriff's Office	No/ minimal staff time	SERC, EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
3C. N	Criminal Acts/ Terrorism	Increase education and referrals for the Mobile Outreach Safety Team (MOST) co-responder behavioral program	Lyon County Sheriff's Office, Lyon County Human Services	TBD - Staff time	DHHS MOST, DOJ	Ongoing	All	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
3E. E	Criminal Acts/ Terrorism	Continue School Resource Officers (SRO) program with Lyon County School District	Lyon County Sheriff's Office, Lyon County School District	TBD – Staff Time (# of .FTE SRO)	Local Budgets, Grants	Ongoing	All	High
3F. E	Criminal Acts/ Terrorism	Continue agreement with Nevada Threat Analysis Center (NTAC)	Lyon County Sheriff's Office	No/ minimal staff time	Local Budgets, Grants	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts - Prevention Offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts Chiefs, Lyon County Emergency Management	Minimal staff time	HMPG, BRIC, NDF	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and	Fire Protection Districts Chiefs and Prevention Offices	\$400,000	HMPG, NDF, BLM, USFS, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		around critical facilities as identified in the 2023 CWPP.						
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts Chiefs and Prevention Offices	TBD	Local Budgets, NDF	Ongoing	All	Medium
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley, City of Yerington, Fire Protection Districts	TBD	Local Budgets, NDF	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County Emergency Management	< \$10,000, Minimal Staff Time	Local Budgets, NDF, Living with Fire	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office,	< \$10,000	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			All Participating Entities					
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6A. N	Landslide	Evaluate natural slopes to determine where slope stabilization projects are appropriate to prevent landslides (i.e., Hoyo Canyon)	Lyon County Community Development, Lyon County Emergency Management	TBD – including Staff time	EMPG	Ongoing	All	Medium
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Community Development, Lyon County Emergency Management, City of Fernley Public Works, City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, City of Fernley, City of Yerington	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
7A. N	Epidemic/ Infectious Disease	Conduct feasibility study for foundational public health services, and local/regional health district	Lyon County Human Services, Quad-County PHP	\$100,000	State and Fed Public Health Infrastructure Funds	Started – In progress	2024	High
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley, City of Yerington	TBD	EMPG	Ongoing	All	Medium
7C. N	Epidemic/ Infectious Disease	Adopt quad-county multi-agency coordination guide (MACG), exercise quad-county intrastate mutual aid agreement	Lyon County Emergency Management, Lyon County Manager's Office	No / minimal staff time	EMPG	Ongoing	2024	High
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad- County PHP	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets		2026	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley, City of Yerington	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Fernley Public Works, City of Yerington Public Works					
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportation Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportation Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
10B. N	Technological Hazards	Add a redundant internet connection for Lyon County	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	TBD - Staff Time	FEMA CTP	Ongoing	All	High
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11B. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in North Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Projects up to \$56,640,000	Local Budgets, Private developers	Ongoing	All	High
11C. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in South Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Project costs	Local Budgets, Private developers	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
				up to \$44,000,000				
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts	\$100,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Started - In Progress	2024	High
11E. N	Floods	Identify funding to develop a Yerington/Mason Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11F. N	Floods	Identify funding to develop a Wellington/Smith Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11G. E	Floods	Work with appropriate entities to discuss proper maintenance of the Walker River and identify solutions to sediment challenges	Lyon County Emergency Management, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC, WRID, Local Budgets	Ongoing	All	High
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Planning Dept., City of Yerington Public Works, Carson Water Subconservancy	Staff time	HMPG, BRIC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			District, Walker River Irrigation District, Mason/SV Conservation Districts					
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, City of Fernley Public Works, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, SRF, USDA	Ongoing	All	High
12B. N	Water/ wastewater emergencies	Where appropriate, pursue funding for backup power for critical water/ wastewater infrastructure	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, HMGP	Ongoing	All	High
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, SRF, USDA	Ongoing	All	Medium (as needed)

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12E. N	Water/ wastewater emergencies	Update water/wastewater system vulnerability assessments and response plans	Lyon County Utilities, Lyon County Emergency Management, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13D. E	Drought	Apply studies from Carson Water Subconservancy District on	Lyon County Utilities, Carson Water	No / minimal staff time	Local Budgets	Not started	2025	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		water/aquifer recharge to Lyon County	Subconservancy District					
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of Public Works	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management, Lyon County Utilities	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.2 City of Fernley Mitigation Actions

Table 7-4. 2024-2028 Mitigation Strategy – City of Fernley

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1B. N	All	Establish a budget and identify funding opportunities for mitigation outreach, including the possibility of funding a County Mitigation Coordinator to facilitate project implementation	Lyon County Emergency Management, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1D. N	All	Review and update Master Plan(s) to be consistent with hazard area maps and HMP strategies. Review and update ordinances, as appropriate.	Lyon County Community Development, City of Fernley Community Development, Yerington City Manager	Staff time	Local Budgets	Ongoing	All	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Building Development, City of Fernley Building Department, City of Yerington Building Department, Fire Protection Districts – Prevention Offices	Staff time	Local Budgets	Ongoing	All	High
1F. N	All	Establish a budget and identify funding opportunities to enhance County workforce development to foster professional	Lyon County Community Development, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	Moderate

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		development the ability to provide project technical assistance through professional engineering.						
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review City of Fernley Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		and emergency district EOP and integrate HMP						
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, Fernley City Manager's Office, City of Yerington Public Works, Fire Protection Districts, Lyon County School District, American Red Cross	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3B. N	Criminal Acts/ Terrorism	Enhance public mass gathering event security and safety plans. Review and update special event ordinances, as appropriate.	Lyon County Emergency Management, Lyon County Sheriff's Office, Lyon County Community Development, Fernley City Manager's Office, Yerington Police Department	No/ minimal staff time	SERC, EMPG	Ongoing	All	High
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts, City of Fernley Public Works	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts – Prevention Offices	TBD	Local Budgets	Not started	2024	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Utilities, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts Prevention Programs, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Community Development, Lyon County Roads, Lyon County Emergency Management, City of Fernley Public Works, City of Fernley Planning Dept., City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
6C. N	Landslide	Protect and develop plans to restore community lifelines to	Lyon County Emergency Management	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		communities that may be isolated during a landslide						
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad County PHP	TBD	EMPG	Ongoing	All	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportation Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
9A. N	Transportation Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley, City of Yerington	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley Planning Department, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	TBD - Staff Time	FEMA CTP	Ongoing	All	High
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		installing culverts/drainage with increased capacity.						
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Roads, City of Fernley Public Works, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, SRF	Ongoing	All	High
12B. N	Water/ wastewater emergencies	Where appropriate, pursue funding for backup power for	Lyon County Utilities, City of Fernley Public	TBD	Local Budgets, HMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		critical water/ wastewater infrastructure	Works, City of Yerington Public Works					
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, SRF	Ongoing	All	Medium (as needed)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works, Lyon County Emergency Management	TBD	Local Budgets	Ongoing	All	High
12E. N	Water/ wastewater emergencies	Update water/wastewater system vulnerability assessments and response plans	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works, Lyon County Emergency Management	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		landscaping at County/City facilities and projects.						
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025- 2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Planning Department, City of Yerington Planning Department	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA	Not started	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	All Participating Entities	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	All Participating entities	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.3 City of Yerington Mitigation Actions

Table 7-5. 2024-2028 Mitigation Strategy – City of Yerington

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1B. N	All	Establish a budget and identify funding opportunities for mitigation outreach, including the possibility of funding a County Mitigation Coordinator to facilitate project implementation	Lyon County Emergency Management, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1D. N	All	Review and update Master Plan(s) to be consistent with hazard area maps and HMP strategies. Review and update ordinances, as appropriate.	Lyon County, City of Fernley Community Development, Yerington City Manager's Office	Staff time	Local Budgets	Ongoing	All	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley Building Dept., City of Yerington Building Dept., Fire Protection	Staff time	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Districts – Fire Inspector					
1F. N	All	Establish a budget and identify funding opportunities to enhance County workforce development to foster professional development the ability to provide project technical assistance through professional engineering.	Lyon County Community Development, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	Moderate
1I. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County Emergency Management, Lyon County Community Development, City of Yerington Public Works, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP grants	Not started	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's	TBD	Local Budgets, EOC grant	Not started	2028	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Office, All Participating Entities					
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, Fernley City Manager's Office, City of Yerington Public Works, Fire Protection Districts, Lyon County School District, American Red Cross	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
3B. N	Criminal Acts/ Terrorism	Enhance public mass gathering event security and safety plans. Review and update special event ordinances, as appropriate.	Lyon County Community Development, Fernley City Manager, Lyon County Sheriff's Office, Yerington Police Department	No/ minimal staff time	SERC, EMPG	Ongoing	All	High
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Emergency Management, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	City of Yerington Public Works, Fire Protection Districts	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts – Prevention Office	TBD	Local Budgets	Not started	2024	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and	Develop a public outreach campaign to educate on the dangers of	Lyon County Emergency	TBD – including Staff time,	EMPG, HMPG	Not started	2024 - 2025	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
	extreme snow	extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Management, All Participating Entities	campaign materials				
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts – Prevention Office, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Community Development, Lyon County Roads, Lyon County Emergency Management, City of Fernley Public Works, City of Fernley Planning Dept., City	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			of Yerington Public Works					
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad County PHP	TBD	EMPG	Ongoing	All	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportation Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportation Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water	TBD - Staff Time	FEMA CTP	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts					
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts	\$100,000 + Staff time	CTP Planning, EMPG, HMPG, BRIC, Local Budgets	Started - In Progress	2024	High
11E. N	Floods	Identify funding to develop a Yerington/Mason Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11G. E	Floods	Work with appropriate entities to discuss proper maintenance of the Walker River and identify solutions to sediment challenges	Lyon County Emergency Management, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC, WRID, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, Lyon County Emergency Management, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
12B. N	Water/ wastewater emergencies	Where appropriate, pursue funding for backup power for critical water/ wastewater infrastructure	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, HMGP	Ongoing	All	High
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, USDA, SRF	Ongoing	All	Medium (as needed)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12E. N	Water/ wastewater emergencies	Update water/wastewater system vulnerability assessments and response plans	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works, Lyon County Emergency Management	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Planning Dept., City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, City of Yerington Public Works	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.4 Central Lyon County Fire Protection District Mitigation Actions

Table 7-6. 2024-2028 Mitigation Strategy – CLCFPD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley Building Dept., City of Yerington Public Works, Fire Protection Districts	Staff time	Local Budgets	Ongoing	All	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant, HSGP	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, City of Fernley, City of Yerington, Fire Protection Districts, Schools	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts – Prevention Offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts – Prevention Offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts Chiefs	TBD	Local Budgets, NDF, Living with Fire	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County Emergency Management	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree	Lyon County Roads, City of Fernley Public Works, City of Yerington Public	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts					
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad-County PHP, All participating entities	TBD	EMPG	Ongoing	All	Medium
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad-County PHP, Fire Protection Districts	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets		2026	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Fernley IT, City of Yerington Public Works					
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportati on Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportati on Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technologica l Hazards	Secure and reinforce priority cyber- dependent critical infrastructure and systems, utilizing National Institute	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber- security grants,	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		of Standards and Technology (NIST) Framework			CISA, Local Budgets			
10B. N	Technological Hazards	Add a redundant internet connection for Lyon County (for redundancy of Dispatch 911 systems)	Lyon County IT, Lyon County Emergency Management, Lyon County Sheriff's Office	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not started	2025	High
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley, City of Yerington	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Fire Protection Districts, Lyon County Emergency Management, Lyon County Roads, City of Fernley Public Works, City of Yerington Public Works	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.5 North Lyon County Fire Protection District Mitigation Actions

Table 7-7. 2024-2028 Mitigation Strategy – NLCFPD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	Staff time	Local Budgets	Ongoing	All	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant, HSGP	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, Fernley Deputy City Manager, City of Yerington Public Works, Fire Protection Districts,	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Lyon County School District					
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts – Prevention Offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts – Prevention Offices, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts – Prevention Offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts Chiefs	TBD	Local Budgets	Ongoing	All	Medium
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County Emergency Management	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad-County PHP, All participating entities	TBD	EMPG	Ongoing	All	Medium
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad- County PHP, Fire Protection Districts	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets	Ongoing	2026	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportati on Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportati on Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
10B. N	Technological Hazards	Add a redundant internet connection for Lyon County (for redundancy of Dispatch 911 systems)	Lyon County IT, Lyon County Emergency Management, Lyon County Sheriff's Office	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not started	2025	High
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		response options that minimize hardships during drought. Include all water system purveyors.						
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Yerington Public Works					
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, Grants, FEMA PA 406 Mitigation	Not started	All	Medium
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.6 Smith Valley Fire Protection District Mitigation Actions

Table 7-8. 2024-2028 Mitigation Strategy – SVFPD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	Staff time	Local Budgets	Ongoing	All	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant, HSGP	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, City of Fernley, City of Yerington, Fire	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Protection Districts, Lyon County School District					
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts – Prevention offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts – Prevention offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts Chiefs	TBD	Local Budgets	Ongoing	All	Medium
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad-County PHP, All participating entities	TBD	EMPG	Ongoing	All	Medium
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad- County PHP, Fire Protection Districts	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets		2026	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportati on Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportati on Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
10B. N	Technological Hazards	Add a redundant internet connection for Lyon County (for redundancy of Dispatch 911 systems)	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not started	2025	High
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, Grants	Ongoing	All	High
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, Grants	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		response options that minimize hardships during drought. Include all water system purveyors.						
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Yerington Public Works					
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.7 Yerington / Mason Valley Fire Protection District Mitigation Actions

Table 7-9. 2024-2028 Mitigation Strategy – MVFPD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1E. N	Drought, Earthquake, Flood, Wildfire, Landslide, Severe Weather	Continue to adopt and implement building codes and ordinances that protect people and structures from drought, earthquake, flood, wildfire, landslide, and severe weather.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	Staff time	Local Budgets	Ongoing	All	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
2C. N	All	Develop a plan to construct a regional Emergency Operations Center (EOC)	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, All Participating Entities	TBD	Local Budgets, EOC grant, HSGP	Not started	2028	High
2D. N	All	Develop a plan to construct a regional emergency communications (dispatch) center.	Lyon County Emergency Management, County Manager, County Comptroller, Lyon County Sheriff's Office, Fire Protection Districts	TBD	Local Budgets, EOC grant	Not started	2028	High
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, Fernley Deputy City Manager, City of Yerington Public Works, Fire Protection Districts,	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Lyon County School District					
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3A. N	Criminal Acts/ Terrorism	Conduct at least one full-scale active assailant exercise	Lyon County Emergency Management, Lyon County Sheriff's Office	\$20,000	SERC, HSGP, DOJ	Not started	2028	Medium
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts – Prevention Offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical	Fire Protection Districts – Prevention Offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		facilities as identified in the 2023 CWPP.						
4D. N	Wildfire	Where appropriate, increase the number of communities that adopt the Wildland Urban Interface (WUI) code.	Fire Protection Districts	TBD	Local Budgets	Ongoing	All	Medium
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County Emergency Management	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community	Lyon County Emergency Management, Lyon County Sheriff's	< \$10,000	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		hazard warning systems such as Reverse 911 or Sheriff's App.	Office, All Participating Entities					
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Facilities City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7B. N	Epidemic/ Infectious Disease	Identify regional call center capability – to conduct communitywide surveillance, monitoring, and information sharing	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works, Quad-County PHP, All participating entities	TBD	EMPG	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
7D. N	Epidemic/ Infectious Disease	Identify and implement a regional inventory management system, including potential software and warehouse capability	Lyon County Emergency Management, Quad- County PHP, Fire Protection Districts	TBD	EMPG, HMPG, CDC, PHEP, HPP, Local Budgets		2026	Medium
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportatio n Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
9A. N	Transportation Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
10B. N	Technological Hazards	Add a redundant internet connection for Lyon County (for redundancy of Dispatch 911 systems)	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment, installation costs	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not started	2025	High
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, Grants	Ongoing	All	High
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets, Grants	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought,	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		and develop response options that minimize hardships during drought. Include all water system purveyors.						
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14B. E	Earthquakes	Identify current unreinforced masonry buildings in Lyon County and identify funding opportunities to seismically retrofit critical infrastructure identified as URM	Lyon County Emergency Management, Lyon County Community Development, Lyon County Facilities, City of Fernley Public Works, City of	TBD - Staff Time	EMPG, HMPG, BRIC	Not started	2028	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Yerington Public Works					
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium
14D. E	Earthquakes	Provide education to the general public on how to prepare their households in the event of an earthquake, risks of earthquakes in the area and about earthquake insurance.	Lyon County Emergency Management, All participating entities	Staff Time, Educational Materials < \$10,000	EMPG, HMPG	Ongoing	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.8 Carson Water Subconservancy District Mitigation Actions

Table 7-10. 2024-2028 Mitigation Strategy – CWSD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
1H. N	Flood	Collaborate and support update to the Carson River Watershed Floodplain Management Plan.	Carson Water Subconservancy District, Lyon County Community Development, Lyon County Emergency Management	No/ minimal staff time	CTP grants	Started - In Progress	2024	High
1I. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County, CSWD, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP grants	Not started	2024	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and	Develop a public outreach campaign to increase engagement with early weather/community hazard warning	Lyon County Emergency Management, Lyon	< \$10,000	Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
	extreme snow	systems such as Reverse 911 or Sheriff's App.	County Sheriff's Office, All Participating Entities					
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Roads, Lyon County Emergency Management, City of Fernley Public Works, City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7C. N	Epidemic/ Infectious Disease	Adopt quad-county multi-agency coordination guide (MACG), exercise quad-county intrastate mutual aid agreement	Lyon County Emergency Management, Lyon County Manager's Office	No / minimal staff time	EMPG	Ongoing	2024	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportati on Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportati on Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington IT	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	TBD - Staff Time	FEMA CTP	Ongoing	All	High
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11B. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in North Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Projects up to \$56,640,000	Local Budgets, Grants, private developers	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11C. N	Floods	Identify funding and/or development sponsors to implement drainage improvement projects in South Dayton Area Drainage Master Plan	Lyon County Community Development	Staff time coordinating with Developers, Project costs up to \$44,000,000	Local Budgets, Grants, private developers	Ongoing	All	High
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts	\$100,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Started - In Progress	2024	High
11E. N	Floods	Identify funding to develop a Yerington/Mason Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11F. N	Floods	Identify funding to develop a Wellington/Smith Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District,	Staff time	HMPG, BRIC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Mason/SV Conservation Districts					
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, City of Fernley, City of Yerington, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	Medium (as needed)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.						
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping.	All Participating Entities	Staff Time, Educational Materials <\$10,000	Local Budgets	Not started	2025	Medium
13D. E	Drought	Apply studies from Carson Water Subconservancy District on water/aquifer recharge to Lyon County	Lyon County Utilities, Carson Water Subconservancy District	No / minimal staff time	Local Budgets	Not started	2025	Medium
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	High

7.1.2.9 Walker River Irrigation District Mitigation Actions

Table 7-11. 2024-2028 Mitigation Strategy – WRID

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1B. N	All	Establish a budget and identify funding opportunities for mitigation outreach, including the possibility of funding a County Mitigation Coordinator to facilitate project implementation	Lyon County Emergency Management, All Participating Agencies	Staff time	EMPG, BRIC, HMPG, Local Budgets	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1I. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP grants	Not started	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2A. N	All	Annually review Lyon County Emergency Operations Plan (EOP) and integrate w/ HMP	Lyon County Emergency Management	Staff time	EMPG	Ongoing	All	High
2B. N	All	Conduct a minimum of one disaster exercise per year (may be replaced with real-time activation)	Lyon County Emergency Management	Staff time	EMPG, SERC	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2G. N	All	Review and update regional evacuation and sheltering plans.	Lyon County Emergency Management, Lyon County Human Services, City of Fernley, City of Yerington, Fire Protection Districts, Lyon County School District	Staff Time	EMPG, HMPG, SERC	Ongoing	2025	High
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts – Prevention offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County, City of Fernley, City of Yerington, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								
6A. N	Landslide	Evaluate natural slopes to determine where slope stabilization projects are appropriate to prevent landslides (i.e., Hoyo Canyon)	Lyon County Emergency Management	TBD – including Staff time	EMPG	Ongoing	All	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Roads Dept., City of Fernley Public Works, City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
6C. N	Landslide	Protect and develop plans to restore community lifelines to communities that may be isolated during a landslide	Lyon County Emergency Management, All participating entities	TBD – including Staff time	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7C. N	Epidemic/ Infectious Disease	Adopt quad-county multi-agency coordination guide (MACG), exercise quad-county intrastate mutual aid agreement	Lyon County Emergency Management, Lyon County Manager's Office	No / minimal staff time	EMPG	Ongoing	2024	High
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
9A. N	Transportation Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
9A. N	Transportation Incidents	Collaborate with private GIS map/location-services providers to reduce the time it takes to close roads, report hazards, and identify safe alternatives during an emergency.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Not started	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
10C. N	Technological Hazards	Provide redundant or hardened utility lifelines to areas at risk of loss of communications or loss of service.	Lyon County IT, Lyon County Emergency Management	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Not Started	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon	Lyon County Community Development, City of Fernley Community	TBD - Staff Time	FEMA CTP	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		County and participating jurisdictions.	Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts					
11B. E	Floods	Reinforce and repair critical infrastructure from flooding through protection activities such as building bridges higher and installing culverts/drainage with increased capacity.	All Participating Entities	TBD - Staff Time, equipment	EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts	\$100,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Started - In Progress	2024	High
11E. N	Floods	Identify funding to develop a Yerington/Mason Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High
11F. N	Floods	Identify funding to develop a Wellington/Smith Valley Drainage Area Master Plan – identify potential drainage improvement projects	Lyon County Community Development, Walker River Irrigation District	\$500,000 + Staff time	CTP Planning Grant, EMPG, HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
11G. E	Floods	Work with appropriate entities to discuss proper maintenance of the Walker River and identify solutions to sediment challenges	Lyon County Emergency Management, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC, WRID, Local Budgets	Ongoing	All	High
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	Medium (as needed)
12D. N	Water/ wastewater emergencies	Identify sustainable potable water resources for use during water/ wastewater emergencies	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12E. N	Water/ wastewater emergencies	Update water/wastewater system vulnerability assessments and response plans	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
14A. E	Earthquakes	Review and update earthquake fault maps to ensure future growth is most compatible with the hazard area.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works	TBD - Staff Time, GIS Services	Local Budgets, Private developers	Ongoing	All	High
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

7.1.2.10 Mason & Smith Valley Conservation Districts Mitigation Actions

Table 7-12. 2024-2028 Mitigation Strategy – M&SVCD

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 1: Promote increased and ongoing regional involvement in hazard mitigation planning and projects.								
1A. E	All	Incorporate the HMP update into County and participating entity Strategic Plans	Lyon County Manager, All Participating Agencies	Staff time	N/A	Not started	2024	High
1C. E	All	Add mitigation actions to each jurisdiction's website.	Lyon County Emergency Management, All Participating Agencies	Staff time	Local Budgets	Not started	2024	High
1G. N	Wildfire	Collaborate and support development of Community Wildfire Protection Plan	Lyon County Emergency Management, Fire Protection Districts, Conservation Districts	No/ minimal staff time	USFS, NDF, BLM, HMPG	Started - In Progress	2024	High
1I. E	Flood	Identify stakeholder to become FEMA Cooperating Technical Partner for Walker River watershed.	Lyon County, Walker River Irrigation District, Mason & Smith Valley Conservation Districts	No/ minimal staff time	EMPG, HMPG, CTP grants	Not started	2024	High
GOAL 2: Build and support regional capacity to prepare for, respond to, and recovery from disasters.								
2E. N	All	Prepare, develop, and distribute appropriate public information about hazard mitigation programs.	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	Medium
2F. N	All	Collaborate with Lyon County School District partners to review and emergency district EOP and integrate HMP	Lyon County Emergency Management, All Participating Entities	TBD - Staff time	Local Budgets, EMPG	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 3: Reduce the possibility of damage and losses due to criminal acts and terrorism.								
3D. N	Criminal Acts/ Terrorism	Assess the safety and security of regional critical infrastructure, retrofit public and high-risk buildings to increase safety and reduce risk associated with criminal violence.	All Participating Entities, Lyon County Sheriff's Office, Lyon County Facilities	No/ minimal staff time	SERC, CISA	Ongoing	All	High
GOAL 4: Reduce the possibility of damage and losses due to wildfire.								
4A. E	Wildfire	Create a vegetation management program that provides vegetation management services to elderly, low-income, or with access and functional needs who lack the resources to remove flammable vegetation from around their homes.	Fire Protection Districts – Prevention offices	TBD – Including Staff time, equipment	EMPG	Ongoing	All	High
4B. N	Wildfire	Identify funding and implement mitigation strategies identified in 2023 Community Wildfire Protection Plan (CWPP).	Fire Protection Districts, Lyon County Emergency Management	Minimal staff time	HMPG,	Ongoing	All	High
4C. E	Wildfire	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities as identified in the 2023 CWPP.	Fire Protection Districts – Prevention Offices	\$400,000	HMPG, NDF, BLM, National Fire Prevention funds, USFS, Local Budgets	Ongoing	All	High
4E. E	Wildfire	Establish appropriate standards for defensible space around County and participating entities' critical infrastructure that are vulnerable to the effects of wildfire. Encourage private property owners to do the same.	Lyon County, City of Fernley, City of Yerington, Fire Protection Districts	TBD	Local Budgets	Not started	2024	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
4F. E	Wildfire	Develop a public outreach campaign for Wildfire Awareness Month in May of each year.	Fire Protection Districts, Lyon County	< \$10,000, Minimal Staff Time	Local Budgets	Not started	All	Medium
GOAL 5: Reduce the possibility of damage and losses due to severe weather and extreme snow.								
5A. E	Severe weather and extreme snow	Develop a public outreach campaign to educate on the dangers of extreme heat, including steps individuals can take during periods of extreme heat and to reduce energy consumption/	Lyon County Emergency Management, All Participating Entities	TBD – including Staff time, campaign materials	EMPG, HMPG	Not started	2024 - 2025	Medium
5B. E	Severe weather and extreme snow	Implement warning systems that monitor hail storms for use by local emergency managers and citizens.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	High
5C. E	Severe weather and extreme snow	Develop a public outreach campaign to increase engagement with early weather/community hazard warning systems such as Reverse 911 or Sheriff's App.	Lyon County Emergency Management, Lyon County Sheriff's Office, All Participating Entities	< \$10,000	Local Budgets	Ongoing	All	High
5D. E	Severe weather and extreme snow	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid the creation of wind acceleration corridors within vegetation areas.	Lyon County Roads, Lyon County Facilities, City of Fernley Public Works, City of Yerington Public Works, Fire Protection Districts, Walker River Irrigation District, Conservation Districts	TBD – including Staff time, equipment	Local Budgets	Ongoing	All	Medium
GOAL 6: Reduce the possibility of damage and losses due to landslide.								

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
6A. N	Landslide	Evaluate natural slopes to determine where slope stabilization projects are appropriate to prevent landslides (i.e., Hoyer Canyon)	Lyon County Emergency Management	TBD – including Staff time	EMPG	Ongoing	All	Medium
6B. N	Landslide	Conduct slope stabilization projects to prevent landslides.	Lyon County Roads, City of Fernley Public Works, City of Yerington Public Works	TBD – including Staff time, equipment, materials	Local Budgets, EMPG, HMPG	Ongoing	All	Medium
GOAL 7: Reduce the possibility of damage and losses due to epidemic/infectious disease.								
7C. N	Epidemic/ Infectious Disease	Adopt quad-county multi-agency coordination guide (MACG), exercise quad-county intrastate mutual aid agreement	Lyon County Emergency Management, Lyon County Manager's Office	No / minimal staff time	EMPG	Ongoing	2024	High
GOAL 8: Reduce the possibility of damage and losses due to energy emergency.								
8A. N	Energy Emergency	Provide redundant or hardened utility lifelines to areas at risk of energy emergencies, loss of communications, or loss of service.	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	EMPG	Ongoing	All	High
8B. N	Energy Emergency	Secure and reinforce priority electricity-dependent critical infrastructure and systems	Lyon County Emergency Management, Lyon County IT, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time support to NV Energy	HMPG, BRIC, Local Budgets	Ongoing	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
GOAL 9: Reduce the possibility of damage and losses due to transportation incidents.								
9A. N	Transportation Incidents	Identify and assess critical transportation infrastructure to manage risks and improve community resilience.	Lyon County Emergency Management, Lyon County Roads, NDOT, City of Fernley Public Works, City of Yerington Public Works	TBD - Staff Time support to NDOT	EMPG, HMPG, NDOT, federal highway funds, Local Budgets	Ongoing	All	High
GOAL 10: Reduce the possibility of damage and losses due to technological hazards.								
10A. N	Technological Hazards	Secure and reinforce priority cyber-dependent critical infrastructure and systems, utilizing National Institute of Standards and Technology (NIST) Framework	Lyon County IT, Risk Management, City of Fernley IT, City of Yerington Public Works	TBD - Staff Time	EMPG, HMPG, BRIC, Cyber-security grants, CISA, Local Budgets	Ongoing	All	High
GOAL 11: Reduce the possibility of damage and losses due to floods.								
11A. E	Floods	Work with FEMA and the State of Nevada Division of Water Resources to ensure flood maps accurately reflect the flood history of Lyon County and participating jurisdictions.	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	TBD - Staff Time	FEMA CTP	Ongoing	All	High
11D. N	Floods	Collaborate to develop Walker River Flood Risk Analysis	Lyon County Community Development, Carson	\$100,000 + Staff time	CTP Planning Grant, EMPG,	Started - In Progress	2024	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			Water Subconservancy, Walker River Irrigation District, Mason/SV Conservation Districts		HMPG, BRIC, Local Budgets			
11G. E	Floods	Work with appropriate entities to discuss proper maintenance of the Walker River and identify solutions to sediment challenges	Lyon County Emergency Management, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC, WRID, Local Budgets	Ongoing	All	High
11H. E	Floods	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps)	Lyon County Community Development, City of Fernley Community Development, City of Yerington Public Works, Carson Water Subconservancy District, Walker River Irrigation District, Mason/SV Conservation Districts	Staff time	HMPG, BRIC	Ongoing	All	High
11I. E	Floods	Fix low points along river banks at critical areas	Lyon County Community Development, Lyon County Roads, City of Yerington Public Works, Carson Water Subconservancy	Labor, equipment and materials	HMPG, BRIC	Started – In progress	All	High

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
			District, Walker River Irrigation District, Mason/SV Conservation Districts					
GOAL 12: Reduce the possibility of damage and losses due to water/wastewater emergencies.								
12A. N	Water/ wastewater emergencies	Retrofit and reinforce critical water and wastewater infrastructure from cybersecurity and other threats	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	High
12C. N	Water/ wastewater emergencies	Secure critical water/ wastewater from inflow and inundation, including from contaminants and during floods	Lyon County Utilities, City of Fernley Public Works, City of Yerington Public Works	TBD	Local Budgets	Ongoing	All	Medium (as needed)
GOAL 13: Reduce the possibility of damage and losses due to drought.								
13A. E	Drought	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought. Include all water system purveyors.	Lyon County Emergency Management, All Participating Entities	No / minimal staff time	Local Budgets, Private developers	Not started	2025	High
13B. E	Drought	Where appropriate, prioritize the use of xeriscaping or desert landscaping at County/City facilities and projects.	All Participating Entities	No / minimal staff time	Local Budgets	Ongoing	All	Medium
13C. E	Drought	Develop a public outreach program that educates property owners	All Participating Entities	Staff Time, Educational Materials	Local Budgets	Not started	2025	Medium

2024 – 2028 MITIGATION STRATEGY								
Goal/ Strategy # - Action Letter (Existing = E, New = N)	Hazard Description	Mitigation Action	Lead Agency(ies)	Estimated Cost	Potential Funding Source	Status	Timeline	Priority Level (High, Medium, Low)
		about the benefits of drought resistant landscaping.		<\$10,000				
13E. E	Drought	Implement a thirsty/invasive weed public awareness and educational campaign	All participating entities	<\$10,000	Local Budgets	Not started	2025-2028	Low
GOAL 14: Reduce the possibility of damage and losses due to earthquakes.								
14C. E	Earthquakes	Seismically retrofit or replace critical facilities that are necessary to restore community lifelines during and/or immediately after a disaster or emergency.	All Participating Entities	TBD	Local Budgets, FEMA PA 406 Mitigation	Not started	All	Medium
GOAL 15: Reduce the possibility of damage and losses due to hazardous materials.								
15A. E	Hazardous Materials	Work with NDOT to require all transport of hazardous materials to follow approved routes.	Lyon County Roads, Lyon County Emergency Management, Fire Protection Districts	Staff Time	Local Budgets, Private developers	Ongoing	All	High
15B. E	Hazardous Materials	Use the participating entities' websites to post information regarding the safe handling and disposal of household chemicals.	Lyon County Emergency Management	Staff Time	Local Budgets, Private developers	Ongoing	All	Low

CHAPTER 8: PLAN MAINTENANCE AND IMPLEMENTATION

 FEMA REQUIREMENT 44 CFR §201.6(c)(4)(i)	D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)?

Chapter 8 provides an overview of the overall strategy for plan maintenance and outlines the method and schedule for implementation, including the monitoring, updating, and evaluation of the plan. This chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

The regional HMP is intended to be a “living” document that will help inform all interested parties about regional participating entities’ regional hazard mitigation policies and actions. It will be reviewed and updated on a regular basis. The mitigation strategy identified will act as a guide for local agencies/departments in determining projects for which to seek FEMA assistance and other mitigation funds from outside sources.

8.1 Plan Adoption

 FEMA REQUIREMENT 44 CFR §201.6(c)(5)	F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? F2-a. Did each participant adopt the plan and provide documentation of that adoption?

Each participating jurisdiction’s governing body formally took action to adopt the 2023 Lyon County Regional Hazard Mitigation Plan. Documentation of Resolutions of Adoption are included in Appendix A.

8.2 Plan Update and Review

8.2.1 Annual Review and Evaluation

 FEMA REQUIREMENT 44 CFR §201.6(c)(4)(i)	D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process? D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.

The County Emergency Manager is responsible for coordinating the annual review and evaluation of the regional HMP and making appropriate revisions. On an annual basis, the County Emergency Manager will convene the MPT to conduct a comprehensive review of the plan to ensure that all information is current and planned initiatives are meeting the stated purpose and goals of the HMP. The review process is as follows:

The MPT will meet to consider effectiveness of the regional HMP using the following methodology:

- Progress made in achieving plan goals and objectives during the previous 12 months;
- Mitigation accomplishments in projects, programs and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Changes in priorities;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the MPT.

The County Emergency Manager will request input from other departments and stakeholders not represented on the MPT on issues listed above.

8.2.1.1 Following a Major Disaster

Within a reasonable period after a major disaster warranting a Presidential Disaster Declaration, and as determined necessary for a smaller event, the County Emergency Manager will convene the MPT. Because recovery is a long process and the full impact of a disaster may not be known for many months, this initial meeting may be followed by additional meetings over time.

The annual update process described above will also be used following a major disaster. However, post-disaster deliberations will also consider the following:

- “Lessons Learned” from the disaster and what new initiatives should be added to the plan to help reduce the likelihood of similar damage in the future;
- Follow-up needed on items relevant to mitigation from any after-action reports produced; and
- Integration of mitigation into the recovery process and coordination with local and/or regional recovery planning efforts.

8.2.2 Formal Plan Update

 FEMA REQUIREMENT 44 CFR §201.6(c)(4)(i)	D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?

Every five years, the plan will be re-submitted for adoption to the Board of County Commissioners and elected officials for each participating entity/jurisdiction. Prior to this, the County Emergency Manager will use the following process to make sure that all relevant parties are involved:

- Conduct regular reviews of the plan as described above and incorporate feedback from those reviews into the planning document;
- Conduct public engagement activities and initiate meetings with identified groups of interested parties and outside organizations to gain input and feedback;
- Integrate relevant feedback and circulate the revised plan to the MPT for approval;

- Submit the plan to the Board of County Commissioners for adoption by resolution;
- Submit the revised plan to FEMA.

It is anticipated that the next full update of this plan will begin in 2028 for the planning period of 2029 through 2033.

8.3 Monitoring Project Implementation

The MPT will utilize the Action Monitoring Form available in Appendix E: Plan Maintenance to monitor project implementation throughout the planning period.

8.4 Incorporation of Existing Planning Mechanisms

 FEMA REQUIREMENT 44 CFR §201.6(c)(4)(ii)	D3. Does the plan describe the process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated? D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?

As part of the County Emergency Manager's day-to-day plan monitoring efforts, they will coordinate with departments that have jurisdiction over mitigation action implementation areas to incorporate the plan into standard policies and procedures, as well as long-term planning documents and budgets.

Short-term governmental operation changes that address and consider hazard mitigation may include updates to job descriptions, work plans, site reviews, and staff training. Long-term changes may include revisions to existing master plans, capital improvement plans, zoning and building codes, permitting, and other planning tools.

Lyon County's Emergency Manager will also work with departments to include mitigation projects in annual budgets, rather than relying solely upon grant programs, and integrate hazard mitigation in future land use and strategic planning.

Each participating agency assigned as the lead or support agency to mitigation strategies will be required to utilize the Action Monitoring Form available in Appendix E: Plan Maintenance to monitor project implementation throughout the planning period. Review of Action Monitoring Forms will be done regularly by the MPT as part of the Local Emergency Planning Committee. In addition, all participating agencies will incorporate mitigation strategies into existing planning mechanisms such as in considering updates to local master plans, strategic plans, and project work plans. Table 8-1 lists how mitigation strategies will be incorporated into planning mechanisms by each participating agency.

Table 8-1. Mitigation Strategy Integration by Participating Agency

Participating Agency	Mitigation Strategies will be Integrated into the Following Existing Planning Mechanisms
Lyon County	Master Plan, Annual Financial Report, Building Codes, Emergency Operations Plans, Drainage Area Master Plans, Capital Improvement Plans, Strategic Plans, Other Policies and Procedures
City of Fernley	Master Plan, Annual Financial Report, Building Codes, Emergency Operations Plans, Drainage Area Master Plans, Capital Improvement Plans, Strategic Plans, Other Policies and Procedures
City of Yerington	Master Plan, Annual Financial Report, Building Codes, Emergency Operations Plans, Drainage Area Master Plans, Capital Improvement Plans, Strategic Plans, Other Policies and Procedures
CLCFPD	Strategic Plan, Annual Financial Report, Fire Codes and Standards, Emergency Operations Plans, Capital Improvement Plans, Other Policies and Procedures
NLCFPD	Strategic Plan, Annual Financial Report, Fire Codes and Standards, Emergency Operations Plans, Capital Improvement Plans, Other Policies and Procedures
MVFPD	Strategic Plan, Annual Financial Report, Fire Codes and Standards, Emergency Operations Plans, Capital Improvement Plans, Other Policies and Procedures
SVFPD	Strategic Plan, Annual Financial Report, Fire Codes and Standards, Emergency Operations Plans, Capital Improvement Plans, Other Policies and Procedures
CWSD	Strategic Plan, Annual Financial Report, Regional Floodplain Management Plan, Drainage Area Master Plans, Carson River Geographical Response Plan, Capital Improvement Plans, Other Policies and Procedures
M/SVCD	Strategic Plan, Annual Financial Report, Regional Floodplain Management Plan, Capital Improvement Plans, Other Policies and Procedures
WRID	Strategic Plan, Annual Financial Report, Regional Floodplain Management Plan, Capital Improvement Plans, Emergency Operations Plans, Dam Safety Plans, Reservoir Management Plans, Other Policies and Procedures

8.4.1 CMIST Framework

Lyon County and participating jurisdictions will incorporate the CMIST Framework into hazard mitigation planning and project implementation. CMIST is an approach for integrating access and functional needs (AFN) or at-risk individuals, who may be disproportionately impacted during emergency situations and have additional needs that must be considered in planning for, responding to, and recovering from a disaster. Figure 8-1 shows the framework is an acronym comprised of five categories (Communication, Maintaining Health, Independence, Support & Safety, and Transportation).

Figure 8-2. CMIST Framework

Communication

Independence

Transportation



**Maintaining
Health**

**Support &
Safety**

8.5 Continued Public Involvement

 FEMA REQUIREMENT 44 CFR §201.6(c)(4)(iii)	D1. Is there discussion of how each community will continue public participation in the plan maintenance process? D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?

Public involvement is a key component of the plan implementation and update process. The annual review of the regional HMP will be conducted in a public forum as part of a Lyon County Local Emergency Planning Committee (LEPC) meeting. The County Emergency Manager and participating entities will make available via the Lyon County website contact information where community members can submit comments and feedback for incorporation into plan revisions. In addition, the latest versions including Mitigation Status Reports will be available on the Emergency Management page of the Lyon County website.

The County and participating entities/jurisdictions will engage community members on an ongoing basis through outreach at local events and meeting to ensure public participation is incorporated outside of the five-year plan update process. All participating entities/jurisdictions will maintain public engagement and awareness programs focuses on increasing the community's awareness of hazards and promoting actions to reduce individuals' and families' exposure to hazard risks. The following are examples of ongoing community awareness and engagement programs:

- Annual weather safety activities;
- Community evacuation plan preparation and evacuation drills;
- Community Wildfire Protection Plan preparation and implementation;
- Meetings with regional Citizen Advisory Boards
- National Night Out
- Outreach through social media and entity/jurisdiction websites

APPENDIX A: ADOPTED RESOLUTIONS

A.1 Lyon County Resolution for Adoption – Signed December 21, 2023**RESOLUTION 23-~~27~~ ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD MITIGATION PLAN**

WHEREAS, the Lyon County Board of County Commissioners recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan; and

WHEREAS, Lyon County has prepared the 2023 Regional Hazard Mitigation plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Lyon County Board of County Commissioners demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan: now, therefore, be it

RESOLVED, that the Lyon County Board of County Commissioners adopts the 2023 Lyon County Regional Hazard Mitigation Plan for the mitigation planning period between the years 2024-2028; be it further

RESOLVED, that the 2023 Lyon County Regional Mitigation Plan may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Lyon County Board of County Commissioners approval; be it finally

RESOLVED, that subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopted this 21 day of DECEMBER, 2023

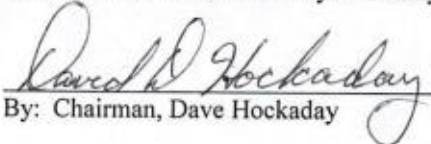
Ayes: Hockaday, Henderson, Hendrix, Jacobson, Keller

Nays: None

Abstentions: None

Absent: None

Board of Commissioners of Lyon County


By: Chairman, Dave Hockaday

A.2 City of Fernley Resolution for Adoption – Signed December 21, 2023

CITY OF FERNLEY
RESOLUTION # 23-017

A RESOLUTION OF THE CITY OF FERNLEY ADOPTING THE REGIONAL HAZARD MITIGATION PLAN.

WHEREAS, the City of Fernley is a political subdivision of the State of Nevada, organized pursuant to the provisions of NRS 266; and

WHEREAS, recognizes the threat that natural hazards pose to people and property within the City of Fernley; and

WHEREAS, Lyon County in cooperation with the City of Fernley and other jurisdictions has prepared a multi-hazard mitigation plan, hereby known as the Regional Hazard Mitigation Plan 2023 in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the Regional Hazard Mitigation Plan 2023 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Fernley from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Fernley City Council demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Regional Hazard Mitigation 2023.

NOW THEREFORE, BE IT RESOLVED, that the Fernley City Council adopts the Regional Hazard Mitigation Plan 2023. While content related to Fernley may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Fernley to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Aye: 5 Nay: 0 Abstention: 0 Absent: 0

FERNLEY CITY COUNCIL

By: Neal E. McIntyre Date: 12-21-23
Neal E. McIntyre, Mayor

Attest By: Kim Swanson Date: 12/21/23
Kim Swanson, City Clerk

A.3 City of Yerington Resolution for Adoption – Signed January 8, 2024**RESOLUTION NO. 2024-02****A RESOLUTION ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD MITIGATION PLAN**

WHEREAS the City of Yerington recognizes the threat that natural hazards pose to people and property within the City of Yerington; and

WHEREAS the Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Yerington from the impacts of future hazards and disasters; and

WHEREAS adoption by the City of Yerington demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE City of Yerington, Nevada, THAT:

Section 1. In accordance with the Yerington City Charter, 2.080, the City of Yerington adopts the 2023 Lyon County Regional Hazard Mitigation Plan. While content related to the City of Yerington may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Yerington to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

PASSED, APPROVED AND ADOPTED this 8th day of January 2024, by the City Council of City of Yerington.

Ayes: Councilmembers

Nays: None

Absent:


John J. Garry, Mayor of the City of Yerington

ATTEST:


Sheema D. Shaw, City Clerk

APPROVED AS TO FORM:


Charles Zumpft, City Attorney

A.4 Central Lyon County Fire Protection District Resolution for Adoption – Signed January 11, 2024**RESOLUTION 24 – 1 ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD MITIGATION PLAN**

WHEREAS, the Central Lyon County Fire Protection District Board of Directors recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan; and

WHEREAS, Lyon County has prepared the 2023 Regional Hazard Mitigation plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Central Lyon County Fire Protection District Board of Directors demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan: now, therefore, be it

RESOLVED, that the Central Lyon County Fire Protection District Board of Directors adopts the 2023 Lyon County Regional Hazard Mitigation Plan for the mitigation planning period between the years 2024-2028; be it further

RESOLVED, that the 2023 Lyon County Regional Mitigation Plan may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Central Lyon County Fire Protection District Board of Directors approval; be it finally

RESOLVED, that subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopted this 11 day of January, 2024

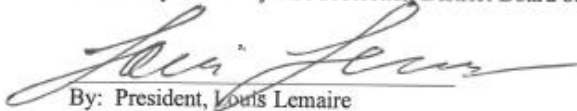
Ayes: 4

Nays: _____

Abstentions: _____

Absent: _____

Central Lyon County Fire Protection District Board of Directors


By: President, Louis Lemaire

A.5 North Lyon County Fire Protection District Resolution for Adoption – Signed January 11, 2024**North Lyon County Fire Protection District****RESOLUTION 24-01 ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD MITIGATION PLAN**

WHEREAS, the North Lyon County Fire Protection District recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan; and

WHEREAS, Lyon County has prepared the 2023 Regional Hazard Mitigation plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the North Lyon County Fire Protection District demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan; now, therefore, be it

RESOLVED, that the North Lyon County Fire Protection District adopts the 2023 Lyon County Regional Hazard Mitigation Plan for the mitigation planning period between the years 2024-2028; be it further

RESOLVED, that the 2023 Lyon County Regional Mitigation Plan may require revisions to meet the plan approval requirements, changes occurring after adoption will not require North Lyon County Fire Protection District approval; be it finally

RESOLVED, that subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

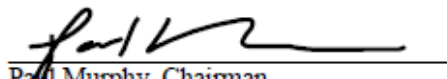
Adopted this 11th day of January 2024

Ayes: 4

Nays: 0

Abstentions: 0

Absent: 0



Paul Murphy, Chairman

North Lyon County Fire Protection District

A.6 Yerington/Mason Valley Fire Protection District Resolution for Adoption – Signed April 17, 2024**RESOLUTION 23-__ ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD MITIGATION PLAN**

WHEREAS, the Mason Valley Fire Protection District recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan; and

WHEREAS, Lyon County has prepared the 2023 Regional Hazard Mitigation plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Mason Valley Fire Protection District demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan; now, therefore, be it

RESOLVED, that the Mason Valley Fire Protection District adopts the 2023 Lyon County Regional Hazard Mitigation Plan for the mitigation planning period between the years 2024-2028; be it further

RESOLVED, that the 2023 Lyon County Regional Mitigation Plan may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Mason Valley Fire Protection District's approval; be it finally

RESOLVED, that subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopted this 17 day of April, 2024

Ayes: 3
Nays: 0
Abstentions: 0
Absent: 2

Mason Valley Fire Protection District


By: Board Chairman, Jeff Pope

A.7 Smith Valley Fire Protection District Resolution for Adoption – Signed February 12, 2024

Resolution No. 2024-01

SMITH VALLEY FIRE PROTECTION DISTRICT
RESOLUTION ADOPTING THE 2023 LYON COUNTY REGIONAL HAZARD
MITIGATION PLAN

WHEREAS, the Smith Valley Fire Protection District recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan; and

WHEREAS, Lyon County has prepared the 2023 Regional Hazard Mitigation plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the 2023 Lyon County Regional Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Smith Valley Fire Protection District Board of Directors demonstrates its commitment to hazard mitigation and achieving the goals outlined in the 2023 Lyon County Regional Hazard Mitigation Plan: now, therefore, be it

RESOLVED, that the Smith Valley Fire Protection District Board of Directors adopts the 2023 Lyon County Regional Hazard Mitigation Plan for the mitigation planning period between the years 2024-2028; be it further

RESOLVED, that the 2023 Lyon County Regional Mitigation Plan may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Smith Valley Fire Protection District Board of Directors approval; be it finally

RESOLVED, that subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

Adopted this 12th day of February, 2024

Ayes: Lawrence Thompson, Justin Geney, Joseph Delucchi, Jim Hunt

Nays: _____

Abstentions: _____

Absent: Cole Vlot

Smith Valley Fire Protection District Board of Directors

Lawrence Thompson

By: President, Lawrence Thompson (or Designee)

A.8 Carson Water Subconservancy District – Signed January 17, 2024



CWSD RESOLUTION #2024-1

CARSON WATER SUBCONSERVANCY DISTRICT**Resolution of the Carson Water Subconservancy District Board of Directors****2023 Lyon County Regional Hazard Mitigation Plan**

WHEREAS, the Carson River Watershed has historically experienced severe damage from natural and human caused hazards such as flooding, wildfire, drought, thunderstorms, high winds, severe weather 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; and

WHEREAS, the Carson Water Subconservancy District Board of Directors recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS, Lyon County has prepared a multi-hazard mitigation plan, hereby known as the 2023 Lyon County Regional Hazard Mitigation Plan (hereafter "the Plan") with CWSD listed as a participating jurisdiction of this plan; and

WHEREAS, Lyon County has prepared the Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS, the Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people in Lyon County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Carson Water Subconservancy District Board of Directors demonstrates its commitment to hazard mitigation and achieving the goals outlined in 2023 Lyon County Regional Hazard Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Carson Water Subconservancy District (CWSD), that:

1. The Plan is hereby adopted as an official plan of CWSD.
2. The respective officials identified in the mitigation strategies of the Plan are hereby directed to pursue implementation of the recommended actions assigned to them.
3. While content related to CWSD may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Carson Water Subconservancy District to re-adopt any further iterations of the Plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

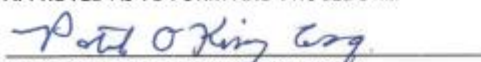
APPROVED AND ADOPTED this 17th day of January 2024, by the Board of Directors of Carson Water Subconservancy District.


Mike Workman, Chairperson

ATTEST:


Catrina Schambra, Secretary to the Board

APPROVED AS TO FORM AND PROCEDURE:


Patrick O. King, Esq., General Counsel

CWSD Resolution #2024-1

1/17/2024

A.9 Mason and Smith Valley Conservation Districts – Signed January 16, 2024**A.9.1 Mason Valley Conservation District – Signed Resolution****Lyon County Hazard Mitigation Plan Adoption Resolution**

Mason Valley Conservation District, Nevada

RESOLUTION NO. A RESOLUTION OF THE MASON VALLEY CONSERVATION DISTRICT ADOPTING THE LYON COUNTY 2023 HAZARD MITIGATION PLAN.

WHEREAS the Mason Valley Conservation District recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS the Mason Valley Conservation District has prepared a multi-hazard mitigation plan, hereby known as the LYON COUNTY 2023 HAZARD MITIGATION PLAN in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the LYON COUNTY 2023 HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Lyon County from the impacts of future hazards and disasters; and

WHEREAS adoption by the Mason Valley Conservation District demonstrates its commitment to hazard mitigation and achieving the goals outlined in the LYON COUNTY 2023 HAZARD MITIGATION PLAN.

NOW THEREFORE, BE IT RESOLVED BY THE MASON VALLEY CONSERVATION DISTRICT, NEVADA, THAT:

Section 1. In accordance with the majority vote of the Mason Valley Conservation District Governing Board, the Mason Valley Conservation District, Nevada, adopts the LYON COUNTY 2023 HAZARD MITIGATION PLAN. While content related to Lyon County may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Lyon County to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 16TH day of JANUARY, 2024.

By: Robert Cooper (print name)

ATTEST: By: ED RYAN (print name)

APPROVED AS TO FORM: By: _____ (print name)

A.9.2 Smith Valley Conservation District – Signed Resolution**Lyon County Hazard Mitigation Plan Adoption Resolution**

Smith Valley Conservation District, Nevada

RESOLUTION NO. A RESOLUTION OF THE SMITH VALLEY CONSERVATION DISTRICT ADOPTING THE LYON COUNTY 2023 HAZARD MITIGATION PLAN.

WHEREAS the Smith Valley Conservation District recognizes the threat that natural hazards pose to people and property within Lyon County; and

WHEREAS the Smith Valley Conservation District has prepared a multi-hazard mitigation plan, hereby known as the LYON COUNTY 2023 HAZARD MITIGATION PLAN in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the LYON COUNTY 2023 HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Lyon County from the impacts of future hazards and disasters; and

WHEREAS adoption by the Smith Valley Conservation District demonstrates its commitment to hazard mitigation and achieving the goals outlined in the LYON COUNTY 2023 HAZARD MITIGATION PLAN.

NOW THEREFORE, BE IT RESOLVED BY THE SMITH VALLEY CONSERVATION DISTRICT, NEVADA, THAT:

Section 1. In accordance with the majority vote of the Smith Valley Conservation District Governing Board, the Smith Valley Conservation District, Nevada, adopts the LYON COUNTY 2023 HAZARD MITIGATION PLAN. While content related to Lyon County may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Lyon County to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 16TH day of JANUARY, 2024.

By: Richard C. Huntbary (print name)
CHAIRMAN

ATTEST: By: ED RYAN (print name)

APPROVED AS TO FORM: By: _____ (print name)

A.10 Walker River Irrigation District – Signed February 7, 2024

WALKER RIVER IRRIGATION DISTRICT, NEVADA

RESOLUTION NO. 2024-1 A RESOLUTION OF WALKER RIVER IRRIGATION DISTRICT ADOPTING THE LYON COUNTY REGIONAL HAZARD MITIGATION PLAN 2023 Edition.

WHEREAS the Walker River Irrigation District recognizes the threat that natural hazards pose to people and property within Walker River Irrigation District; and

WHEREAS the Walker River Irrigation District has prepared a multi-hazard mitigation plan, hereby known as Lyon County Regional Hazard Mitigation Plan 2023 Edition in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS Lyon County Hazard Mitigation Plan 2023 Edition identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Walker River Irrigation District from the impacts of future hazards and disasters; and

WHEREAS adoption by the Walker River Irrigation District demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Lyon County Hazard Mitigation Plan 2023 Edition.

NOW THEREFORE, BE IT RESOLVED BY THE WALKER RIVER IRRIGATION DISTRICT, NEVADA, THAT:

Section 1. In accordance with historical practices in adopting resolutions, the Walker River Irrigation District adopts the Lyon County Hazard Mitigation Plan 2023 Edition. While content related to Walker River Irrigation District may require revisions to meet the plan approval requirements, changes occurring after adoption will not require Walker River Irrigation District to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 7 day of February, 2024.

By: Jim Snyder (print name)

ATTEST: By: JESSICA HARTERMAN (print name)

APPROVED AS TO FORM: By: Robert C. Bryan (print name)

APPENDIX B: LOCAL MITIGATION PLAN REVIEW CHECKLIST

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA's evaluation of whether the plan has addressed all requirements.

Plan Information	
Jurisdiction(s)	Lyon County (Lead Agency), City of Fernley, City of Yerington, Central Lyon County Fire Protection District, North Lyon County Fire Protection District, Mason Valley Fire Protection District, Smith Valley Fire Protection District, Carson Water Subconservancy District, Mason and Smith Valley Conservation Districts, Walker River Irrigation District
Title of Plan	2023 Lyon County Regional Hazard Mitigation Plan
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-jurisdiction
Date of Plan	12/21/2023
Local Point of Contact	
Title	Taylor Allison, Emergency Manager
Agency	Lyon County
Address	34 Lakes Blvd., Dayton, NV 89403
Phone Number	(775) 344-8325
Email	tallison@lyon-county.org

Review Information	
State Review	
State Reviewer(s) and Title	Click or tap here to enter text.
State Review Date	Click or tap to enter a date.
FEMA Review	
FEMA Reviewer(s) and Title	Jaime Symons, FEMA Community Planner Agathe Olier, CERC Planner
Date Received in FEMA Region	5/20/2024
Plan Not Approved	7/11/2024
Plan Approvable Pending Adoption	Click or tap to enter a date.
Plan Approved	9/12/2024

Multi-Jurisdictional Summary Sheet

In the boxes for each element, mark if the element is met (Y) or not met (N).

#	Jurisdiction Name	A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. HHPD Requirements	H. State Requirements
1	Lyon County	Y	Y	Y	Y	Y	Y		
2	City of Fernley	Y	Y	Y	Y	Y	Y		
3	City of Yerington	Y	Y	Y	Y	Y	Y		
4	Central Lyon County Fire Protection District	Y	Y	Y	Y	Y	Y		
5	North Lyon County Fire Protection District	Y	Y	Y	Y	Y	Y		
6	Yerington/ Mason Valley Fire Protection District	Y	Y	Y	Y	Y	Y		
7	Smith Valley Fire Protection District	Y	Y	Y	Y	Y	Y		
8	Carson Water Sub Conservancy District	Y	Y	Y	Y	Y	Y		
9	Mason & and Smith Valley Conservation Districts	Y	Y	Y	Y	Y	Y		
10	Walker River Irrigation District	Y	Y	Y	Y	Y	Y		

Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been “met” or “not met.” FEMA completes the “required revisions” summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is “not met.” Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?	How it was prepared, Section 3.5, pp. 63-64; Schedule, Section 3.3.2, pp.56-57; Who was involved, p. 5	Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	Plan Adoption and Approval, p.3-5	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A2. Does the plan document 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 non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	Chapter 3.4.2, pp. 61-63	Met
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	Chapter 3.4, pp. 57-61	Met
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	Chapter 3.2, pp. 55-56	Met
ELEMENT A REQUIRED REVISIONS		
Required Revision: Click or tap here to enter text.		

Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Chapter 4, pp.65-66	Met
B1-b. Does the plan include information on the location of each identified hazard?	Wildland Fire , Chapter 4.2.2.5, p.80-84; Severe Storms and Extreme Snowfall , Chapter 4.2.3.1, p.87; Landslide , Chapter 4.2.4, p.96; Flood , Chapter 4.2.9.3, pp. 124-126; Drought , Chapter 4.2.11.2, p.132; Earthquake , Chapter 4.2.12.2, p.140	Met
B1-c. Does the plan describe the extent for each identified hazard?	Wildland Fire , Chapter 4.2.2.3, pp.79-84; Severe Storms and Extreme Snowfall , Chapter 4.2.3.2; pp.92-93; Landslide , Chapter 4.2.4.3, p.97; Flood , Chapter 4.2.9.3, pp.123-127; Drought , Chapter 4.2.11.3, p.133; Earthquake , Chapter 4.2.12.3 pp.140-142	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-d. Does the plan include the history of previous hazard events for each identified hazard?	Chapter 2.5, p. 52; Wildland Fire , Chapter 4.2.2.2, pp.76-78; Severe Storms and Extreme Snowfall , Chapter 4.2.3.2, pp.87-92; Landslide , Chapter 4.2.4.2, pp.96-97; Flood , Chapter 4.2.9.2, pp.119-123; Drought , Chapter 4.2.11.2, pp.132-133; Earthquake , Chapter 4.2.12.2, pp.137-140	Met
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?	Wildland Fire , Chapter 4.2.2.3, p.79, Climate Change, Chapter 4.2.2.4, p.84; Severe Storms and Extreme Snowfall , Chapter 4.2.3.3, pp.92-93, Climate Change, Chapter 4.2.3.4, p.93; Landslide , Chapter 4.2.4.3, p.97, Climate Change, p.97; Flood , Chapter 4.2.9.3, pp.123-127, Climate Change, p.127; Drought , Chapter 4.2.11.3, pp.133-134, Climate Change, Chapter 4.2.11.4, p.134; Earthquake , Chapter 4.2.12.3, pp. 140-142, Climate Change, p.142	Met

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?	Wildland Fire , Chapter 4.2.2.5, p.85; Severe Storms and Extreme Snowfall , Chapter 4.2.3.5, pp.94-95; Landslide , Chapter 4.2.4.5, pp.98-99; Flood , Chapter 4.2.9.5, pp.127-128; Drought , Chapter 4.2.11.5, pp.134-135; Earthquake , Chapter 4.2.12.5, pp.142-144	Met
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))		
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?	Wildland Fire , Chapter 4.2.2, p.75; Severe Storms and Extreme Snowfall , Chapter 4.2.3, p.86; Landslide , Chapter 4.2.4, p.95; Flood , Chapter 4.2.9, p.118; Drought , Chapter 4.2.11, p.132; Earthquake , Chapter 4.2.12, p.136; Community Vulnerabilities , Chapter 5.1.1-5.1.10, pp. 154-172	Met
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?	Chapter 4.3, p. 68; Chapter 5.1.1, pp.154-172	Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?	Chapter 5.5, p.173	Met

ELEMENT B REQUIRED REVISIONS

Required Revision:

Click or tap here to enter text.

Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Chapter 6.16-6.3, pp.174-179	Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	Chapter 6.4, pp. 179-181	Met
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	Chapter 6.6, pp. 181-182 Plan revisions for Section 6.6 are on pages 187-192	Met
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Chapter 7.1, updated page numbers pp.194	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Chapter 7.1.1-7.1.2 updated page numbers pp.195-314	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	Chapter 7.1.1-7.1.2 updated page numbers pp.195-314	Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?	Chapter 7.1.2, p.198	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Chapter 7.1.1-7.1.2 Revisions are provided on pages 195-314	Met
ELEMENT C REQUIRED REVISIONS		
Required Revision:		

Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Chapter 8.5, updated page number 320	Met
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Chapter 8.2.1, updated page numbers 315-316	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Chapter 8.3, updated page numbers 317	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Chapter 8.2.2, updated page numbers 316-317	Met
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	Chapter 8.4, updated page numbers 317-319	Met
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	Chapter 8.4, updated page numbers 317-319	Met

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	Chapter 8.4, updated page numbers 317-319	Met
ELEMENT D REQUIRED REVISIONS		
Required Revision: Click or tap here to enter text.		

Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	Lyon County , Chapter 2.1.4.1, pp.26-27, Chapter 2.1.5, pp.27-28; Lyon County , Chapter 2.2.1.3, pp. 33-34; City of Yerington , Chapter 2.2.2.3, p.37; Central Lyon County Fire Protection District , Chapter 2.3.1.3, p.40; North Lyon County Fire Protection District , Chapter 4.1.1.1, p.42; Smith Valley Fire Protection District , Chapter 4.1.1.2, p.43; Yerington/ Mason Valley Fire Protection District , Chapter 4.1.1.3, p.44; Carson Water Sub Conservancy District , Chapter 4.1.1.4, p.47; Walker River Irrigation District , Chapter 4.1.1.5, p.49; Mason & and Smith Valley Conservation Districts , Chapter 4.1.1.8, p.51	Met
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Chapter 1.4, pp. 18-19	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Appendix C, pp. 308-323	Met

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Chapter 6.1, p.175; Chapter 8.4, updated page numbers 317-319	Met
ELEMENT E REQUIRED REVISIONS		
Required Revision:		

Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?	Appendix A, updated page numbers 321-331	Met
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Appendix A, updated page numbers 321-331	Met
ELEMENT F REQUIRED REVISIONS		
Required Revision:		

Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	Click or tap here to enter text.	Choose an item.
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	Click or tap here to enter text.	Choose an item.
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	Click or tap here to enter text.	Choose an item.
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	Click or tap here to enter text.	Choose an item.
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	Click or tap here to enter text.	Choose an item.
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	Click or tap here to enter text.	Choose an item.

HHPD Required Revisions

Required Revision:

Click or tap here to enter text.

Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements.		
Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.

Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

Element A. Planning Process

Strengths

- The public was well involved in the planning process. This was through a good combination of online outreach, public meetings, and community events.

Opportunities for Improvement

- Consider involving more stakeholders, such as more than one academic organization, to the plan. Also include groups such as school districts, as well as additional nonprofits and community-based organizations that reach your counties more at risk-populations.
- To strengthen the hazard profiles, consider adding a map to show the location for the landslide hazard.
- Consider inviting additional representatives of businesses, academia, and private organizations to the planning process. This will help include different members of the community and provide more input to the plan.

Element B. Risk Assessment

Strengths

- Including case studies within the disaster profiles adds a storytelling component and is beneficial to the plan for examples.
- The plan has a detailed vulnerability summary for each jurisdiction within the plan. This will help communities understand the risks each hazard poses to each jurisdiction.

Opportunities for Improvement

- Continue to monitor the risk of volcanoes and the community concern. This may result in adding volcanoes back into the risk assessment. In addition to indicating in the planning meeting notes the rationale for omission, the plan would benefit from this being further explained in the body of the plan.

Element C. Mitigation Strategy

Strengths

- The plan explains how each jurisdiction can expand and improve their capabilities to advance mitigation. It also lists a contact point to follow-up with these actions. This will allow for a point of contact to be in charge of each improvement.

Opportunities for Improvement

- In the next plan update consider opportunities to further explain each jurisdiction's rating system for prioritizing each mitigation action. This can include explaining further how mitigation actions were determined to be high, medium, or low. The rating system can take into consideration cost, the time it will take to implement the mitigation action, political support, community buy-in, etc.
- Consider including a more detailed timeline for the mitigation strategy goals, such as a target month within a year. Also describe what "all" means within the timeline. If the mitigation goal is more than five years away, break up the project into smaller phases. This will allow the community to show progress on the action in the next plan.
- Look for opportunities to provide further clarity as to the Lyon County building code structure and how it applies to each jurisdiction. The plan can also expand on actions taken by each jurisdiction and if (and when) they have adopted the International Building Code.

Element D. Plan Maintenance**Strengths**

- The plan has a methodology to follow to consider the effectiveness of the plan during the annual review.

Opportunities for Improvement

- The public is well engaged for continued public involvement. There were examples of community awareness during community events, social media, websites and annual events. Think about including a specific process of how vulnerable populations will be included within the plan in the future to make sure they are invited to the planning process.

Element E. Plan Update**Strengths**

- The plan discusses each jurisdiction's changes in development that includes trends in the industry, land use and development, and transportation. This helps identify how the jurisdictions have changed since the previous plan.

Opportunities for Improvement

- Mitigation actions from the previous plan are well explained with their in-progress notes. However, it would help to add the anticipated completion date to the actions, as some are missing the date.
- In the next plan update look to expand on how the plan was integrated into other planning mechanisms. Consider expanding upon the process of plan integration in reference to the capability assessment which lists many other plans promoting resilience.

APPENDIX C: HMP MEETING AGENDAS AND HANDOUTS

C.1. 2018 Multi-Jurisdictional Hazard Mitigation Plan Final Progress Report

Goals	County/Cities	Action	New or Existing Action.	Description	Project Status Report
Goal 1: Promote increased and ongoing involvement in hazard- mitigation planning and projects	Lyon County, City of Fernley, City of Yerington, and CLCFPD	1.A	Existing	Integrate the Lyon County MJHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans. Ensure coordination with the County's 2010 Master Plan (such as the need for land use designations to direct growth to lower risk areas)	☐ Complete ☒ In progress, anticipated completion date: Ongoing ☐ Not started ☐ Abandoned Additional information: <i>Progress is ongoing. In 2020, Lyon County adopted an updated Master Plan incorporating components of the 2018 HMP.</i>
	Lyon County, City of Fernley, City of Yerington and CLCFPD	1.B	Existing	Add mitigation actions to each jurisdiction's website.	☒ Complete ☐ In progress, anticipated completion date: _____ ☐ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY, and CLCFPD added 2018/2019 Multi-jurisdictional HMP to their websites.</i>
Goal 2: Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters	Lyon County, City of Fernley, City of Yerington.	2.A	Existing	Establish density incentives for future construction (to encourage less development in more hazardous areas).	☐ Complete ☒ In progress, anticipated completion date: Discussed during 2020 Master Plan revision. No anticipated date at this time. ☐ Not started ☐ Abandoned

Goal 3: Reduce the possibility of damage and losses due to am/ or canal failure:	Lyon County, City of Fernley, City of Yerington	3.A	Existing	Develop a public outreach program that informs property owners located in a dam/or canal inundation area about voluntary flood insurance.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY, and CLCFPD did not have capacity to complete this strategy by 2023.</i>
	Lyon County	3.B	New	Utilize the Sheep Camp Dam Emergency Plan -2018	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – with support from CWSD</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	3.C	New	Annually monitor dams and canals.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing</i> ☐ Not started ☐ Abandoned
Goal 4: Reduce the possibility of damage and losses due to drought	Lyon County, City of Fernley, City of Yerington	4.A	Existing	Develop a drought response plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks in advance of drought, and develop response options that minimize hardships during drought.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY, and CLCFPD did not have capacity to complete this strategy by 2023.</i>

	Lyon County, City of Fernley, City of Yerington	4.B	Existing	Where appropriate, mandate the use of xeriscaping or desert landscaping at County/City facilities and projects.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023</i>
	Lyon County, City of Fernley, City of Yerington	4.C	Existing	Develop a public outreach program that educates property owners about the benefits of drought resistant landscaping	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023.</i>
	Lyon County, City of Fernley, City of Yerington	4.D	Existing	Work with the Carson Water Subconservancy District to apply their studies on water/aquifer recharge to Lyon County.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	4.E	Existing	Implement a thirsty/invasive weed public awareness and educational campaign.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned

					Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023.</i>
	Lyon County, City of Fernley, City of Yerington	4.F	New	With all Water system purveyors prepare a drought mitigation plan and review and update annually.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023.</i>
Goal 5: Reduce the possibility of damage and losses due to earthquakes	Lyon County, City of Fernley, City of Yerington	5.A	Existing	Seismically retrofit or replace critical facilities that are necessary during and/or immediately after a disaster or emergency.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023.</i>
	Lyon County, City of Fernley, City of Yerington	5.B	Existing	Seismically retrofit or replace unreinforced masonry buildings, located in high ground shaking areas, and/or as necessary for first responders to use during and/or immediate after a disaster or emergency (as identified by the University of Nevada Reno inventory).	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information:

					<i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023.</i>
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	5.C	Existing	Provide education to the general public how to prepare their households, in the event of an earthquake, by presenting preparedness information and hands-on displays (“Living with Earthquakes in Nevada”) as good public outreach material.	☐ Complete ☐ In progress, anticipated completion date: <i>Ongoing – Great ShakeOut and other awareness events. Messaging provided on social media.</i> ☐ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY and CLCFPD have limited capacity and resources to complete this strategy.</i>
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	5.D	Existing	Develop a public outreach program that informs property owners of the risks of Earthquakes in their area and informs the public about State Earthquake insurance (Nevada continues to participate and advertise the Great Shakeout).	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY and CLCFPD did not have capacity and resources to complete this strategy by 2023.</i>
	Lyon County, City of Fernley, City of Yerington	5.E	Existing	Develop current Earthquake fault maps to ensure future growth is most compatible with the hazard area.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – developed in 2018. Jurisdictions also have access to HAZUS data and maps.</i> ☐ Not started ☐ Abandoned

	Lyon County, City of Fernley, City of Yerington	5.F	New	In coordination with the State, implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facilities and infrastructure, and retrofit buildings, if necessary.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have capacity and resources to complete this strategy by 2023. Latest URM data from NBMG is 2011.</i>
Goal 6: <i>Reduce the possibility of damage and losses due to extreme heat</i>	Lyon County, City of Fernley, City of Yerington, and CLCFPD	6.A	Existing	Initiate an extreme heat public awareness and educational campaign to discuss the dangers of extreme heat, steps each individual can personally take during periods of extreme heat and ways to reduce energy consumption during periods of extreme heat.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY and CLCFPD did not have capacity and resources to complete this strategy by 2023.</i>
Goal 7: <i>Reduce the possibility of damage and losses due to flooding</i>	Lyon County, City of Fernley, City of Yerington	7.A	Existing	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	☐ Complete ☒ In progress, anticipated completion date: <i>No anticipated date of completion.</i> ☐ Not started ☐ Abandoned Additional information: <i>Lyon County coordinated with CWSD to complete and adopt 2 Drainage Area Master Plans for the North and South Dayton Areas between 2018-2023. In addition, Drainage Area Master Plans are in progress for the</i>

					<i>Stagecoach and Silver Springs areas. These studies identify alternatives to drainage challenges that may be addressed through future development, and include benefit cost analysis information.</i>
	Lyon County, City of Fernley, City of Yerington	7.B	Existing	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County, COF, COY reinforce infrastructure as needed and during high water years such as 2019 and 2023.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	7.C	Existing	Work with the Division of Water Resources and FEMA Region IX to ensure that flood maps accurately reflect the flood history of Lyon County.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County worked with DWR and CWSD to submit LOMR to FEMA between 2018-2023</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	7.D	Existing	Develop a public outreach program that educates property owners about voluntary flood insurance (targeted at areas that historically flood, but are not acknowledged on FEMA flood insurance rate maps as being in the Special Flood Hazard Areas.)	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – promoting flood awareness resources from Nevada Floods, and on Lyon County Flood Information website https://lyon-county.org/1074/Flood-Information. Developed a 2023 Community Flood Information Guide. Lyon County and City of Yerington also hosted a Flood Preparedness Town Hall on April 25, 2023.</i> ☐ Not started ☐ Abandoned

	Lyon County, City of Yerington	7.E	Existing	Work with surrounding counties to develop a watershed coordination organization for Walker River.	☐ Complete ☒ In progress, anticipated completion date: <i>No anticipated completion date. Lyon County and COY are in discussions with Walker River Irrigation District to explore becoming a FEMA Cooperating Technical Partner (CTP). Meanwhile CWSD is facilitating a flood hazard risk analysis on the Walker River.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	7.F	Existing	Fix low points along river banks at critical areas	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County, COY made significant progress on fortifying low-lying areas over 7 miles of the Walker River in partnership with WRID and a private entity in preparation for 2023 Spring Thaw floods. Levee work was aligned with USACE recommendations.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	7.G	Existing	Work with appropriate entities to discuss proper maintenance of the Walker River (dredging is desired by some, but there are both environmental and economic concerns regarding capacity maintenance)	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing discussions - Lyon County has had preliminary discussions with WRID, DEM and other partners to identify potential solutions to sediment challenges in the Walker River basin. WRID removed 330,000 metric tons of sediment in 2015 during low water year which is not sustainable. Potential solution and suggested alternatives should be identified in future drainage area master plan studies.</i> ☐ Not started

					☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	7.H	Existing	Develop a public outreach that informs the public about the hazards of contamination of domestic wells/septic tanks due to overtopping.	☐ Complete ☒ In progress, anticipated completion date: <i>Lyon County and City of Yerington made progress in communicating with residents on domestic septic systems in the Mason Area impacted by 2023 Spring Thaw floods. In August 2023, City of Fernley released a domestic well questionnaire to gather data on impacts to water recharge from recent work on the Truckee Canal.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	7.I	Existing	Partner with propane providers, communities and regulating agencies to secure tanks located in special flood hazard areas.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County communicated with propane providers during 2023 floods to secure tanks in high-risk areas such as the City of Yerington and on the East Fork of the Walker River.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	7.J	New	Continue the ongoing ability to remove sediment and debris from rivers.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – In 2019 and 2023, Lyon County and City of Yerington partnered with Walker River Irrigation District removed large trees and debris from the river to protect critical infrastructure such as bridges and roads.</i> ☐ Not started ☐ Abandoned
	Lyon County,	7.K	New	Keep the current floodplain open as natural storage, the “Living River	☐ Complete

	City of Yerington			Concept” as identified in the Carson River Regional Watershed Floodplain Management Plan – 2018 and Adopted by the Lyon County Board of County Commissioners.	☒ In progress, anticipated completion date: <i>Ongoing – with support and facilitation from CWSD. Regional partners are working toward a 2023 revision to the Carson River Regional Watershed Floodplain Management Plan.</i> ☐ Not started ☐ Abandoned
Goal 8: <i>Reduce the possibility of damage and losses due to Hail and thunderstorms</i>	Lyon County, City of Fernley, City of Yerington, and CLCFPD	8.A	Existing	Implement Warning Systems that monitor Hail Storms for use by local emergency managers and citizens, such as NOAA Weather Radios.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County coordinated with NWS-Reno to implement warning systems for all severe weather hazards, including hail storms.</i> ☐ Not started ☐ Abandoned
Goal 9: <i>Reduce the possibility of damage and losses due to hazardous materials</i>	Lyon County, City of Fernley, City of Yerington, and CLCFPD	9.A	Existing	Work with NDOT to require all transport of hazardous materials to follow approved routes.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing discussions</i> ☐ Not started ☐ Abandoned Additional information: <i>With recent advancements in location-based GPS services for both commercial and non-commercial travelers on non-approved routes (i.e., Ramsey Weeks Cut Off, and Miller/Aiazzi/Pete Hendrichs). While no-commercial truck signage is posted, jurisdictions face ongoing challenges with travelers following GPS-directed routes.</i>
	Lyon County, City of Fernley,	9.B	Existing	Use the County’s, Cities and CLCFPD Web sites to post information	☒ Complete ☐ In progress, anticipated completion date: _____

	City of Yerington, and CLCFPD			regarding the safe handling and disposal of household chemicals.	☐ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY, and CLCFPD have posted information on each jurisdiction's websites related to the safe disposal of household chemicals.</i>
Goal 10: Reduce the possibility of damage and losses due to landslide	Lyon County, City of Fernley, City of Yerington	10.A	Existing	Establish County code which requires the stabilization of landslide-prone areas before new development can occur, through stability improvement measures such as the inclusion of interceptor drains, insitu soil piles, drained earth buttresses, and subdrains.	☐ Complete ☒ In progress, anticipated completion date: <i>No anticipated date of completion. Lyon County has made some progress in the form of geotechnical engineering reviews and other studies of high-priority areas such as Hoyer Canyon.</i> ☐ Not started ☐ Abandoned
Goal 11: Reduce the possibility of damage and losses due to Land subsidence	Lyon County, City of Fernley, City of Yerington	11.A	Existing	Develop and adopt setbacks from mapped faults to help mitigate future fissure losses.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County, COF, COY did not have the capacity and resources to complete in 2018-2023.</i>
Goal 12: Reduce the possibility of damage and losses due to	Lyon County, City of Fernley, City of Yerington; and CLCFPD	12.A	Existing	Improve and update an early weather/community hazard warning system such as reverse 911 (or update and ensure integration throughout all communities).	☐ Complete ☒ In progress, anticipated completion date: <i>Lyon County Sheriff's Office adopted "Sheriff's App" based on challenges and feedback received on real-time Reverse911</i>

severe weather					<i>notifications. The Sheriff's App provides push notifications to android and iphone iOS users. Emergency Management will utilize this app to provide early warning notifications for future events.</i> ☐ Not started ☐ Abandoned
Goal 13: Reduce the possibility of damage and losses due to wildfire	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.A	Existing	Implement fuel reduction programs, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones (work with fire districts, BLM and UCFS).	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – CLCFPD and other fire protection districts offer fuels reduction programs</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.B	Existing	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – CLCFPD and other fire protection districts offer vegetation management programs for vulnerable populations</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.C	Existing	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – CLCFPD and other fire protection districts conduct commercial and residential building plan reviews. In addition, CLCFPD adopted the 2018 International WUI code in November 2019. In July 2021, CLCFPD officially expanded to include applying and enforcing IWUI during residential plan reviews.</i> ☐ Not started ☐ Abandoned

	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.D	Existing	Establish appropriate standards for defensible space around county/city-owned structures that are vulnerable to the effects of wildfire. Encourage private and commercial property owners to adopt the same.	☐ Complete ☒ In progress, anticipated completion date: <i>In July 2021, CLCFPD expanded the 2018 International WUI code adoption to apply and enforce on residential plan reviews. IWUI establishes standards for defensible space.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.E	Existing	Develop community wildfire mitigation plans that identify and name areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	☐ Complete ☒ In progress, anticipated completion date: <i>The 2023 Lyon County CWPP, led by NDF, is in progress to be finalized and adopted by Lyon County, Cities, and Fire Protection Districts.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	13.F	New	Continue to have public education outreach for wildfire awareness month in May of each year.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – completed annually.</i> ☐ Not started ☐ Abandoned
Goal 14: Reduce the possibility of damage and losses due to windstorm	Lyon County, City of Fernley, City of Yerington, and CLCFPD	14.A	Existing	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County, COF, COY clear right-of-way. CLCFPD works with NV Energy to do fuel reduction and identify high-risk poles/infrastructure.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley,	14.B	Existing	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to	☐ Complete

	City of Yerington, and CLCFPD			manage trees and shrubs at risk to falling on nearby structures.	☒ In progress, anticipated completion date: <i>Ongoing – CLCFPD and fire protection districts offer tree pick-up.</i> ☐ Not started ☐ Abandoned Additional information: <i>Has there been any progress?</i> <i>Obstacles/challenges to complete?</i>
	Lyon County, City of Fernley, City of Yerington	14.C	Existing	Secure/bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing - As needed.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	14.D	Existing	In areas at risk to winter storms, retrofit public buildings to withstand snow loads and prevent roof collapse.	☐ Complete ☐ In progress, anticipated completion date: _____ ☐ Not started ☒ Abandoned Additional information: <i>Lyon County does not really have the snow load impacts to impact facilities. This strategy was abandoned.</i>
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	14.E	Existing	Develop a public outreach campaign that teaches people how to winterize a house, barn, shed or any other structure that may provide shelter for your family, neighbors, livestock or equipment.	☐ Complete ☒ In progress, anticipated completion date: <i>Limited progress – ongoing community engagement from CLCFPD</i> ☐ Not started ☐ Abandoned

Goal 15: <i>Reduce the possibility of threat to life and losses due to epidemic</i>	Lyon County, City of Fernley, City of Yerington	15.A	New	Improve communication, collaboration and integration among stakeholders and promote awareness of epidemic threats.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing communication and coordination is facilitated by Quad-County Public Health Preparedness and through the Quad-County Health Care Coalition.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington	15.B	New	Develop public outreach regarding current community plan for medicine and plans for vaccines, utilizing the Quad-County Public Health Preparedness information.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing public outreach is coordinated by Quad-County Public Health Preparedness and through the Quad-County Health Care Coalition.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	15.C	New	Develop a plan for mass morgue and casualties after a major hazard event. Coordination with Sheriff, Fire Districts and Tri-County and local hospitals.	☐ Complete ☐ In progress, anticipated completion date: _____ ☒ Not started ☐ Abandoned Additional information: <i>Lyon County Mass Casualty and Mass Fatality Plans need to be updated. Lyon County hired a 1.0 FTE Emergency Manager in 2023 to support countywide planning and exercising.</i>
Goal 16: <i>Reduce the possibility of damage and losses due to Terrorism/WMD</i>	Lyon County, City of Fernley, City of Yerington, and CLCFPD	16.A	New	Continue planning and training staff	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing planning and training led by Lyon County Sheriff's Office.</i> ☐ Not started

					☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	16.B	New	Continue to communicate regionally with other/all agencies.	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County, COF, COY, CLCFPC maintain regular communication with Lyon County Sheriff's Office and other key agencies.</i> ☐ Not started ☐ Abandoned
	Lyon County, City of Fernley, City of Yerington, and CLCFPD	16.C	New	Plan to address mitigation if other communities experience an event and citizens are traveling to and through Lyon County. Coordination with NDOT and hospitals in the area.	☐ Complete ☒ In progress, anticipated completion date: ☐ Not started ☐ Abandoned
	Lyon County	16.D	New	Continue SRO with Lyon County School District	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing</i> ☐ Not started ☐ Abandoned
	Lyon County	16.E	New	Continue with NTAC Agreement	☐ Complete ☒ In progress, anticipated completion date: <i>Ongoing – Lyon County maintains at least 1 liaison with NTAC</i> ☐ Not started ☐ Abandoned

C.2 MPT Meeting Agendas and Minutes

C.2.1 May 10, 2023 MPT Meeting Agenda



LYON COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE
27 S. MAIN STREET, YERINGTON, NEVADA 89447
(775) 463-6592 (775) 463-5305 FAX

Taylor Allison, Co-Chair
Kelli Cartwright, Co-Chair

LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MEETING - HAZARD MITIGATION PLANNING WORKSHOP

Wednesday, May 10, 2023, @ 10:00 AM
LYON COUNTY ADMINISTRATIVE COMPLEX – COMMISSION CHAMBERS
27 S. MAIN STREET
YERINGTON, NV 89447

Join Zoom Meeting:

<https://us02web.zoom.us/j/83676104571?pwd=K0QzNHl1SIRkb09HQk1WaUIDMUeYz09>

Meeting ID: 836 7610 4571 / Passcode: 273408

One tap mobile: 1-346-248-7799 / Dial by your location: 1-408-638-0968

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(Action will be taken on all items unless otherwise noted)

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1. Roll Call
2. **Public Participation (no action will be taken on any item until it is properly agendaized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
3. **For Possible Action:** Review and adoption of agenda
4. **For Possible Action:** Approval of April 19, 2023 LEPC minutes
5. **Presentation and Workshop:**
 - 5.a **For Possible Action:** Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:
 - Overview of Hazard Mitigation Planning and Review of 2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan (Taylor Allison, Lyon County Emergency/Communications Manager)
 - Round table discussion – Hazard Identification and Screening Worksheet
 - Round table discussion – Hazard Vulnerability Ranking Worksheet
 - Wrap up and Q&A discussion
6. **For Report Only:** Lyon County Emergency Management and LEPC member comments
7. **Public Participation (no action will be taken on any item until it is properly agendaized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
8. Adjourn

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C.2.2 May 10, 2023 MPT Meeting Minutes**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MINUTES**

27 S. MAIN STREET, YERINGTON, NEVADA 89447

MAY 10, 2023

1. Roll Call at 10:05 A.M.

Present: Taylor Allison Emergency Manager, Andrew Haskin County Manager, Scott Draper MVFPD, Darren Wagner YPD, Brett Larkin CLCFPD, Alexis Madera CHN, Sheryl Graham LCSSAR, Donna Cupp LCSO, Jason Nichol NLCFPD.

Phone/Video: Shari Grennan with DEM, Dave Hockaday Commissioner, Kim Berry SLMC, Jessica Brenner QCPHP.

2. Public Participation

There was none.

3. For Possible Action: Review and adoption of agenda

Scott Draper moved to approve the adoption of the agenda, Andrew Haskin seconded, and the vote carried unanimously.

4. For Possible Action: Approval of April 19, 2023 LEPC minutes

Andrew Haskin moved to approve the April 19, 2023 minutes, Scott Draper seconded, and the vote carried unanimously.

5. For Discussion Presentation and Workshop:**5.a For Possible Action: Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:**

- **Overview of Hazard Mitigation Planning and Review of 2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan (Taylor Allison, Lyon County Emergency/Communications Manager)**
- **Round table discussion – Hazard Identification and Screening Worksheet**
- **Round table discussion – Hazard Vulnerability Ranking Worksheet**
- **Wrap up and Q&A discussion**

Taylor Allison gave a presentation of the Hazard Mitigation of the meeting goals, planning process and objectives.

Discussion for goals: compliance, apply for mitigation grants, signatory to the plan for entities, apply for grants as a jurisdiction, hm projects, notification process or apps, link on the EM page,

Group reviewed the Hazard Identification and Screening Worksheet. Taylor Alisson asked for revisions on the worksheet and the group agreed to her additions. Group discussion included: Transportation incidence (single bridge in Dayton is an issue, rockslide, or flooding, flight, rail), energy emergency, technological hazards, building security and safety (early detection and threats to infrastructure),

The group agreed to keep all on the sheet and there is a standard definition for each category. Taylor Allison to bring back adjustments as needed.

Question to keep volcano and tsunamis. There are active volcanos and current study being done. Group agreed to remove Tsunami and it could be under the flooding impacts.

The group reviewed the Hazard Ranking Worksheet and the definitions. She asked for all to complete the form and turn in to her. As a group they discussed and rated the hazards types. ADD THE FINAL WORKSHEET TO THE MIN. Taylor recommended at the next meeting to review the definitions further. Group suggested to rate them into severity ranking and separating them, the pros and cons of how it can affect their plan. Change: remove extreme heat, and for I to be included in the severe storm and extreme snowfall??? The group agreed to stop at Severe Storm and Andrew Haskin moved to table to Hazard Ranking Worksheet the next meeting.

McIntosh seconded, and the vote carried unanimously.

6. For Report Only: Lyon County Emergency Management and LEPC member comments

Jason Nicoll reported on Thursday is the SERC meeting and he can't give a report if the meetings are on the same day. LEPC

7. Agenda Requests

There was none.

8. Public Participation

There was none.

9. Adjourn

The meeting was adjourned at 10:33 A.M.

C.2.3 July 12, 2023 MPT Meeting Agenda

LYON COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE
27 S. MAIN STREET, YERINGTON, NEVADA 89447
(775) 463-6592 (775) 463-5305 FAX

Taylor Allison, Co-Chair
Kelli Cartwright, Co-Chair

**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MEETING -
HAZARD MITIGATION PLANNING WORKSHOP**

Wednesday, July 12, 2023, @ 10:00 AM
LYON COUNTY ADMINISTRATIVE COMPLEX – COMMISSION CHAMBERS
27 S. MAIN STREET
YERINGTON, NV 89447

Join Zoom Meeting:

<https://us02web.zoom.us/j/83676104571?pwd=K0QzNHl1SIRkb09HQk1WaUIDMUeyZz09>

Meeting ID: 836 7610 4571 / Passcode: 273408

One tap mobile: 1-346-248-7799 / Dial by your location: 1-408-638-0968

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(Action will be taken on all items unless otherwise noted)

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Restrictions on comments by the general public: Any such restrictions must be reasonable and may restrict the time, place and manner of the comments, but may not restrict comments based upon viewpoint.

1. Roll Call
2. **Public Participation (no action will be taken on any item until it is properly agendized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
3. **For Possible Action:** Review and adoption of agenda
4. **For Possible Action:** Approval of May 10, 2023 LEPC minutes
5. **Presentation and Workshop:**
 - 5.a **For Possible Action:** Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:
 - Review of 2023 Hazard Mitigation Planning Process (Taylor Allison, Lyon County Emergency/Communications Manager)
 - Round table discussion – Hazard Vulnerability Ranking Worksheet
 - Review Sections 1 through 3 of draft 2023 Lyon County Regional Hazard Mitigation Plan
 - Wrap up and Q&A discussion
6. **For Report Only:** Lyon County Emergency Management and LEPC member comments
7. **Public Participation (no action will be taken on any item until it is properly agendized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
8. Adjourn

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C.2.4 July 12, 2023 MPT Meeting Minutes**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MINUTES**

27 S. MAIN STREET, YERINGTON, NEVADA 89447

JULY 12, 2023

1. Roll Call at 10:01 A.M.

Present: Taylor Allison Emergency Manager, Scott Draper MVFPD, Lacey Parott MVFPD, Doug Homestead LC, Cathy Wilson, SVMC, Louis Cariola LC, Ryan Powell LCSO, Bert Bryan WRID, Josh Foli LC, Ed Ryan MVCD, Amy Hagan LC, Hal O' Brien DEM

Phone/Video: Andrew Haskin County Manager, Jay Flakus COY, Bob Switzer COY, Dave Hockaday BOCC, David Bruketta LC, Jessica Halterman WRID, John Garry COY Mayor, Donna Cupp LCSO Dispatch, Cari Rioux Quad-PHP

2. Public Participation

There was none.

3. For Possible Action: Review and adoption of agenda

Scott Draper moved to approve the adoption of the agenda, Ryan Powell seconded, and the vote carried unanimously.

4. For Possible Action: Approval of May 10, 2023 LEPC minutes

Scott Draper moved to approve the May 10, 2023 minutes, Ryan Powell seconded, and the vote carried unanimously.

5. For Discussion Presentation and Workshop:**5.a For Possible Action: Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:**

- **Review of 2023 Hazard Mitigation Planning Process (Taylor Allison, Lyon County Emergency Manager)**
- **Round table discussion – Hazard Vulnerability Ranking Worksheet**
- **Review Sections 1 through 3 of draft 2023 Lyon County Regional Hazard Mitigation Plan**
- **Wrap up and Q&A discussion**

Taylor Allison gave a presentation of the Hazard Mitigation Plan for the meeting goals and planning process. She reviewed the updated schedule since the meeting was cancelled last

month due to flooding.

The group reviewed the Hazard Ranking Worksheet from the prior meeting and the rest of the sheet was completed.

Taylor Allison reviewed the sections 1 through 3 of draft 2023 Lyon County Regional Hazard Mitigation Plan. It was requested to add entities to the Plan Adoption and Approval of the draft. Taylor stated they will need to have their entities approve the final plan and they will need to submit a letter of approval. She asked the entities to contribute to their sections offline and if they agreed to move forward with the template as shown.

Ryan Powel moved to approve the drafted plan as presented today. Scott Draper seconded, and the vote carried unanimously.

6. For Report Only: Lyon County Emergency Management and LEPC member comments

Taylor Allison commented they are closing the flood efforts from the recent events. She asked for comments and there was none.

7. Agenda Requests

There was none.

8. Public Participation

There was none.

9. Adjourn

The meeting was adjourned at 10:49 A.M.

C.2.5 August 9, 2023 MPT Meeting Agenda

LYON COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE
27 S. MAIN STREET, YERINGTON, NEVADA 89447
(775) 463-6592 (775) 463-5305 FAX

Taylor Allison, Co-Chair
Kelli Cartwright, Co-Chair

LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MEETING -
HAZARD MITIGATION PLANNING WORKSHOP

Wednesday, August 9, 2023, @ 10:00 AM
LYON COUNTY ADMINISTRATIVE COMPLEX – COMMISSION CHAMBERS
27 S. MAIN STREET
YERINGTON, NV 89447

Join Zoom Meeting:

<https://us02web.zoom.us/j/83676104571?pwd=K0QzNHl1SIRkb09HQk1WaUIDMUeYzZ09>

Meeting ID: 836 7610 4571 / Passcode: 273408

One tap mobile: 1-346-248-7799 / Dial by your location: 1-408-638-0968

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1. Roll Call
2. **Public Participation (no action will be taken on any item until it is properly agendaized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
3. **For Possible Action:** Review and adoption of agenda
4. **For Possible Action:** Approval of July 12, 2023 LEPC minutes
5. **For Discussion and Possible Action:** Update on status and next steps for FY24 United We Stand grant application (Taylor Allison, Lyon County Emergency/Communications Manager)
6. **For Presentation and Discussion:** National Weather Service presentation on severe weather hazards (Dawn Johnson and Tim Bardsley, National Weather Service Reno)
7. **Presentation and Workshop:**
 - 5.a **For Possible Action:** Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:
 - Review and approval of Community Survey Tool and Outreach Plan
8. **For Report Only:** Lyon County Emergency Management and LEPC member comments
9. **Public Participation (no action will be taken on any item until it is properly agendaized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
10. Adjourn

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C.2.6 August 9, 2023 MPT Meeting Minutes**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MINUTES**

27 S. MAIN STREET, YERINGTON, NEVADA 89447

AUGUST 9, 2023

1. Roll Call at 10:03 A.M.

Present: Taylor Allison Emergency Manager, Scott Draper MVFPD, Louis Cariola LC, Kelly Cartwright NLCFPD, Andrew Haskin LC, Matthew Nightingale SVFPD, Ryan McIntosh

Phone/Video: Robert Switzer COY Manager, Jessica Brenner Quad County PHP, Matthew Nightingale SVFPD, Ryan McIntosh CLCFPD

2. Public Participation

There was none.

3. For Possible Action: Review and adoption of agenda

Andrew Haskin moved to approve the adoption of the agenda, Scott Draper seconded, and the vote carried unanimously.

4. REGULAR AGENDA**4.a. For Possible Action: Approval of July 12, 2023 LEPC minutes**

Kelly Cartwright moved to approve the July 12, 2023 minutes, Patty Polish seconded, and the vote carried unanimously.

4.b. For Discussion and Possible Action: Update on status and next steps for FY24 United We Srtand grant application (Taylor Allison, Lyon County Emergency Manager)

Taylor Allison reviewed the grant has been approved and the uses the funding will be used for. There was no requests or comments from the board.

4.c. For Presentation and Discussion: Presentation on severe weather-related hazards from Natinoal Weather Service Reno (Dawn Johnson and Tim Bardsley, National Weather Service Reno)

Dawn Johnson and Tim Bardsley gave a presentation on the past, recent and probable future weather events.

4.d. For Possible Action: Review and approve Community Survey Questionnaire for 2023 Lyon County Regional Hazard Mitigation Plan (Taylor Allison, Lyon County Emergency Manager)

Taylor Allison presented the survey questionnaire and there were no requests for changes.

Andrew Haskin moved to approve Community Survey Questionnaire for 2023 Lyon County Regional Hazard Mitigation Plan, Louis Cariola seconded, and the vote passed unanimously.

4.e. For Possible Action: Review and approve Community Outreach Plan for 2023 Lyon County Regional Hazard Mitigation Plan (Taylor Allison, Lyon County Emergency Manager)

Taylor Allison reviewed the Community Outreach Plan and there were no requests for changes.

Scott Draper moved to approve Community Outreach Plan for 2023 Lyon County Regional Hazard Mitigation Plan, Andrew Haskin seconded, and the vote passed unanimously.

5. For Report Only: Lyon County Emergency Management and LEPC member comments

There was none.

6. Agenda Requests

There was none.

7. Public Participation

There was none.

8. Adjourn

The meeting was adjourned at 11:08 A.M.

C.2.7 September 13, 2023 MPT Meeting Agenda

LYON COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE
27 S. MAIN STREET, YERINGTON, NEVADA 89447
(775) 463-6592 (775) 463-5305 FAX

Taylor Allison, Co-Chair
Kelli Cartwright, Co-Chair

**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MEETING -
HAZARD MITIGATION PLANNING WORKSHOP**

Wednesday, September 13, 2023, @ 10:00 AM
LYON COUNTY ADMINISTRATIVE COMPLEX – COMMISSION CHAMBERS
27 S. MAIN STREET
YERINGTON, NV 89447

Join Zoom Meeting:

<https://us02web.zoom.us/j/83676104571?pwd=K0QzNHl1SIRkb09HQk1WaUIDMUeYz09>

Meeting ID: 836 7610 4571 / Passcode: 273408

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3. **For Possible Action:** Review and adoption of agenda
4. **For Possible Action:** Approval of August 9, 2023 LEPC minutes
5. **For Presentation and Discussion:** Presentation on the 2023 Lyon County Community Wildfire Protection Plan update (Don Henderson, Resource Concepts Inc. Project Manager)
6. **Presentation and Workshop:**
 - 5.a **For Possible Action:** Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:
 - Update on 2023 Hazard Mitigation Community Outreach Survey (Taylor Allison, Lyon County Emergency/Communications Manager)
 - Review Chapter 5 Vulnerability Analysis and Chapter 6 Capability Assessment of draft 2023 Lyon County Regional Hazard Mitigation Plan
 - Wrap up and Q&A discussion
7. **For Report Only:** Lyon County Emergency Management and LEPC member comments
8. **Public Participation (no action will be taken on any item until it is properly agendized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*
9. Adjourn

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C.2.8 September 13, 2023 MPT Meeting Minutes**LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MINUTES**

27 S. MAIN STREET, YERINGTON, NEVADA 89447

SEPTEMBER 13, 2023

1. Roll Call at 10:03 A.M.

Present: : Taylor Allison Emergency Manager, Scott Draper MVFPD, Louis Cariola Lyon County Community Development Director, Andrew Haskin LC Manager, Dustin Homan LC Roads Director, Lacey Parrot; Mason Valley Fire Department, Scott Draper, Mason Valley Fire Department, Ed Ryan, Mason Valley Conservation District.

Phone/Video: Jessica Brenner Quad County, Matthew Nightingale NLCFD, Rich Harvey CLCFD, Donna Cupp, Dave Henderson, Dawn Cheetz, Dave Hockaday, LC Commissioner, Dobbie Neddenriep and Brett Willey.

2. Public Participation

There was none.

3. For Possible Action: Review and adoption of agenda

Scott Draper moved to approve the adoption of the agenda, Andrew Haskin seconded, and the vote carried unanimously.

4. For Possible Action: Approval of August 9, 2023 LEPC minutes

Scott Draper moved to approve the August 9, 2023 minutes, Andrew Haskin seconded, and the vote carried unanimously.

5. For Presentation and Discussion: Presentation on the 2023 Lyon County Community Wildfire Protection Plan Update (Don Henderson, Resource Concepts Inc. Project Manager)

Don Henderson, Project Manager for Resource Concepts, Inc. (RCI) provided a brief presentation on the 2023 Community Wildfire Protection Plan (CWPP) update. RCI has been contracted by the Nevada Division of Forestry to coordinate the plan update, in collaboration with the four fire protection districts, local governments, and key stakeholders. The CWPP is a tool for the fire districts and local governments to identify risks of wildfire and is necessary to be eligible for wildfire mitigation funding. Mr. Henderson shared that RCI has identified a Community Core Team for the 2023 CWPP update that is meeting on Thursday, September 14, 2023 at the Nevada Department of Conservation & Natural Resources. Taylor Allison, Lyon County Emergency Manager, shared she will participate in the Community Core Team

and tie the CWPP into the regional hazard mitigation planning efforts.

6. Presentation and Workshop:

6.a. For Possible Action: Review and discussion on the update of the 2023 Lyon County Multi-Jurisdictional Hazard Mitigation Plan to include:

- **Update on the 2023 Hazard Mitigation Community Outreach Survey (Taylor Allison, Lyon County Emergency/Communications Manager)**
- **Review Chapter 5 Vulnerability Analysis and Chapter 6 Capability Assessment of the draft 2023 Lyon County Regional Hazard Mitigation Plan**

Taylor Allison presented the survey questionnaire and there were no requests for changes. She reviewed Chapter 5 Vulnerability Analysis and Chapter 6 Capability Assessment of draft 2023 Lyon County Regional Hazard Mitigation Plan.

7. For Report Only: Lyon County Emergency Management and LEPC member comments

There was none.

8. Agenda Requests

There was none.

9. Public Participation

There was none.

10. Adjourn

The meeting was adjourned at 10:22 A.M.

C.2.9 November 8, 2023 MPT Meeting Agenda

LYON COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE
27 S. MAIN STREET, YERINGTON, NEVADA 89447
(775) 463-6592 (775) 463-5305 FAX

Taylor Allison, Co-Chair
Kelli Cartwright, Co-Chair

LYON COUNTY LOCAL EMERGENCY PLANNING COMMITTEE MEETING -
HAZARD MITIGATION PLANNING WORKSHOP

Wednesday, November 8, 2023, @ 10:00 AM
LYON COUNTY ADMINISTRATIVE COMPLEX – COMMISSION CHAMBERS
27 S. MAIN STREET
YERINGTON, NV 89447

Join Zoom Meeting:

<https://us02web.zoom.us/j/83676104571?pwd=K0QzNHl1SlRkb09HQk1WaUIDMUEyZz09>

Meeting ID: 836 7610 4571 / Passcode: 273408

One tap mobile: 1-346-248-7799 / Dial by your location: 1-408-638-0968

Public Comment: Lyon County allows the following alternatives for public comment. If you are attending the virtual Zoom meeting, public comment may be provided by raising your hand and requesting to provide public comment. This can occur in several ways, including by dialing *9 from your phone to raise your hand and request to speak for public comment. To unmute yourself, dial *6. You can also provide public comment or supporting material for this meeting by sending us an email to countyclerks@lyon-county.org, the day prior to the posted meeting date. Be sure to type, PUBLIC COMMENT, in the subject line.

Written public comments may also be mailed to the Lyon County Manager's Office at 27 S. Main Street, Yerington, Nevada 89447, but all public comments must be received prior to the date of the meeting if the comments are to be included in the supplemental materials. Any written public comment received the day of the Board meeting will be compiled and added as supplemental materials to the County's website and distributed to the Board of Commissioners within 24 hours after the meeting. Members of the Public may attend the meeting in person.

(Action will be taken on all items unless otherwise noted)

(No action will be taken on any item until it is properly agendaized).

The Board reserves the right to take items in a different order to accomplish business in the most efficient manner. Items may be combined for consideration and items may be pulled or removed from the agenda at anytime.

Restrictions on comments by the general public: Any such restrictions must be reasonable and may restrict the time, place and manner of the comments, but may not restrict comments based upon viewpoint.

1. Roll Call

- 2. Public Participation (no action will be taken on any item until it is properly agendized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*

3. For Possible Action: Review and adoption of agenda

4. REGULAR AGENDA

4.a. For Possible Action: Approval of September 13, 2023 LEPC minutes

4.b. For Possible Action: Review and discuss progress made on mitigation strategies and actions identified in the 2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan.

4.c. For Possible Action: Review and discuss mitigation strategies and actions to include in the 2023 Lyon County Regional Hazard Mitigation Plan.

4.d. For Possible Action: Review and approve draft 2023 Lyon County Regional Hazard Mitigation Plan

5. For Report Only: Lyon County Emergency Management and LEPC member comments

- 6. Public Participation (no action will be taken on any item until it is properly agendized)** - *It is anticipated that public participation will be held at this time, though it may be returned to at any time during the agenda. Citizens wishing to speak during public participation are asked to state their name for the record and will be limited to 3 minutes. The Board will conduct public comment after discussion of each agenda action item, but before the Board takes any action.*

7. Adjourn

Agenda and Backup Material is Available at www.lyon-county.org

Pursuant to NRS 241.020, the agenda has been posted at the following locations: Lyon County Administrative Complex (27 S. Main Street, Yerington, NV), the Lyon County Website: <https://www.lyon-county.org>, and the State Website: <https://notice.nv.gov>. Supporting documentation for the items on the agenda is available to members of the public at the County Manager's Office (27 S. Main Street, Yerington, NV), by phone (775)463-6531, or by email requests to countyclerks@lyon-county.org. A complete packet of supporting materials is available for public inspection at 27 S. Main Street, Yerington, NV 89447.

C.3 Hazard Identification Screening Worksheet

The following Hazard Identification and Screening worksheet was completed as part of the May 10, 2023 MPT meeting to identify the hazards for hazard ranking and further analysis.



2023 Lyon County Multi-Jurisdictional Hazard Mitigation Workshop – HAZARD IDENTIFICATION AND SCREENING

Identification and Screening of Hazards Affecting Lyon County, NV			
Hazard Type	Should it be Ranked?	New to the Plan?	Explanation of Changes
Avalanche	Yes	No	
Criminal Acts and Terrorism/WMD	Yes	Yes	Adding criminal acts to address broader criminal acts, threats to critical infrastructure/facility security, threats to schools
Dam/Canal/Reservoir Failure	Yes	Yes	Adding reservoirs – threats of reservoirs and spillways from Bridgeport, Topaz, Lahontan
Drought	Yes	No	
Earthquake	Yes	No	
Epidemic/Infectious Disease	Yes	No	
Expansive soil	Yes	No	
Flood	Yes	No	
Hail and thunderstorm	No	No	Combine with Severe Weather/Storms
Hazardous Materials	Yes	No	
Heat extreme	No	No	Combine with Severe Weather/Storms
Infestation	Yes	No	
Landslide	Yes	No	
Severe storm and extreme snowfall	Yes	Yes	Expanded to Severe Weather and extreme storms to include – extreme heat, thunderstorms

(Land) Subsidence and ground failure	No	No	Combine with expansive soil
Tornado	Yes	No	Have experienced tornados in Lyon County
Tsunami/Seiche	No	No	Removing as we are not likely to have a tsunami/Seiche wave, but will be experiencing the cascading effects from tsunami/Seiche in other jurisdictions
Volcano	Yes	No	Aurora
Wildland Fire	Yes	No	
Windstorm (combined with severe weather)	No	No	Combine with severe weather/extreme storms

ANY OTHER/NEW HAZARDS FOR 2023?

Identification and Screening of Hazards Affecting Lyon County, NV			
Hazard Type	Should it be Ranked?	New to the Plan?	Explanation
Energy Emergency	Yes	Yes	
Transportation Incident (including Aircraft crash)	Yes	Yes	Increased transportation incidents; risk with one bridge in Dayton, USA Parkway; rockslides, US 50 is a flight pattern and risk for aircraft crashes, need to add rail to this hazard
Water/Wastewater Emergency	Yes	Yes	Discussed increased threats and risk to public water and wastewater
Economic/Supply Chain	Yes	Yes	
Technological Hazards (including Cyber)	Yes	Yes	Increased risk of cyber events

C.4. Hazard Ranking Worksheet

The following Hazard Ranking worksheet was completed as part of the May 10, 2023 MPT meeting to identify the hazards for hazard ranking and further analysis.



OFFICE OF EMERGENCY
MANAGEMENT

2023 Lyon County Multi-Jurisdictional Hazard Mitigation Workshop –

HAZARD RANKING WORKSHEET – LYON COUNTY

Name: Mitigation Planning Team **Date:** 5/10/2023

Agency: Lyon, COF, COY, CLCFPD, MVFPD, NLCFPD, SVFPD, CWSD, WRID, M&SVCD

Instructions: Please complete the table rating each indicator 1-5 using the Vulnerability Ratings Rubric provided below.

Vulnerability Ratings Rubric					
Rating	Probability	Magnitude	Frequency	Onset	Duration
1	Highly unlikely (0-10%)	No injuries or deaths expected, minimal property damage	Less than every 25 years	Greater than 30 days of warning	Only brief moments
2	Fairly unlikely (10-25%)	Between 1 and 5 injuries or deaths, minor property damage	10-25 years	5-30 days of warning	1-24 hours
3	Moderate (25-75%)	Between 5 and 25 injuries or deaths, severe property damage	5-10 years	1-5 days of warning	Days to weeks
4	Likely (75-90%)	Between 25 and 50 injuries or deaths, severe property damage	1-5 years	1-10 hours of warning	Weeks to months
5	Highly Likely (90-100%)	Greater than 50 injuries or deaths, catastrophic property damage	Once per year	No warning	Months to years

LEVEL BY RANKING	VERY LOW RISK (1-5)	LOW RISK (6-10)	MEDIUM RISK (11-15)	HIGH RISK (16-20)	VERY HIGH RISK (21-25)

2023 Hazard Vulnerability Rating Worksheet							
Currently in the 2018 MJHMP	Hazard Type	Probability	Magnitude/Severity	Frequency	Onset	Duration	TOTAL
Yes	Avalanche	Highly unlikely	0 Injuries/Deaths, Minimal Damage	<Every 25 years	1-10 hours warning	Days to weeks	LOW 10

No	Criminal Acts and Terrorism/WMD	Highly likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Weeks to months	VERY HIGH 21
Yes	Dam/Canal/ Reservoir Failure	Fairly unlikely	25-50 Injuries/deaths, Severe damage	<Every 25 years	1-10 hours warning	Weeks to months	MED 15
Yes	Drought	Highly likely	5-25 Injuries/Deaths, Severe damage	1-5 years	>30 Days warning	Months to years	HIGH 18
Yes	Earthquake	Moderate	>50 Injuries/Deaths, Catastrophic	<Every 25 years	No warning	Weeks to months	HIGH 18
Yes	Epidemic/ Infectious Disease	Likely	>50 Injuries/Deaths, Catastrophic	1-5 years	5-30 Days warning	Months to years	HIGH 20
Yes	Expansive soil	Moderate	0 Injuries/Deaths, Minimal Damage	5-10 years	No warning	Days to weeks	MED 15
Yes	Flood	Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	1-5 Days warning	Weeks to months	HIGH 18
Yes	Hazardous Materials	Moderate	1-5 Injuries/Deaths, Minor Damage	1-5 years	No warning	Days to weeks	HIGH 17
Yes	Infestation	Fairly unlikely	5-25 Injuries/Deaths, Severe damage	<Every 25 years	5-30 Days warning	Weeks to months	MED 12
Yes	Landslide	Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Weeks to months	HIGH 20

Yes	Severe storm and extreme snowfall	Highly likely	5-25 Injuries/Deaths, Severe damage	Once per year	1-5 Days warning	Days to weeks	HIGH 20
Yes	Tornado	Fairly unlikely	0 Injuries/Deaths, Minimal Damage	<Every 25 years	1-10 hours warning	Only brief moments	LOW 9
Yes	Volcano	Highly unlikely	0 Injuries/Deaths, Minimal Damage	<Every 25 years	1-5 Days warning	Weeks to months	LOW 10
Yes	Wildland Fire	Highly likely	5-25 Injuries/Deaths, Severe damage	Once per year	No warning	Days to weeks	VERY HIGH 21
No	Energy Emergency	Likely	5-25 Injuries/Deaths, Severe damage	1-5 years	No warning	Days to weeks	HIGH 19
No	Transportation Incident (including Aircraft crash)	Highly likely	1-5 Injuries/Deaths, Minor Damage	Once per year	No warning	1-24 hours	HIGH 19
No	Water/Wastewater Emergency	Highly likely	0 Injuries/Deaths, Minimal Damage	Once per year	No warning	1-24 hours	HIGH 18
No	Economic/Supply Chain	Likely	1-5 Injuries/Deaths, Minor Damage	Once per year	5-30 Days warning	Weeks to months	HIGH 17
No	Technological Hazards (including Cyber)	Likely	1-5 Injuries/Deaths, Minor Damage	1-5 years	No warning	Weeks to months	HIGH 19

APPENDIX D: PUBLIC INFORMATION & OUTREACH

D.1 Community Outreach Survey

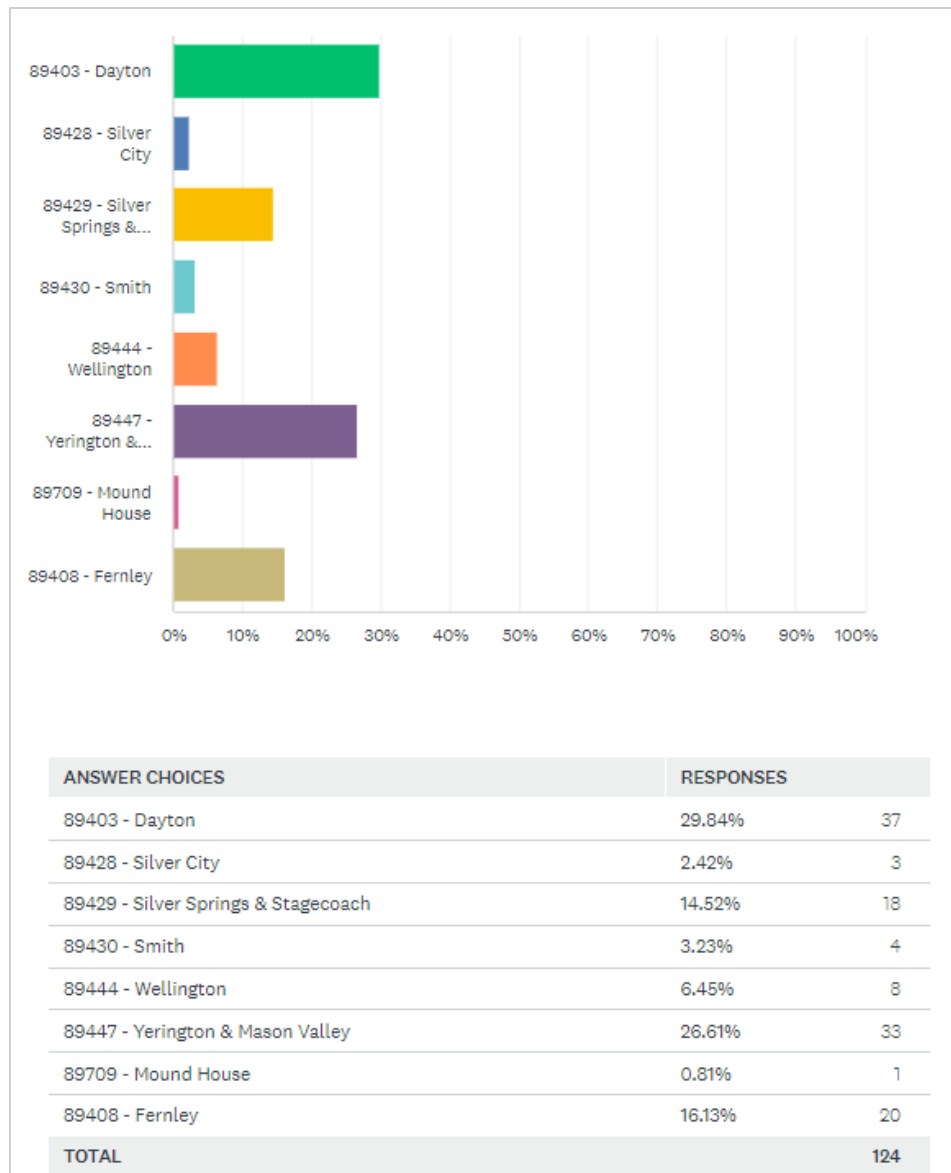
D.1.1 Community Outreach Survey Results Summary

Over the course of almost two months, the Mitigation Planning Team (MPT) disseminated the 2023 Regional Hazard Mitigation Planning Community Outreach Survey on social media, to community organizations, including agencies that represent vulnerable hard-to-reach populations such as the Healthy Communities Coalition Food Pantries.

129 Individuals Responded to the survey between August 21, 2023 and October 9, 2023.

Question 1: Please indicate your zip code.

Answered: 124 Skipped: 5



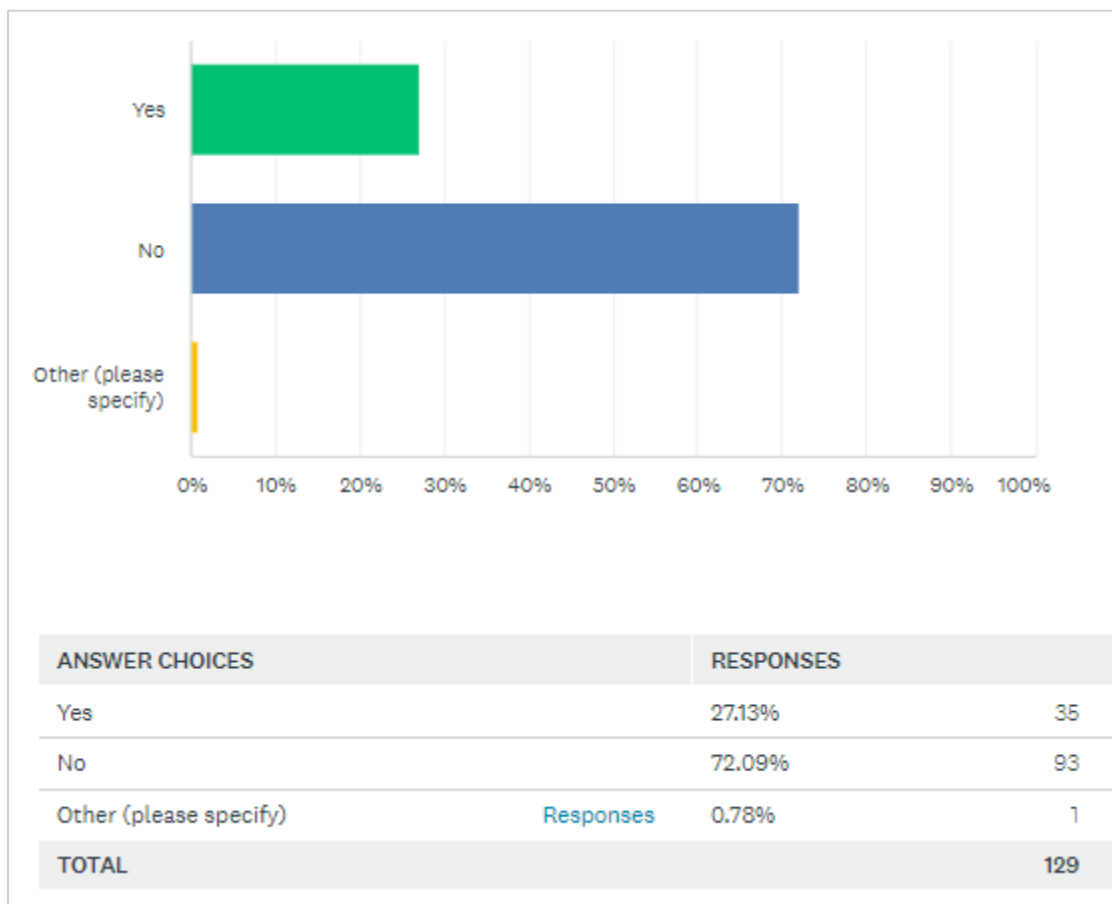
Question 2: Please check all that apply.

Answered: 127 Skipped: 2

	LYON COUNTY	CITY OF FERNLEY	CITY OF YERINGTON	TOTAL
Do you own a home in?	77.78% 91	15.38% 18	6.84% 8	117
If you do not own a home, do you rent a residence in?	75.00% 9	16.67% 2	8.33% 1	12
Do you own a business in?	78.95% 15	0.00% 0	21.05% 4	19

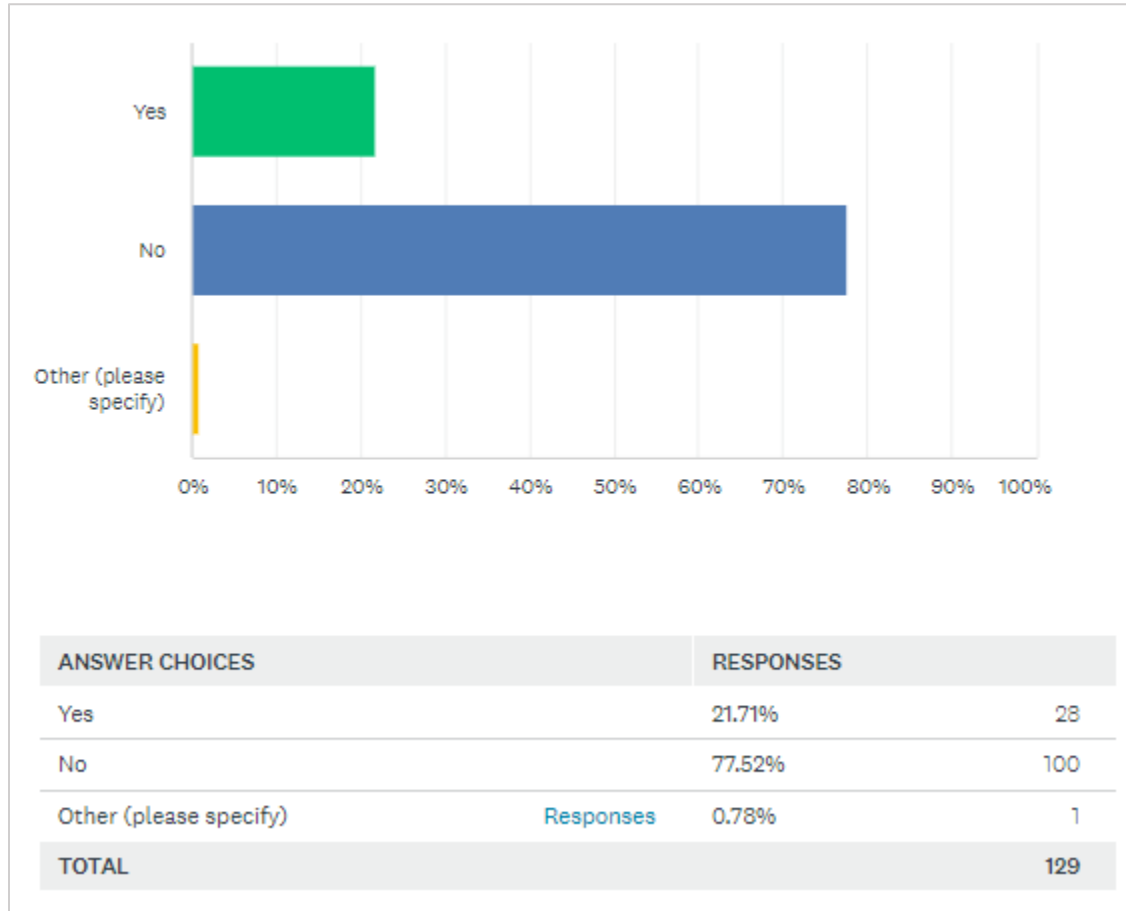
Question 3: Prior to receiving this questionnaire, were you aware of the community's regional hazard mitigation plan?

Answered: 129 Skipped: 0



Question 4: Prior to receiving this questionnaire, were you aware the Federal Emergency Management Agency (FEMA) required your community to update the Hazard Mitigation Plan every five years for your community to be eligible for pre- and post- disaster hazard mitigation funds?

Answered: 129 Skipped: 0



Question 5: In the past 10 years, which of the following natural, human-caused, and technological hazards have you or someone in your household experienced (been affected by or witnessed) within Lyon County or participating jurisdictions? Please indicate all that apply.

Answered: 127 Skipped: 2

	YES	NO	N/A	TOTAL
Dam/Canal/Reservoir Failure	24.77% 27	65.14% 71	10.09% 11	109
Drought	79.66% 94	16.95% 20	3.39% 4	118
Earthquake	58.04% 65	37.50% 42	4.46% 5	112
Epidemic/Infectious Disease	76.07% 89	20.51% 24	3.42% 4	117
Expansive Soil	7.92% 8	72.28% 73	19.80% 20	101
Flood	63.79% 74	31.90% 37	4.31% 5	116
Infestation	24.51% 25	69.61% 71	5.88% 6	102
Landslide	27.52% 30	66.97% 73	5.50% 6	109
Severe storms and extreme snowfall	78.99% 94	16.81% 20	4.20% 5	119
Tornado	3.85% 4	90.38% 94	5.77% 6	104
Volcano	0.97% 1	87.38% 90	11.65% 12	103
Wildland Fire	56.48% 61	38.89% 42	4.63% 5	108
Criminal Acts and Terrorism/WMD	24.53% 26	71.70% 76	3.77% 4	106
Hazardous Materials	25.00% 26	71.15% 74	3.85% 4	104
Economic/Supply Chain	73.45% 83	23.01% 26	3.54% 4	113
Water/Wastewater Emergency	29.81% 31	65.38% 68	4.81% 5	104
Energy Emergency	44.95% 49	51.38% 56	3.67% 4	109
Transportation Incident (including rail and aircraft)	40.95% 43	57.14% 60	1.90% 2	105
Technological Emergency (including cyber)	27.45% 28	67.65% 69	4.90% 5	102

Question 6: Indicate your level of concern for the hazard's impact on the community. Please indicate all that apply.

Answered: 127 Skipped: 2

	LOW	MODERATE	HIGH	TOTAL
Dam/Canal/Reservoir Failure	41.13% 51	37.10% 46	21.77% 27	124
Drought	9.84% 12	35.25% 43	54.92% 67	122
Earthquake	44.72% 55	42.28% 52	13.01% 16	123
Epidemic/Infectious Disease	49.19% 61	33.06% 41	17.74% 22	124
Expansive Soil	77.31% 92	18.49% 22	4.20% 5	119
Flood	25.60% 32	32.00% 40	42.40% 53	125
Infestation	52.46% 64	33.61% 41	13.93% 17	122
Landslide	58.87% 73	29.03% 36	12.10% 15	124
Severe storms and extreme snowfall	24.00% 30	34.40% 43	41.60% 52	125
Tornado	90.16% 110	7.38% 9	2.46% 3	122
Volcano	95.90% 117	2.46% 3	1.64% 2	122
Wildland Fire	10.57% 13	34.15% 42	55.28% 68	123
Criminal Acts and Terrorism/WMD	42.98% 52	39.67% 48	17.36% 21	121
Hazardous Materials	42.62% 52	38.52% 47	18.85% 23	122
Economic/Supply Chain	21.14% 26	45.53% 56	33.33% 41	123
Water/Wastewater Emergency	30.58% 37	33.06% 40	36.36% 44	121
Energy Emergency	29.03% 36	41.13% 51	29.84% 37	124
Transportation Incident (including rail and aircraft)	39.02% 48	43.90% 54	17.07% 21	123
Technological Emergency (including cyber)	35.77% 44	41.46% 51	22.76% 28	123

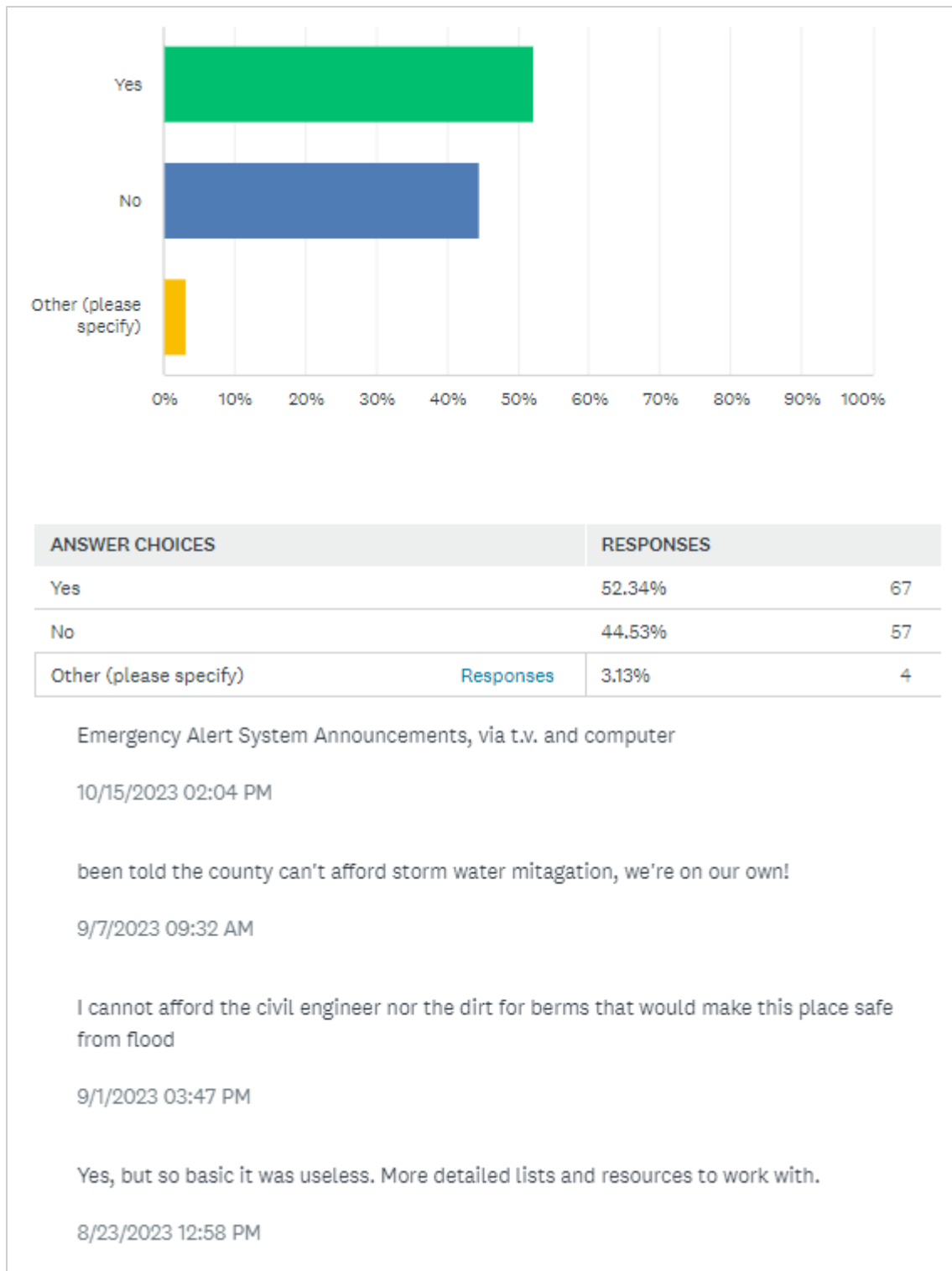
Question 7: Have you or someone in your household:

Answered: 128 Skipped: 1

	EXPERIENCED	PLAN TO DO	NOT DONE	UNABLE TO DO	TOTAL
Attended meetings or received written information on emergency or disaster preparedness?	42.06% 53	4.76% 6	51.59% 65	1.59% 2	126
Talked with members of your household about what do in case of an emergency or disaster?	66.93% 85	11.02% 14	18.90% 24	3.15% 4	127
Developed a Household/Family Emergency Plan	44.09% 56	28.35% 36	25.98% 33	1.57% 2	127
Prepared a Disaster Supply Kit (stored extra water, food, batteries, other emergency supplies)	58.73% 74	24.60% 31	16.67% 21	0.00% 0	126
In the last year, has anyone in your household been trained in First Aid, CPR, or how to use an AED?	39.68% 50	7.94% 10	52.38% 66	0.00% 0	126

Question 8: Have you ever received information about how to make your household and home safer from emergencies and/or disasters?

Answered: 128 Skipped: 1



Question 9: What is the most effective way for you to receive information about how to make your household safer from emergencies and/or disasters? Please check all that apply.

Answered: 128 Skipped: 1

ANSWER CHOICES	RESPONSES	
Newspaper - online	24.22%	31
Newspaper - delivered	9.38%	12
Television - news stories	21.09%	27
Television - Other tv programs	7.03%	9
Television - commercials	6.25%	8
Radio - stories	10.16%	13
Radio - Commercials	9.38%	12
Facebook	50.78%	65
Twitter/X	7.81%	10
Intagram	11.72%	15
Nextdoor	14.84%	19
Books/Magazines	7.03%	9
Postal Mail	52.34%	67
Email	64.84%	83
Internet Search	29.69%	38
Flyers/Brochures	26.56%	34
County Commissioners	18.75%	24
City Council	10.94%	14
Local Emergency Management Office	28.91%	37
Sheriff's Office/Police Department	40.63%	52
Fire District Office	35.16%	45
Public Workshops	25.00%	32
Other (please specify)	Responses	5.47% 7

Question 9: Responses to "Other"

- Neighborhood Organizations
10/15/2023 02:04 PM
- Text message alerts
9/22/2023 02:00 PM
- Contating Subject Matter Experts regarding whatever the subject may be
9/16/2023 09:53 AM
- Post Office

8/28/2023 06:42 PM

- <https://rsoe-edis.org/>

8/24/2023 08:50 AM

- Distribution at heavily trafficked events or local places: grocery, hardware stores, and public places such as the library. Also youth events, schools

8/24/2023 06:05 AM

- Regional text messages for warnings

8/23/2023 02:45 PM

D.1.2 Community Outreach Survey – Media Release

The following media release was disseminated on August 22, 2023 through the Lyon County Public Information Officer to regional media outlets.

August 22, 2023 Media Release – Page 1



**BOARD OF COUNTY COMMISSIONERS
LYON COUNTY NEVADA**
27 South Main Street
Yerington, Nevada 89447
Phone: (775)463-6531 Fax: (775)463-6533

**Wes Henderson, District 1
Scott Keller, District 2
Tammy Hendrix, District 3
Robert Jacobson, District 4
Dave Hockaday, District 5**

**Andrew Haskin
County Manager**

News Release
FOR IMMEDIATE RELEASE
August 22, 2023

Media Contact
Taylor Allison
Emergency/Communications Manager
Phone: (775) 344-8325
Email: tallison@lvon-county.org

Lyon County Requests Community Concerns on Natural, Man-Made and Technological Disasters

Yerington, Nevada – Lyon County, the Cities of Fernley and Yerington, fire protection districts, and other participating agencies are requesting residents and business owners share concerns on natural, man-made and technological hazards as part of the 2023 regional Hazard Mitigation Plan (HMP) update. The regional Hazard Mitigation Plan is a tool for governments and nonprofit agencies to prioritize projects that will draw down the risk for emergencies and disasters. Led by the Lyon County Local Emergency Planning Committee (LEPC), participating agencies are profiling the community's risk for natural, man-made, and technological hazards and developing goals to reduce the impacts of each hazard.

Local governments are required by the Disaster Act of 2000 to complete a Hazard Mitigation Plan every five years to receive non-emergency disaster assistance. According to FEMA's Mitigation Action Portfolio, natural hazards in the United States from 1980 to 2018 led to an average annual \$42.8 billion of property damage and insurance claims, thousands of deaths and injuries, and livelihood disruptions. With an increase in extreme events, the average cost per year nearly doubles to \$99 billion. Nevada is estimated to have had over \$20 million in public infrastructure damages from the March 2023 Atmospheric River flood event.

Community Outreach Survey

Lyon County and participating entities are requesting residents and business owners complete the 2023 Hazard Mitigation Plan – Community Outreach Survey at <https://www.surveymonkey.com/r/Lyon2023HMP> by September 22, 2023 at 5:00pm.

All individual responses are confidential and will be utilized for planning purposes only.

Citizens can also participate in the hazard mitigation planning process by attending a LEPC Hazard Mitigation Workshop. The next LEPC Workshop will be Wednesday, September 13, 2023 at 10:00 AM at the Lyon County Admin Complex – 27 S. Main Street, Yerington, NV

August 22, 2023 Media Release – Page 2

89447. The Agenda with additional meeting information will be posted to the [Lyon County Agenda Center](#).

The [2018 Lyon County Multi-Jurisdictional Hazard Mitigation Plan](#) (previous version of the plan) is available on the Emergency Management page of the Lyon County website <https://lyon-county.org/777/Emergency-Management>.

For more information, visit our website <https://www.lyon-county.org/> and follow our Facebook page <https://www.facebook.com/LyonCountyNV>.

###

D.1.3 Public Comment Period – Media Release

The following media release was disseminated on November 20, 2023 through the Lyon County Public Information Officer to regional media outlets.

November 20, 2023 Media Release – Page 1



BOARD OF COUNTY COMMISSIONERS
LYON COUNTY NEVADA
27 South Main Street
Yerington, Nevada 89447
Phone: (775)463-6531 Fax: (775)463-6533

Wes Henderson, District 1
Scott Keller, District 2
Tammy Hendrix, District 3
Robert Jacobson, District 4
Dave Hockaday, District 5

Andrew Haskin
County Manager

News Release
FOR IMMEDIATE RELEASE
November 20, 2023

Media Contact
Taylor Allison
Emergency/Communications Manager
Phone: (775) 344-8325
Email: tallison@lyon-county.org

Lyon County Requests Public Feedback on Regional Hazard Mitigation Plan

Yerington, Nevada – Beginning Monday, November 20, 2023, Lyon County is requesting public comment and feedback on the [draft 2023 Regional Hazard Mitigation Plan](#), developed in coordination with the City of Fernley, City of Yerington, the four fire protection districts, Carson Water Subconservancy District, Walker River Irrigation District, and the Mason and Smith Valley Conservation Districts.

The regional hazard mitigation plan a tool for governments and nonprofit agencies to identify priorities and projects that will draw down the risk for future disasters. Additionally, local jurisdictions are required by the Disaster Mitigation Act of 2000 to complete a mitigation plan in order to receive certain non-disaster mitigation funds from the Federal Emergency Management Agency (FEMA).

The draft 2023 Lyon County Regional Hazard Mitigation Plan is available for review on the [Lyon County website](#). Please provide all feedback on the Regional Hazard Mitigation Plan to Taylor Allison, Lyon County Emergency Manager in writing by emailing tallison@lyon-county.org or mailing to 34 Lakes Blvd., Dayton, Nevada, 89403. Public comment will be accepted through Friday, December 8, 2023 at 5:00pm.

Following the public comment period, the final draft of the plan will be presented to the Board of County Commissioners and governing bodies of all participating entities for formal adoption.

For more information, visit our website <https://www.lyon-county.org/> and follow our Facebook page <https://www.facebook.com/LyonCountyNV>.

###

APPENDIX E: PLAN MAINTENANCE - ACTION MONITORING FORM

The MPT will utilize the Action Monitoring Form below to identify the status of each action in the plan.

Progress Report Period	
Describe the mitigation action or project.	
Who is responsible for the action?	
Project status:	☐ Complete ☐ In progress, anticipated completion date: _____ ☐ Not started ☐ Canceled
Has there been any progress with this project so far?	
Are there any obstacles or challenges with this action so far?	
What steps do you need to take to complete this project?	
Other Comments:	

APPENDIX F: LYON COUNTY TABLES VULNERABILITY ASSESSMENT**Table F-1. Lyon County, Total Population and Residential Buildings**

Population ¹	Residential Buildings ²	Total Residential Building Value (2011) ³
53,179	23,751	\$2,517,177.737

¹ Nevada Demographers Office (projected 2017 population)

² Lyon County Assessor and Douglas County for Lyon County GIS data 2018

³ Taxable Assessment Value from Lyon County Assessor data 2018

Table F-2. Lyon County Total Critical Facilities

Facility Category	Name	City	Asset Value
Community	Animal Shelter	Silver Springs	Unknown
Community	Central Branch Library	Yerington	Unknown
Community	Child Support	Yerington	Unknown
Community	Cooperative Extension	Yerington	Unknown
Community	County Administration Complex	Yerington	Unknown
Community	Courthouse & Annex	Yerington	Unknown
Community	Dayton Branch Library	Dayton	Unknown
Community	Dayton Community Center	Dayton	Unknown
Community	Dayton Justice Court	Dayton	Unknown
Community	Dayton Museum	Dayton	Unknown
Community	Dayton Senior Center	Dayton	Unknown
Community	Dispatch/Social Service	Yerington	Unknown
Community	Fernley Branch Library	Fernley	Unknown
Community	Fernley Senior Center	Fernley	Unknown
Community	Historic Dayton Depot	Dayton	Unknown
Community	Historic Dayton Fire Station	Dayton	Unknown
Community	Historic Silver City Fire Station	Silver City	Unknown
Community	Human Services - F2F & WIC, Dayton Office	Dayton Valley	Unknown
Community	Human Services Administration	Silver Springs	Unknown
Community	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Community	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Community	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Community	Lyon County Museum	Yerington	Unknown
Community	Lyon County Trap/Rifle Range	Mason Valley	Unknown
Community	Mason Town Hall	Mason	Unknown
Community	Silver City Community Center	Silver City	Unknown
Community	Silver Springs Airport	Silver Springs	Unknown
Community	Silver Springs Community/ Senior Center Complex	Silver Springs	Unknown
Community	Silver Stage Branch Library	Silver Springs	Unknown
Community	Smith Valley Library	Smith	Unknown
Community	Stagecoach Community Center	Stagecoach	Unknown
Community	Yerington Senior Center	Yerington	Unknown
Education	Cottonwood Elementary School	Fernley	Unknown
Education	Dayton Elementary School	Dayton	Unknown
Education	Dayton High School	Dayton	Unknown

Table F-2. Lyon County Total Critical Facilities

Facility Category	Name	City	Asset Value
Education	Dayton Intermediate School	Dayton	Unknown
Education	East Valley Elementary School	Fernley	Unknown
Education	Fernley Elementary School	Fernley	Unknown
Education	Fernley High School	Fernley	Unknown
Education	Fernley Intermediate School	Fernley	Unknown
Education	Riverpark Elementary School	Dayton	Unknown
Education	Silver Springs Elementary	Silver Springs	Unknown
Education	Silver Stage High School	Silver Springs	Unknown
Education	Silver Stage Middle School	Silver Springs	Unknown
Education	Silverland Middle School	Fernley	Unknown
Education	Smith Valley Schools	Smith	Unknown
Education	Sutro Elementary School	Dayton	Unknown
Education	Yerington Elementary School	Yerington	Unknown
Education	Yerington High School	Yerington	Unknown
Education	Yerington Intermediate School	Yerington	Unknown
Emergency Response	Canal Justice Court/Sheriff's Substation	Fernley	Unknown
Emergency Response	Central Fire Station	Smith	Unknown
Emergency Response	Fire Station 32	Silver Springs	Unknown
Emergency Response	Fire Station 34	Silver City	Unknown
Emergency Response	Fire Station 35	Dayton	Unknown
Emergency Response	Fire Station 36	Mound House	Unknown
Emergency Response	Fire Station 37	Stagecoach	Unknown
Emergency Response	Fire Station 38	Dayton	Unknown
Emergency Response	Fire Station 39	Dayton	Unknown
Emergency Response	Fire Station 40	Smith	\$750,000.00
Emergency Response	Fire Station 41	Wellington	Unknown
Emergency Response	Fire Station 42	Smith	\$150,000.00
Emergency Response	Fire Station 61	Fernley	Unknown
Emergency Response	Fire Station 62	Fernley	Unknown
Emergency Response	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Emergency Response	Sheriff Complex	Yerington	Unknown
Emergency Response	Sheriff's Sub Station	Dayton	Unknown
Emergency Response	Sheriff's Sub Station	Smith	Unknown
Emergency Response	Yerington/Mason Valley Fire Station 1	Yerington	Unknown
Emergency Response	Yerington/Mason Valley Fire Stations 2 & 3	Yerington	Unknown
Health	Med Direct Urgent Care	Dayton	Unknown
Health	Silver Springs Health Clinic	Silver Springs	Unknown

Table F-2. Lyon County Total Critical Facilities

Facility Category	Name	City	Asset Value
Health	Smith Valley Physicians Clinic	Wellington	Unknown
Health	South Lyon Medical Center	Yerington	Unknown
Incarceration	Jail Complex	Yerington	Unknown
Incarceration	Juvenile Probation/Parks	Dayton	Unknown
Public Works/Utility	Administration Office - Silver Springs	Silver Springs	Unknown
Public Works/Utility	Administration Office - Stagecoach	Stagecoach	Unknown
Public Works/Utility	Atkins Well	Silver Springs	Unknown
Public Works/Utility	Calcite Booster Station	Mound House	\$665,000.00
Public Works/Utility	Cardelli Well #8	Dayton	\$1,300,000.00
Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Public Works/Utility	Carson Highlands Lift Station	Mound House	\$450,000.00
Public Works/Utility	Carson River Estates Lift Station	Dayton	\$550,000.00
Public Works/Utility	Central Well	Stagecoach	Unknown
Public Works/Utility	Churchill Downs Well	Stagecoach	Unknown
Public Works/Utility	Churchill Ranchos North & South Wells	Stagecoach	Unknown
Public Works/Utility	Comstock Booster Station	Mound House	\$665,000.00
Public Works/Utility	Dayton Valley Estates Booster Station	Dayton	\$355,000.00
Public Works/Utility	Dayton Valley Estates Tank #1 (Water Reservoir)	Dayton	\$493,000.00
Public Works/Utility	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	\$276,200.00
Public Works/Utility	Dayton Well #1	Dayton	\$42,900.00
Public Works/Utility	Dayton Well #2	Dayton	\$41,900.00
Public Works/Utility	Dayton Well #3	Dayton	\$41,900.00
Public Works/Utility	Dayton Well #4	Dayton	\$780,000.00
Public Works/Utility	Dayton Well #5	Dayton	\$1,100,000.00
Public Works/Utility	Dayton Well #6	Dayton	\$42,800.00
Public Works/Utility	Dayton Well #7	Dayton	\$41,900.00
Public Works/Utility	Deodor Well	Silver Springs	Unknown
Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Public Works/Utility	Eldorado Tank (Water Reservoir)	Dayton	\$1,400,000.00
Public Works/Utility	Fort Churchill Well	Silver Springs	Unknown
Public Works/Utility	Grindstone Booster Station	Mound House	\$95,000.00
Public Works/Utility	Grindstone Tank (Water Reservoir)	Mound House	\$625,500.00
Public Works/Utility	Idaho Well	Silver Springs	Unknown

Table F-2. Lyon County Total Critical Facilities

Facility Category	Name	City	Asset Value
Public Works/Utility	Industrial Lift Station	Dayton	\$450,000.00
Public Works/Utility	Keystone Building	Dayton	\$75,000.00
Public Works/Utility	Lake Well	Silver Springs	Unknown
Public Works/Utility	Lift Station #1 (Lyon County)	Dayton	\$425,000.00
Public Works/Utility	Lift Station #2 (Lyon County)	Dayton	\$623,000.00
Public Works/Utility	Lift Station #3 & #3A (Lyon County)	Dayton	\$790,000.00
Public Works/Utility	Lift Station #4 (Lyon County)	Dayton	\$425,000.00
Public Works/Utility	Linehan Tank (Water Reservoir)	Mound House	\$220,300.00
Public Works/Utility	Lower Booster Station	Dayton	\$420,000.00
Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$50,000.00
Public Works/Utility	M H #12 (Well)	Mound House	\$355,000.00
Public Works/Utility	M H #13 (Well)	Mound House	\$355,000.00
Public Works/Utility	M H #14 (Well)	Mound House	\$355,000.00
Public Works/Utility	Main Utility Office	Dayton	\$293,400.00
Public Works/Utility	Miox Building	Dayton	\$75,000.00
Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00
Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Silver Springs	Unknown
Public Works/Utility	Public Works Maintenance Yard -Smith	Smith	Unknown
Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Yerington	Unknown
Public Works/Utility	Rolling A Lift Station	Dayton	\$950,000.00
Public Works/Utility	Rolling A Well #20	Dayton	\$1,500,000.00
Public Works/Utility	Rolling A WWTP	Dayton	\$12,409,300.00
Public Works/Utility	Rose Peak Lift Station	Dayton	\$131,100.00
Public Works/Utility	Rose Peak Tank (Water Reservoir)	Dayton	\$1,166,000.00
Public Works/Utility	Santa Maria Booster Station	Dayton	\$455,000.00
Public Works/Utility	Santa Maria Lift Station	Dayton	\$550,000.00
Public Works/Utility	Santa Maria Tank (Water Reservoir)	Dayton	\$574,500.00
Public Works/Utility	Silver Springs Lift Station	Silver Springs	\$450,000.00
Public Works/Utility	Silver Springs WWTP	Silver Springs	\$1,661,246.00
Public Works/Utility	Six Mile Tank (Water Reservoir)	Dayton	\$2,125,000.00
Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00
Public Works/Utility	South Plant Shops (2)	Dayton	\$1,750,000.00
Public Works/Utility	Sutro Lift Station	Dayton	\$680,000.00

Table F-2. Lyon County Total Critical Facilities

Facility Category	Name	City	Asset Value
Public Works/Utility	Upper Booster Station	Dayton	\$600,000.00
Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$790,000.00
Public Works/Utility	Water Treatment Plant - Silver Springs	Silver Springs	Unknown

Table F-3. Lyon County, Vulnerable Population and Residential Buildings

Hazard	Population	Residential buildings	Total Residential Building Value
Earthquake (Severe)~	51,980	23,090	\$2,539,900,000
Flooding	12,000	3,252	\$357,720,000
Hazardous Materials*	29,000	3,519	\$387,090,000
Wildfire (High)~	Unknown	Unknown	Unknown
Wildfire (Moderate)~	Unknown	Unknown	Unknown
Winter Storm – Freeze (High)~	51,980	23,090	\$2,539,900,000
Winter Storm – Snow (High)~	Unknown	Unknown	Unknown
Winter Storm – Snow (Medium)~	Unknown	Unknown	Unknown

* Hazardous materials hazard represents a fixed incident.

~ Partial Vulnerability Analysis was completed – population and residential building vulnerability only known when the entire jurisdiction falls within a single hazard level.

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Community	Animal Shelter	Mason Valley	Unknown
Earthquake (Severe)	Public Works/Utility	Calcite Booster Station	Fernley	Unknown
Earthquake (Severe)	Public Works/Utility	Carson Highland WWTP	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Carson Highlands Lift Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Carson River Estates Lift Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Comstock Booster Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Valley Estates Booster Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #6	Dayton	Unknown
Earthquake (Severe)	Emergency Response	Fire Station 32	Yerington	Unknown
Earthquake (Severe)	Community	Historic Dayton Fire Station	Yerington	Unknown
Earthquake (Severe)	Community	Historic Silver City Fire Station	Silver City	Unknown
Earthquake (Severe)	Human Services	Human Services - F2F & WIC, Dayton Office	Yerington	Unknown
Earthquake (Severe)	Human Services	Human Services - F2F & WIC, Dayton Office	Dayton Valley	Unknown
Earthquake (Severe)	Human Services	Human Services Administration	Silver Springs	Unknown
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Earthquake (Severe)	Community	Lyon County Museum	Yerington	Unknown
Earthquake (Severe)	Emergency Response	Sheriff Complex	Yerington	Unknown
Earthquake (Severe)	Emergency Response	Sheriff's Sub Station	Silver Springs	Unknown
Earthquake (Severe)	Emergency Response	Sheriff's Sub Station	Mason	Unknown
Earthquake (Severe)	Education	Silver Stage Middle School	Silver Springs	Unknown
Earthquake (Severe)	Education	Silverland Middle School	Fernley	Unknown
Earthquake (Severe)	Health	Smith Valley Physicians Clinic	Smith	Unknown
Earthquake (Severe)	Education	Smith Valley Schools	Smith	Unknown
Earthquake (Severe)	Health	South Lyon Medical Center	Yerington	Unknown
Earthquake (Severe)	Education	Sutro Elementary School	Dayton	Unknown
Earthquake (Severe)	Education	Yerington Elementary School	Yerington	Unknown
Earthquake (Severe)	Education	Yerington High School	Stagecoach	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Valley Estates Tank #1 (Water Reservoir)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #1	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #2	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #3	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #4	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #5	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #6	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Dayton Well #7	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	DVE #10 (Well)	Dayton	Unknown
Earthquake (Severe)	Community	Silver City Community Center	Silver City	Unknown
Earthquake (Severe)	Transportation	Silver Springs Airport	Silver Springs	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Community	Silver Springs Community/ Senior Center Complex	Silver Springs	Unknown
Earthquake (Severe)	Health	Silver Springs Health Clinic	Silver Springs	Unknown
Earthquake (Severe)	Community	Silver Stage Branch Library	Silver Springs	Unknown
Earthquake (Severe)	Education	Yerington Intermediate School	Yerington	Unknown
Earthquake (Severe)	Emergency Response	Yerington/Mason Valley Fire Station 1	Yerington	Unknown
Earthquake (Severe)	Emergency Response	Yerington/Mason Valley Fire Stations 2 & 3	Yerington	Unknown
Earthquake (Severe)	Emergency Response	Administration Office - Silver Springs	Silver Springs	Unknown
Earthquake (Severe)	Public Works/Utility	Atkins Well	Stagecoach	Unknown
Earthquake (Severe)	Community	Central Branch Library	Dayton	Unknown
Earthquake (Severe)	Judicial	Child Support	Yerington	Unknown
Earthquake (Severe)	Public Works/Utility	Deodor Well	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	DVE #11 (Well)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	DVE #9 (Well)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Eldorado Tank (Water Reservoir)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Fort Churchill Well	Dayton	\$750,000.00
Earthquake (Severe)	Public Works/Utility	Grindstone Booster Station	Mound House	Unknown
Earthquake (Severe)	Public Works/Utility	Grindstone Tank (Water Reservoir)	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Idaho Well	Smith	\$150,000.00
Earthquake (Severe)	Emergency Response	Industrial Lift Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Keystone Building	Silver Springs	Unknown
Earthquake (Severe)	Public Works/Utility	Lift Station #1 (Lyon County)	Smith	Unknown
Earthquake (Severe)	Public Works/Utility	Lift Station #2 (Lyon County)	Smith	Unknown
Earthquake (Severe)	Public Works/Utility	Lift Station #3 & #3A (Lyon County)	Wellington	Unknown
Earthquake (Severe)	Community	Smith Valley Library	Smith	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Community	Stagecoach Community Center	Stagecoach	Unknown
Earthquake (Severe)	Community	Yerington Senior Center	Yerington	Unknown
Earthquake (Severe)	Judicial/Emergency Response	Canal Justice Court/Sheriff's Substation	Yerington	Unknown
Earthquake (Severe)	Public Works/Utility	Lift Station #4 (Lyon County)	Dayton	Unknown
Earthquake (Severe)	Health	Med Direct Urgent Care	Wellington	Unknown
Earthquake (Severe)	Public Works/Utility	Silver Springs WWTP	Silver Springs	Unknown
Earthquake (Severe)	Community	Historic Dayton Depot	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Linehan Tank (Water Reservoir)	Mound House	Unknown
Earthquake (Severe)	Emergency Response	Administration Office - Stagecoach	Stagecoach	Unknown
Earthquake (Severe)	Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Earthquake (Severe)	Public Works/Utility	Central Well	Dayton	\$1,166,000.00
Earthquake (Severe)	Emergency Response	Central Fire Station	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	Churchill Downs Well	Mound House	\$220,300.00
Earthquake (Severe)	Public Works/Utility	Churchill Ranchos North & South Wells	Silver Springs	Unknown
Earthquake (Severe)	Community	Cooperative Extension	Dayton	\$1,300,000.00
Earthquake (Severe)	Education	Cottonwood Elementary School	Fernley	\$600,000.00
Earthquake (Severe)	Community	Dayton Community Center	Dayton	\$355,000.00
Earthquake (Severe)	Education	Dayton Elementary School	Dayton	\$790,000.00
Earthquake (Severe)	Education	Dayton High School	Mound House	\$355,000.00
Earthquake (Severe)	Education	Dayton Intermediate School	Mound House	\$355,000.00
Earthquake (Severe)	Judicial	Dayton Justice Court	Dayton	\$493,000.00
Earthquake (Severe)	Community	Dayton Museum	Dayton	\$276,200.00
Earthquake (Severe)	Community	Dayton Senior Center	Dayton	\$75,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Emergency Response/ Human Services	Dispatch/Social Service	Yerington	Unknown
Earthquake (Severe)	Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Earthquake (Severe)	Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Earthquake (Severe)	Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Earthquake (Severe)	Education	East Valley Elementary School	Fernley	Unknown
Earthquake (Severe)	Community	Fernley Branch Library	Fernley	\$455,000.00
Earthquake (Severe)	Education	Fernley Elementary School	Fernley	Unknown
Earthquake (Severe)	Education	Fernley High School	Fernley	\$355,000.00
Earthquake (Severe)	Education	Fernley Intermediate School	Fernley	\$293,400.00
Earthquake (Severe)	Community	Fernley Senior Center	Fernley	\$550,000.00
Earthquake (Severe)	Emergency Response	Fire Station 34	Dayton	\$42,900.00
Earthquake (Severe)	Emergency Response	Fire Station 35	Dayton	\$450,000.00
Earthquake (Severe)	Emergency Response	Fire Station 36	Dayton	\$950,000.00
Earthquake (Severe)	Emergency Response	Fire Station 39	Silver Springs	Unknown
Earthquake (Severe)	Emergency Response	Fire Station 40	Stagecoach	Unknown
Earthquake (Severe)	Emergency Response	Fire Station 41	Smith	\$574,500.00
Earthquake (Severe)	Emergency Response	Fire Station 42	Smith/ Wellington	\$2,125,000.00
Earthquake (Severe)	Emergency Response	Fire Station 61	Fernley	\$450,000.00
Earthquake (Severe)	Public Works/Utility	Lake Well	Stagecoach	Unknown
Earthquake (Severe)	Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$131,100.00
Earthquake (Severe)	Public Works/Utility	M H #12 (Well)	Mound House	\$1,400,000.00
Earthquake (Severe)	Public Works/Utility	M H #13 (Well)	Mound House	\$1,750,000.00
Earthquake (Severe)	Public Works/Utility	M H #14 (Well)	Mound House	\$680,000.00
Earthquake (Severe)	Public Works/Utility	Main Utility Office	Dayton	\$420,000.00
Earthquake (Severe)	Emergency Response	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Earthquake (Severe)	Public Works/Utility	Miox Building	Dayton	\$50,000.00
Earthquake (Severe)	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Public Works/Utility	Mound House 1 Mil Tank (Water Reservoir)	Mound House	Unknown
Earthquake (Severe)	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Earthquake (Severe)	Public Works/Utility	Mound House 1/2 Mil Tank (Water Reservoir)	Mound House	\$665,000.00
Earthquake (Severe)	Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Earthquake (Severe)	Public Works/Utility	North Dayton WWTP	Dayton	\$450,000.00
Earthquake (Severe)	Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Dayton	\$550,000.00
Earthquake (Severe)	Public Works/Utility	Public Works Maintenance Yard - Smith	Smith	\$665,000.00
Earthquake (Severe)	Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Yerington	\$41,900.00
Earthquake (Severe)	Public Works/Utility	Rolling A Lift Station	Dayton	\$41,900.00
Earthquake (Severe)	Public Works/Utility	Rolling A WWTP	Dayton	\$12,409,300.00
Earthquake (Severe)	Public Works/Utility	Rolling A WWTP	Dayton	\$780,000.00
Earthquake (Severe)	Public Works/Utility	Rose Peak Lift Station	Dayton	\$1,100,000.00
Earthquake (Severe)	Public Works/Utility	Santa Maria Booster Station	Dayton	\$42,800.00
Earthquake (Severe)	Public Works/Utility	Santa Maria Lift Station	Dayton	\$41,900.00
Earthquake (Severe)	Public Works/Utility	Santa Maria Tank (Water Reservoir)	Dayton	\$95,000.00
Earthquake (Severe)	Public Works/Utility	Silver Springs Elementary	Silver Springs	\$75,000.00
Earthquake (Severe)	Public Works/Utility	Silver Springs Lift Station	Silver Springs	Unknown
Earthquake (Severe)	Public Works/Utility	Silver Springs WWTP	Silver Springs	\$1,661,246.00
Earthquake (Severe)	Public Works/Utility	Silver Stage High School	Silver Springs	Unknown
Earthquake (Severe)	Public Works/Utility	Six Mile Tank (Water Reservoir)	Dayton	\$625,500.00
Earthquake (Severe)	Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Earthquake (Severe)	Public Works/Utility	South Dayton WWTP	Dayton	Unknown
Earthquake (Severe)	Public Works/Utility	South Plant Shops (2)	Dayton	\$425,000.00
Earthquake (Severe)	Public Works/Utility	Sutro Lift Station	Dayton	\$790,000.00
Earthquake (Severe)	Public Works/Utility	Upper Booster Station	Dayton	\$623,000.00
Earthquake (Severe)	Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$425,000.00
Earthquake (Severe)	Public Works/Utility	Water Treatment Plant - Silver Springs	Silver Springs	\$1,500,000.00
Flooding	Community	Animal Shelter	Silver Springs	Unknown
Flooding	Community	Historic Dayton Depot	Dayton	Unknown
Flooding	Community	Historic Dayton Fire Station	Dayton	Unknown
Flooding	Community	Historic Silver City Fire Station	Silver City	Unknown
Flooding	Emergency Response	Human Services - F2F & WIC, Dayton Office	Dayton	Unknown
Flooding	Emergency Response	Human Services Administration	Silver Springs	Unknown
Flooding	Human Services	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Flooding	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Flooding	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Flooding	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Flooding	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Flooding	Community	Lyon County Museum	Yerington	Unknown
Flooding	Community	Silver City Community Center	Silver City	Unknown
Flooding	Community	Silver Springs Airport	Silver Springs	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Flooding	Community	Silver Springs Community/ Senior Center Complex	Silver Springs	Unknown
Flooding	Community	Silver Stage Branch Library	Silver Springs	Unknown
Flooding	Community	Central Branch Library	Dayton	Unknown
Flooding	Judicial	Child Support	Yerington	Unknown
Flooding	Community	Smith Valley Library	Smith	Unknown
Flooding	Community	Stagecoach Community Center	Stagecoach	Unknown
Flooding	Community	Yerington Senior Center	Yerington	Unknown
Flooding	Judicial/Emergency Response	Canal Justice Court/Sheriff's Substation	Yerington	Unknown
Flooding	Emergency Response	Fire Station 32	Dayton	Unknown
Flooding	Community	Cooperative Extension	Dayton	\$1,300,000.00
Flooding	Community	Dayton Community Center	Dayton	\$355,000.00
Flooding	Judicial	Dayton Justice Court	Dayton	\$493,000.00
Flooding	Community	Dayton Museum	Dayton	\$276,200.00
Flooding	Community	Dayton Senior Center	Dayton	\$75,000.00
Flooding	Emergency Response/ Human Services	Dispatch/Social Service	Yerington	Unknown
Flooding	Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Flooding	Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Flooding	Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Flooding	Public Works/Utility	Fernley Branch Library	Fernley	\$455,000.00
Flooding	Public Works/Utility	Fernley Senior Center	Fernley	\$550,000.00
Flooding	Emergency Response	Fire Station 34	Dayton	42900
Flooding	Emergency Response	Fire Station 35	Dayton	450000
Flooding	Emergency Response	Fire Station 36	Dayton	950000
Flooding	Emergency Response	Fire Station 39	Silver Springs	Unknown
Flooding	Emergency Response	Fire Station 61	Fernley	450000
Flooding	Emergency Response	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Flooding	Public Works/Utility	North Dayton WWTP	Dayton	1500000

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Flooding	Public Works/Utility	Rolling A WWTP	Dayton	12409300
Flooding	Public Works/Utility	Silver Springs WWTP	Silver Springs	1661246
Hazardous Materials	Community	Calcite Booster Station	Mound House	Unknown
Hazardous Materials	Community	Cardelli Well #8	Dayton	Unknown
Hazardous Materials	Community	Carson Highland WWTP	Dayton	Unknown
Hazardous Materials	Community	Carson Highlands Lift Station	Dayton	Unknown
Hazardous Materials	Community	Carson River Estates Lift Station	Dayton	Unknown
Hazardous Materials	Community	Comstock Booster Station	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Valley Estates Booster Station	Dayton	Unknown
Hazardous Materials	Community	Historic Dayton Depot	Dayton	Unknown
Hazardous Materials	Community	Historic Dayton Fire Station	Dayton	Unknown
Hazardous Materials	Community	Historic Silver City Fire Station	Silver City	Unknown
Hazardous Materials	Human Services	Human Services - F2F & WIC, Dayton Office	Dayton	Unknown
Hazardous Materials	Human Services	Human Services - F2F & WIC, Dayton Office	Dayton	Unknown
Hazardous Materials	Human Services	Human Services Administration	Silver Springs	Unknown
Hazardous Materials	Human Services	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Hazardous Materials	Human Services	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Hazardous Materials	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Hazardous Materials	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Hazardous Materials	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Hazardous Materials	Human Services	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Hazardous Materials	Community	Lyon County Museum	Yerington	Unknown
Hazardous Materials	Emergency Response	Sheriff Complex	Yerington	Unknown
Hazardous Materials	Emergency Response	Sheriff's Sub Station	Silver Springs	Unknown
Hazardous Materials	Emergency Response	Sheriff's Sub Station	Dayton	Unknown
Hazardous Materials	Health	Smith Valley Physicians Clinic	Smith	Unknown
Hazardous Materials	Health	South Lyon Medical Center	Yerington	Unknown
Hazardous Materials	Public Works/Utility	Dayton Valley Estates Tank #1 (Water Reservoir)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #1	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #2	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #3	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #4	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #5	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #6	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Dayton Well #7	Dayton	Unknown
Hazardous Materials	Public Works/Utility	DVE #10 (Well)	Dayton	Unknown
Hazardous Materials	Community	Silver City Community Center	Silver City	Unknown
Hazardous Materials	Transportation	Silver Springs Airport	Silver Springs	Unknown
Hazardous Materials	Community	Silver Springs Community/ Senior Center Complex	Silver Springs	Unknown
Hazardous Materials	Community	Silver Stage Branch Library	Silver Springs	Unknown
Hazardous Materials	Public Works/Utility	DVE #11 (Well)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	DVE #9 (Well)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Eldorado Tank (Water Reservoir)	Dayton	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Hazardous Materials	Public Works/Utility	Grindstone Booster Station	Mound House	Unknown
Hazardous Materials	Public Works/Utility	Grindstone Tank (Water Reservoir)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Industrial Lift Station	Fernley	Unknown
Hazardous Materials	Community	Keystone Building	Silver Springs	Unknown
Hazardous Materials	Public Works/Utility	Lift Station #1 (Lyon County)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Lift Station #2 (Lyon County)	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Lift Station #3 & #3A (Lyon County)	Dayton	Unknown
Hazardous Materials	Community	Smith Valley Library	Smith	Unknown
Hazardous Materials	Community	Stagecoach Community Center	Stagecoach	Unknown
Hazardous Materials	Community	Yerington Senior Center	Yerington	Unknown
Hazardous Materials	Judicial/Emergency Response	Canal Justice Court/Sheriff's Substation	Yerington	Unknown
Hazardous Materials	Public Works/Utility	Lift Station #4 (Lyon County)	Dayton	Unknown
Hazardous Materials	Emergency Response	Fire Station 32	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Linehan Tank (Water Reservoir)	Mound House	Unknown
Hazardous Materials	Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Hazardous Materials	Education	Cottonwood Elementary School	Fernley	\$420,000.00
Hazardous Materials	Education	Dayton Elementary School	Dayton	\$50,000.00
Hazardous Materials	Education	Dayton High School	Dayton	\$355,000.00
Hazardous Materials	Education	Dayton Intermediate School	Dayton	Unknown
Hazardous Materials	Education	East Valley Elementary School	Fernley	Unknown
Hazardous Materials	Education	Fernley Elementary School	Fernley	Unknown
Hazardous Materials	Education	Fernley High School	Fernley	Unknown
Hazardous Materials	Education	Fernley Intermediate School	Dayton	Unknown
Hazardous Materials	Emergency Response	Fire Station 34	Dayton	\$42,900.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Hazardous Materials	Emergency Response	Fire Station 35	Dayton	\$450,000.00
Hazardous Materials	Emergency Response	Fire Station 36	Dayton	\$950,000.00
Hazardous Materials	Emergency Response	Fire Station 39	Silver Springs	Unknown
Hazardous Materials	Emergency Response	Fire Station 61	Fernley	\$450,000.00
Hazardous Materials	Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$131,100.00
Hazardous Materials	Public Works/Utility	M H #12 (Well)	Dayton	\$1,166,000.00
Hazardous Materials	Public Works/Utility	M H #13 (Well)	Dayton	\$1,750,000.00
Hazardous Materials	Public Works/Utility	M H #14 (Well)	Dayton	\$680,000.00
Hazardous Materials	Public Works/Utility	Main Utility Office	Dayton	\$600,000.00
Hazardous Materials	Emergency Response	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Hazardous Materials	Public Works/Utility	Miox Building	Dayton	\$790,000.00
Hazardous Materials	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00
Hazardous Materials	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	Unknown
Hazardous Materials	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Hazardous Materials	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$665,000.00
Hazardous Materials	Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Hazardous Materials	Public Works/Utility	North Dayton WWTP	Mound House	\$450,000.00
Hazardous Materials	Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Silver Springs	\$550,000.00
Hazardous Materials	Public Works/Utility	Public Works Maintenance Yard - Smith	Smith	\$665,000.00
Hazardous Materials	Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Yerington	Unknown
Hazardous Materials	Public Works/Utility	Rolling A Lift Station	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Rolling A WWTP	Dayton	Unknown
Hazardous Materials	Public Works/Utility	Rolling A WWTP	Dayton	\$780,000.00
Hazardous Materials	Public Works/Utility	Rose Peak Lift Station	Dayton	\$1,100,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Hazardous Materials	Public Works/Utility	Santa Maria Booster Station	Dayton	\$42,800.00
Hazardous Materials	Public Works/Utility	Santa Maria Lift Station	Dayton	\$41,900.00
Hazardous Materials	Public Works/Utility	Santa Maria Tank (Water Reservoir)	Dayton	\$95,000.00
Hazardous Materials	Public Works/Utility	Silver Springs Elementary	Silver Springs	\$75,000.00
Hazardous Materials	Public Works/Utility	Silver Springs WWTP	Silver Springs	\$1,661,246.00
Hazardous Materials	Education	Silver Stage High School	Silver Springs	Unknown
Hazardous Materials	Public Works/Utility	Six Mile Tank (Water Reservoir)	Dayton	\$625,500.00
Hazardous Materials	Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00
Hazardous Materials	Public Works/Utility	South Dayton WWTP	Dayton	Unknown
Hazardous Materials	Public Works/Utility	South Plant Shops (2)	Dayton	\$425,000.00
Hazardous Materials	Public Works/Utility	Sutro Lift Station	Dayton	\$790,000.00
Hazardous Materials	Public Works/Utility	Upper Booster Station	Dayton	\$623,000.00
Hazardous Materials	Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$425,000.00
Wildfire (High)	Education	Silverland Middle School	Fernley	Unknown
Wildfire (High)	Education	Smith Valley Schools	Smith	Unknown
Wildfire (High)	Human Services	Administration Office - Silver Springs	Silver City	Unknown
Wildfire (Moderate)	Community	Animal Shelter	Silver Springs	Unknown
Wildfire (Moderate)	Public Works/Utility	Carson Highland WWTP	Mound House	Unknown
Wildfire (Moderate)	Public Works/Utility	Carson Highlands Lift Station	Mound House	Unknown
Wildfire (Moderate)	Public Works/Utility	Carson River Estates Lift Station	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Comstock Booster Station	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Dayton Valley Estates Booster Station	Dayton	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Wildfire (Moderate)	Human Services	Human Services - F2F & WIC, Dayton Office	Dayton Valley	Unknown
Wildfire (Moderate)	Human Services	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Wildfire (Moderate)	Emergency Response	Sheriff Complex	Yerington	Unknown
Wildfire (Moderate)	Emergency Response	Sheriff's Sub Station	Dayton	Unknown
Wildfire (Moderate)	Health	South Lyon Medical Center	Yerington	Unknown
Wildfire (Moderate)	Public Works/Utility	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Dayton Well #1	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Dayton Well #2	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Dayton Well #7	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	DVE #10 (Well)	Dayton	Unknown
Wildfire (Moderate)	Community	Silver City Community Center	Silver City	Unknown
Wildfire (Moderate)	Community	Central Branch Library	Dayton	Unknown
Wildfire (Moderate)	Judicial	Child Support	Yerington	Unknown
Wildfire (Moderate)	Public Works/Utility	Eldorado Tank (Water Reservoir)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Fort Churchill Well	Dayton	\$750,000.00
Wildfire (Moderate)	Public Works/Utility	Grindstone Booster Station	Mound House	Unknown
Wildfire (Moderate)	Public Works/Utility	Grindstone Tank (Water Reservoir)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Idaho Well	Silver Springs	\$150,000.00
Wildfire (Moderate)	Public Works/Utility	Lift Station #1 (Lyon County)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Lift Station #2 (Lyon County)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Lift Station #3 & #3A (Lyon County)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Lift Station #4 (Lyon County)	Dayton	Unknown
Wildfire (Moderate)	Public Works/Utility	Med Direct Urgent Care	Wellington	Unknown
Wildfire (Moderate)	Public Works/Utility	Linehan Tank (Water Reservoir)	Mound House	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Wildfire (Moderate)	Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Wildfire (Moderate)	Public Works/Utility	Central Well	Dayton	\$1,166,000.00
Wildfire (Moderate)	Public Works/Utility	Churchill Downs Well	Mound House	\$220,300.00
Wildfire (Moderate)	Community	Cooperative Extension	Dayton	\$1,300,000.00
Wildfire (Moderate)	Education	Cottonwood Elementary School	Fernley	\$600,000.00
Wildfire (Moderate)	Community	Dayton Community Center	Dayton	\$355,000.00
Wildfire (Moderate)	Education	Dayton Elementary School	Dayton	\$790,000.00
Wildfire (Moderate)	Education	Dayton High School	Mound House	Unknown
Wildfire (Moderate)	Education	Dayton Intermediate School	Mound House	\$355,000.00
Wildfire (Moderate)	Judicial	Dayton Justice Court	Dayton	\$493,000.00
Wildfire (Moderate)	Public Works/Utility	Dayton Museum	Dayton	\$276,200.00
Wildfire (Moderate)	Public Works/Utility	Dayton Senior Center	Dayton	\$75,000.00
Wildfire (Moderate)	Public Works/Utility	Dispatch/Social Service	Smith	Unknown
Wildfire (Moderate)	Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Wildfire (Moderate)	Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Wildfire (Moderate)	Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Wildfire (Moderate)	Public Works/Utility	Fernley Branch Library	Dayton	\$455,000.00
Wildfire (Moderate)	Public Works/Utility	Fernley High School	Mound House	\$355,000.00
Wildfire (Moderate)	Public Works/Utility	Fernley Intermediate School	Dayton	\$293,400.00
Wildfire (Moderate)	Public Works/Utility	Fernley Senior Center	Dayton	\$550,000.00
Wildfire (Moderate)	Public Works/Utility	Fire Station 34	Dayton	\$42,900.00
Wildfire (Moderate)	Public Works/Utility	Fire Station 35	Dayton	\$450,000.00
Wildfire (Moderate)	Public Works/Utility	Fire Station 36	Dayton	\$950,000.00
Wildfire (Moderate)	Public Works/Utility	Fire Station 41	Dayton	\$574,500.00
Wildfire (Moderate)	Public Works/Utility	Fire Station 42	Dayton	\$2,125,000.00
Wildfire (Moderate)	Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$131,100.00
Wildfire (Moderate)	Public Works/Utility	M H #12 (Well)	Dayton	\$1,400,000.00
Wildfire (Moderate)	Public Works/Utility	M H #13 (Well)	Dayton	\$1,750,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Wildfire (Moderate)	Public Works/Utility	M H #14 (Well)	Dayton	\$680,000.00
Wildfire (Moderate)	Public Works/Utility	Main Utility Office	Dayton	\$420,000.00
Wildfire (Moderate)	Public Works/Utility	Miox Building	Dayton	\$50,000.00
Wildfire (Moderate)	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00
Wildfire (Moderate)	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Wildfire (Moderate)	Public Works/Utility	Mound House 1/2 Mil Tank (Water Reservoir)	Mound House	\$665,000.00
Wildfire (Moderate)	Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Wildfire (Moderate)	Public Works/Utility	North Dayton WWTP	Mound House	\$450,000.00
Wildfire (Moderate)	Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Dayton	\$550,000.00
Wildfire (Moderate)	Public Works/Utility	Public Works Maintenance Yard - Smith	Mound House	\$665,000.00
Wildfire (Moderate)	Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Dayton	\$41,900.00
Wildfire (Moderate)	Public Works/Utility	Rolling A Lift Station	Dayton	\$41,900.00
Wildfire (Moderate)	Public Works/Utility	Rolling A WWTP	Dayton	\$12,409,300.00
Wildfire (Moderate)	Public Works/Utility	Rolling A WWTP	Dayton	\$780,000.00
Wildfire (Moderate)	Public Works/Utility	Rose Peak Lift Station	Dayton	\$1,100,000.00
Wildfire (Moderate)	Public Works/Utility	Santa Maria Booster Station	Dayton	\$42,800.00
Wildfire (Moderate)	Public Works/Utility	Santa Maria Lift Station	Dayton	\$41,900.00
Wildfire (Moderate)	Public Works/Utility	Santa Maria Tank (Water Reservoir)	Mound House	\$95,000.00
Wildfire (Moderate)	Public Works/Utility	Silver Springs Elementary	Dayton	\$75,000.00
Wildfire (Moderate)	Public Works/Utility	Six Mile Tank (Water Reservoir)	Mound House	\$625,500.00
Wildfire (Moderate)	Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00
Wildfire (Moderate)	Public Works/Utility	South Plant Shops (2)	Dayton	\$425,000.00
Wildfire (Moderate)	Public Works/Utility	Sutro Lift Station	Dayton	\$790,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Wildfire (Moderate)	Public Works/Utility	Upper Booster Station	Dayton	\$623,000.00
Wildfire (Moderate)	Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$425,000.00
Wildfire (Moderate)	Public Works/Utility	Water Treatment Plant - Silver Springs	Dayton	\$1,500,000.00
Winter Storm - Freeze (High)	Community	Animal Shelter	Mason Valley	Unknown
Winter Storm – Freeze (High)	Community	Calcite Booster Station	Fernley	Unknown
Winter Storm – Freeze (High)	Community	Carson Highland WWTP	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Carson Highlands Lift Station	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Carson River Estates Lift Station	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Comstock Booster Station	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Dayton Valley Estates Booster Station	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Dayton Well #6	Fernley	Unknown
Winter Storm – Freeze (High)	Community	Fire Station 32	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Historic Dayton Fire Station	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Historic Silver City Fire Station	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Human Services - F2F & WIC, Dayton Office	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Human Services - F2F & WIC, Dayton Office	Dayton Valley	Unknown
Winter Storm – Freeze (High)	Community	Human Services Administration	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Fernley Office	Yerington	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Silver Springs Office	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Lyon County Museum	Yerington	Unknown
Winter Storm – Freeze (High)	Community	Sheriff Complex	Dayton	Unknown
Winter Storm – Freeze (High)	Community	Sheriff's Sub Station	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Sheriff's Sub Station	Mason	Unknown
Winter Storm – Freeze (High)	Community	Silver Stage Middle School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Silverland Middle School	Silver City	Unknown
Winter Storm – Freeze (High)	Community	Smith Valley Physicians Clinic	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Smith Valley Schools	Silver City	Unknown
Winter Storm – Freeze (High)	Community	South Lyon Medical Center	Smith	Unknown
Winter Storm – Freeze (High)	Community	Sutro Elementary School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Yerington Elementary School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Community	Yerington High School	Stagecoach	Unknown
Winter Storm – Freeze (High)	Education	Dayton Valley Estates Tank #1 (Water Reservoir)	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #1	Dayton	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Education	Dayton Well #2	Dayton	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #3	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #4	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #5	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #6	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Dayton Well #7	Smith	Unknown
Winter Storm – Freeze (High)	Education	DVE #10 (Well)	Dayton	Unknown
Winter Storm – Freeze (High)	Education	Silver City Community Center	Dayton	Unknown
Winter Storm – Freeze (High)	Education	Silver Springs Airport	Yerington	Unknown
Winter Storm – Freeze (High)	Education	Silver Springs Community/ Senior Center Complex	Yerington	Unknown
Winter Storm – Freeze (High)	Education	Silver Springs Health Clinic	Silver Springs	Unknown
Winter Storm – Freeze (High)	Education	Silver Stage Branch Library	Yerington	Unknown
Winter Storm – Freeze (High)	Education	Yerington Intermediate School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Education	Yerington/Mason Valley Fire Station 1	Fernley	Unknown
Winter Storm – Freeze (High)	Education	Yerington/Mason Valley Fire Stations 2 & 3	Silver Springs	Unknown
Winter Storm – Freeze (High)	Emergency Response	Administration Office - Silver Springs	Silver City	Unknown
Winter Storm – Freeze (High)	Emergency Response	Atkins Well	Stagecoach	Unknown
Winter Storm – Freeze (High)	Emergency Response	Central Branch Library	Dayton	Unknown
Winter Storm – Freeze (High)	Emergency Response	Child Support	Dayton	Unknown
Winter Storm – Freeze (High)	Emergency Response	Deodor Well	Fernley	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Emergency Response	DVE #11 (Well)	Fernley	Unknown
Winter Storm – Freeze (High)	Emergency Response	DVE #9 (Well)	Silver Springs	Unknown
Winter Storm – Freeze (High)	Emergency Response	Eldorado Tank (Water Reservoir)	Dayton	Unknown
Winter Storm – Freeze (High)	Emergency Response	Fort Churchill Well	Smith	\$750,000.00
Winter Storm – Freeze (High)	Emergency Response	Grindstone Booster Station	Mound House	Unknown
Winter Storm – Freeze (High)	Emergency Response	Grindstone Tank (Water Reservoir)	Dayton	Unknown
Winter Storm – Freeze (High)	Emergency Response	Idaho Well	Smith	\$150,000.00
Winter Storm – Freeze (High)	Emergency Response	Industrial Lift Station	Fernley	Unknown
Winter Storm – Freeze (High)	Emergency Response	Keystone Building	Silver Springs	Unknown
Winter Storm – Freeze (High)	Emergency Response	Lift Station #1 (Lyon County)	Smith	Unknown
Winter Storm – Freeze (High)	Emergency Response	Lift Station #2 (Lyon County)	Smith	Unknown
Winter Storm – Freeze (High)	Emergency Response	Lift Station #3 & #3A (Lyon County)	Wellington	Unknown
Winter Storm – Freeze (High)	Emergency Response	Smith Valley Library	Yerington	Unknown
Winter Storm – Freeze (High)	Emergency Response	Stagecoach Community Center	Yerington	Unknown
Winter Storm – Freeze (High)	Emergency Response	Yerington Senior Center	Yerington	Unknown
Winter Storm – Freeze (High)	Health	Canal Justice Court/Sheriff's Substation	Yerington	Unknown
Winter Storm – Freeze (High)	Health	Lift Station #4 (Lyon County)	Dayton	Unknown
Winter Storm – Freeze (High)	Health	Med Direct Urgent Care	Wellington	Unknown
Winter Storm – Freeze (High)	Health	Silver Springs WWTP	Silver Springs	Unknown
Winter Storm – Freeze (High)	Incarceration	Historic Dayton Depot	Yerington	Unknown
Winter Storm – Freeze (High)	Incarceration	Linehan Tank (Water Reservoir)	Dayton	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Public Works/Utility	Administration Office - Stagecoach	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Central Well	Dayton	\$1,166,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Central Fire Station	Stagecoach	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Churchill Downs Well	Mound House	\$220,300.00
Winter Storm – Freeze (High)	Public Works/Utility	Churchill Ranchos North & South Wells	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Cooperative Extension	Dayton	\$1,300,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Cottonwood Elementary School	Dayton	\$600,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Community Center	Dayton	\$355,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Elementary School	Dayton	\$790,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton High School	Mound House	\$355,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Intermediate School	Mound House	\$355,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Justice Court	Dayton	\$493,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Museum	Dayton	\$276,200.00
Winter Storm – Freeze (High)	Public Works/Utility	Dayton Senior Center	Dayton	\$75,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Dispatch/Social Service	Smith	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Winter Storm – Freeze (High)	Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Winter Storm – Freeze (High)	Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Winter Storm – Freeze (High)	Public Works/Utility	East Valley Elementary School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Fernley Branch Library	Dayton	\$455,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Public Works/Utility	Fernley Elementary School	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Fernley High School	Mound House	\$355,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Fernley Intermediate School	Dayton	\$293,400.00
Winter Storm – Freeze (High)	Public Works/Utility	Fernley Senior Center	Dayton	\$550,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 34	Dayton	\$42,900.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 35	Dayton	\$450,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 36	Dayton	\$950,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 39	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 40	Stagecoach	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 41	Dayton	\$574,500.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 42	Dayton	\$2,125,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Fire Station 61	Silver Springs	\$450,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Lake Well	Stagecoach	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$131,100.00
Winter Storm – Freeze (High)	Public Works/Utility	M H #12 (Well)	Dayton	\$1,400,000.00
Winter Storm – Freeze (High)	Public Works/Utility	M H #13 (Well)	Dayton	\$1,750,000.00
Winter Storm – Freeze (High)	Public Works/Utility	M H #14 (Well)	Dayton	\$680,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Main Utility Office	Dayton	\$420,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Miox Building	Dayton	\$50,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00
Winter Storm – Freeze (High)	Public Works/Utility	Mound House 1 Mil Tank (Water Reservoir)	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Winter Storm – Freeze (High)	Public Works/Utility	Mound House 1/2 Mil Tank (Water Reservoir)	Mound House	\$665,000.00
Winter Storm – Freeze (High)	Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Winter Storm – Freeze (High)	Public Works/Utility	North Dayton WWTP	Mound House	\$450,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Dayton	\$550,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Public Works Maintenance Yard - Smith	Mound House	\$665,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Dayton	\$41,900.00
Winter Storm – Freeze (High)	Public Works/Utility	Rolling A Lift Station	Dayton	\$41,900.00
Winter Storm – Freeze (High)	Public Works/Utility	Rolling A WWTP	Dayton	\$12,409,300.00
Winter Storm – Freeze (High)	Public Works/Utility	Rolling A WWTP	Dayton	\$780,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Rose Peak Lift Station	Dayton	\$1,100,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Santa Maria Booster Station	Dayton	\$42,800.00
Winter Storm – Freeze (High)	Public Works/Utility	Santa Maria Lift Station	Dayton	\$41,900.00
Winter Storm – Freeze (High)	Public Works/Utility	Santa Maria Tank (Water Reservoir)	Mound House	\$95,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Silver Springs Elementary	Dayton	\$75,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Silver Springs Lift Station	Stagecoach	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Freeze (High)	Public Works/Utility	Silver Springs WWTP	Silver Springs	\$1,661,246.00
Winter Storm – Freeze (High)	Public Works/Utility	Silver Stage High School	Yerington	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	Six Mile Tank (Water Reservoir)	Mound House	\$625,500.00
Winter Storm – Freeze (High)	Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00
Winter Storm – Freeze (High)	Public Works/Utility	South Dayton WWTP	Silver Springs	Unknown
Winter Storm – Freeze (High)	Public Works/Utility	South Plant Shops (2)	Dayton	\$425,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Sutro Lift Station	Dayton	\$790,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Upper Booster Station	Dayton	\$623,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$425,000.00
Winter Storm – Freeze (High)	Public Works/Utility	Water Treatment Plant - Silver Springs	Dayton	\$1,500,000.00
Winter Storm – Snow (High)	Community	South Lyon Medical Center	Smith	Unknown
Winter Storm – Snow (High)	Education	Dayton Well #7	Smith	Unknown
Winter Storm – Snow (High)	Emergency Response	Fort Churchill Well	Smith	\$750,000.00
Winter Storm – Snow (High)	Emergency Response	Idaho Well	Smith	\$150,000.00
Winter Storm – Snow (High)	Emergency Response	Lift Station #1 (Lyon County)	Smith	Unknown
Winter Storm – Snow (High)	Emergency Response	Lift Station #2 (Lyon County)	Smith	Unknown
Winter Storm – Snow (High)	Emergency Response	Lift Station #3 & #3A (Lyon County)	Wellington	Unknown
Winter Storm – Snow (High)	Health	Med Direct Urgent Care	Wellington	Unknown
Winter Storm – Snow (High)	Public Works/Utility	Dispatch/Social Service	Smith	Unknown
Winter Storm – Snow (Medium)	Community	Animal Shelter	Mason Valley	Unknown
Winter Storm – Snow (Medium)	Community	Calcite Booster Station	Fernley	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Community	Carson Highland WWTP	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Carson Highlands Lift Station	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Carson River Estates Lift Station	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Comstock Booster Station	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Dayton Valley Estates Booster Station	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Dayton Well #6	Fernley	Unknown
Winter Storm – Snow (Medium)	Community	Fire Station 32	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Historic Dayton Fire Station	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Historic Silver City Fire Station	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Human Services - F2F & WIC, Dayton Office	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Human Services - F2F & WIC, Dayton Office	Dayton Valley	Unknown
Winter Storm – Snow (Medium)	Community	Human Services Administration	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Fernley Office	Fernley	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Fernley Office	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Silver Springs Office	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Silver Springs Office	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Human Services F2F/ WIC, Yerington Offices	Yerington	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Community	Lyon County Museum	Yerington	Unknown
Winter Storm – Snow (Medium)	Community	Sheriff Complex	Dayton	Unknown
Winter Storm – Snow (Medium)	Community	Sheriff's Sub Station	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Sheriff's Sub Station	Mason	Unknown
Winter Storm – Snow (Medium)	Community	Silver Stage Middle School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Silverland Middle School	Silver City	Unknown
Winter Storm – Snow (Medium)	Community	Smith Valley Physicians Clinic	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Smith Valley Schools	Silver City	Unknown
Winter Storm – Snow (Medium)	Community	Sutro Elementary School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Yerington Elementary School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Community	Yerington High School	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Valley Estates Tank #1 (Water Reservoir)	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Valley Estates Tank #2 (Water Reservoir)	Dayton	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #1	Dayton	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #2	Dayton	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #3	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #4	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #5	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	Dayton Well #6	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	DVE #10 (Well)	Dayton	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Education	Silver City Community Center	Dayton	Unknown
Winter Storm – Snow (Medium)	Education	Silver Springs Airport	Yerington	Unknown
Winter Storm – Snow (Medium)	Education	Silver Springs Community/ Senior Center Complex	Yerington	Unknown
Winter Storm – Snow (Medium)	Education	Silver Springs Health Clinic	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Education	Silver Stage Branch Library	Yerington	Unknown
Winter Storm – Snow (Medium)	Education	Yerington Intermediate School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Education	Yerington/Mason Valley Fire Station 1	Fernley	Unknown
Winter Storm – Snow (Medium)	Education	Yerington/Mason Valley Fire Stations 2 & 3	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Administration Office - Silver Springs	Silver City	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Atkins Well	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Central Branch Library	Dayton	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Child Support	Dayton	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Deodor Well	Fernley	Unknown
Winter Storm – Snow (Medium)	Emergency Response	DVE #11 (Well)	Fernley	Unknown
Winter Storm – Snow (Medium)	Emergency Response	DVE #9 (Well)	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Eldorado Tank (Water Reservoir)	Dayton	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Grindstone Booster Station	Mound House	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Grindstone Tank (Water Reservoir)	Dayton	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Industrial Lift Station	Fernley	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Keystone Building	Silver Springs	Unknown

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Emergency Response	Smith Valley Library	Yerington	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Stagecoach Community Center	Yerington	Unknown
Winter Storm – Snow (Medium)	Emergency Response	Yerington Senior Center	Yerington	Unknown
Winter Storm – Snow (Medium)	Health	Canal Justice Court/Sheriff's Substation	Yerington	Unknown
Winter Storm – Snow (Medium)	Health	Lift Station #4 (Lyon County)	Dayton	Unknown
Winter Storm – Snow (Medium)	Health	Silver Springs WWTP	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Incarceration	Historic Dayton Depot	Yerington	Unknown
Winter Storm – Snow (Medium)	Incarceration	Linehan Tank (Water Reservoir)	Dayton	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Administration Office - Stagecoach	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Carson Highland WWTP	Mound House	\$300,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Central Well	Dayton	\$1,166,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Central Fire Station	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Churchill Downs Well	Mound House	\$220,300.00
Winter Storm – Snow (Medium)	Public Works/Utility	Churchill Ranchos North & South Wells	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Cooperative Extension	Dayton	\$1,300,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Cottonwood Elementary School	Dayton	\$600,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Community Center	Dayton	\$355,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Elementary School	Dayton	\$790,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton High School	Mound House	\$355,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Intermediate School	Mound House	\$355,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Justice Court	Dayton	\$493,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Museum	Dayton	\$276,200.00
Winter Storm – Snow (Medium)	Public Works/Utility	Dayton Senior Center	Dayton	\$75,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	DVE #10 (well)	Dayton	\$780,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	DVE #11 (well)	Dayton	\$780,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	DVE #9 (well)	Dayton	\$780,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	East Valley Elementary School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Fernley Branch Library	Dayton	\$455,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fernley Elementary School	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Fernley High School	Mound House	\$355,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fernley Intermediate School	Dayton	\$293,400.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fernley Senior Center	Dayton	\$550,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 34	Dayton	\$42,900.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 35	Dayton	\$450,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 36	Dayton	\$950,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 39	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 40	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 41	Dayton	\$574,500.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 42	Dayton	\$2,125,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Fire Station 61	Silver Springs	\$450,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Lake Well	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Lower Dayton Town Tank (Water Reservoir)	Dayton	\$131,100.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Public Works/Utility	M H #12 (Well)	Dayton	\$1,400,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	M H #13 (Well)	Dayton	\$1,750,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	M H #14 (Well)	Dayton	\$680,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Main Utility Office	Dayton	\$420,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Macatee Building - Sheriff's Sub Station	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Miox Building	Dayton	\$50,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Mound House 1 mil Tank (water reservoir)	Mound House	\$790,300.00
Winter Storm – Snow (Medium)	Public Works/Utility	Mound House 1 Mil Tank (Water Reservoir)	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Mound House 1/2 mil Tank (water reservoir)	Mound House	\$532,200.00
Winter Storm – Snow (Medium)	Public Works/Utility	Mound House 1/2 Mil Tank (Water Reservoir)	Mound House	\$665,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	North Dayton WWTP	Dayton	\$1,500,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	North Dayton WWTP	Mound House	\$450,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Public Works Maintenance Yard - Silver Springs	Dayton	\$550,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Public Works Maintenance Yard - Smith	Mound House	\$665,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Public Works Office, Facilities & Corporate Yard	Dayton	\$41,900.00
Winter Storm – Snow (Medium)	Public Works/Utility	Rolling A Lift Station	Dayton	\$41,900.00
Winter Storm – Snow (Medium)	Public Works/Utility	Rolling A WWTP	Dayton	\$12,409,300.00
Winter Storm – Snow (Medium)	Public Works/Utility	Rolling A WWTP	Dayton	\$780,000.00

Table F-4. Lyon County, Vulnerable Critical Facilities and Infrastructure

Hazard Type	Facility Category	Name	City	Asset Value
Winter Storm – Snow (Medium)	Public Works/Utility	Rose Peak Lift Station	Dayton	\$1,100,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Santa Maria Booster Station	Dayton	\$42,800.00
Winter Storm – Snow (Medium)	Public Works/Utility	Santa Maria Lift Station	Dayton	\$41,900.00
Winter Storm – Snow (Medium)	Public Works/Utility	Santa Maria Tank (Water Reservoir)	Mound House	\$95,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Silver Springs Elementary	Dayton	\$75,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Silver Springs Lift Station	Stagecoach	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Silver Springs WWTP	Silver Springs	\$1,661,246.00
Winter Storm – Snow (Medium)	Public Works/Utility	Silver Stage High School	Yerington	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	Six Mile Tank (Water Reservoir)	Mound House	\$625,500.00
Winter Storm – Snow (Medium)	Public Works/Utility	South Dayton WWTP	Dayton	\$3,061,200.00
Winter Storm – Snow (Medium)	Public Works/Utility	South Dayton WWTP	Silver Springs	Unknown
Winter Storm – Snow (Medium)	Public Works/Utility	South Plant Shops (2)	Dayton	\$425,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Sutro Lift Station	Dayton	\$790,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Upper Booster Station	Dayton	\$623,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Upper Dayton Town Tank (Water Reservoir)	Dayton	\$425,000.00
Winter Storm – Snow (Medium)	Public Works/Utility	Water Treatment Plant - Silver Springs	Dayton	\$1,500,000.00

APPENDIX G: NATIONAL RISK INDEX REPORTS

G.1. Lyon County, Nevada National Risk Index Report – November 17, 2023

The full Lyon County, NV National Risk Index Report is available at <https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C32019>

National Risk Index

November 17, 2023

Lyon County, Nevada

Summary

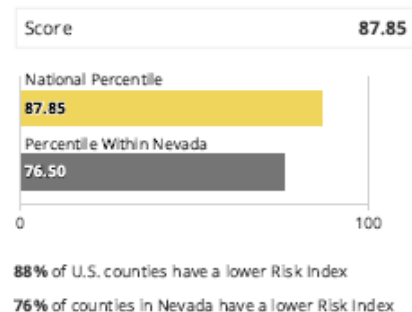
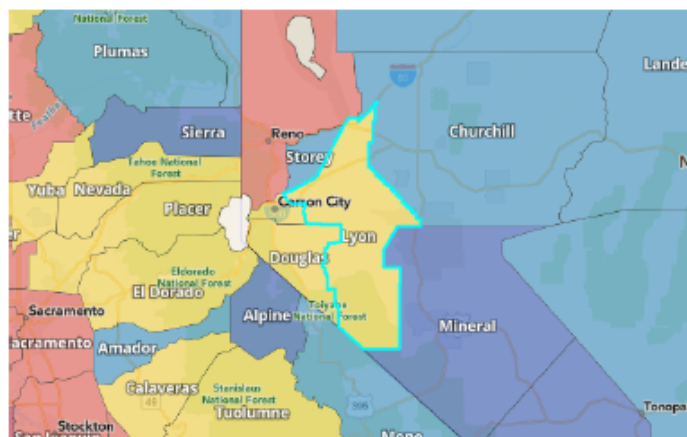


While reviewing this report, keep in mind that low risk is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.

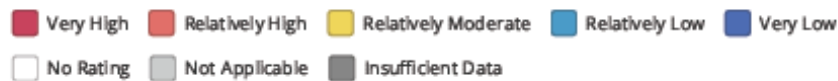
For more information about the National Risk Index, its data, and how to interpret the information it provides, please review the **About the National Risk Index** and **How to Take Action** sections at the end of this report. Or, visit the National Risk Index website at hazards.fema.gov/nri/learn-more to access supporting documentation and links.

Risk Index

The Risk Index rating is **Relatively Moderate** for **Lyon County, NV** when compared to the rest of the U.S.



Risk Index Legend



Hazard Type Risk Index

Hazard type Risk Index scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.

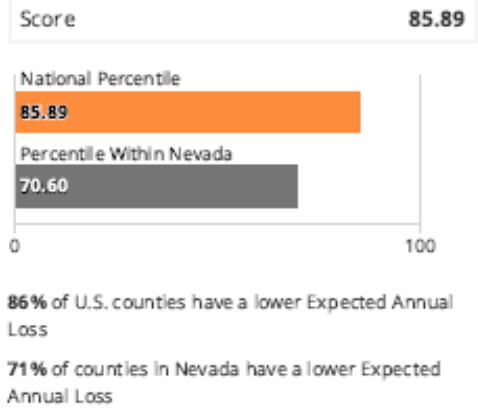
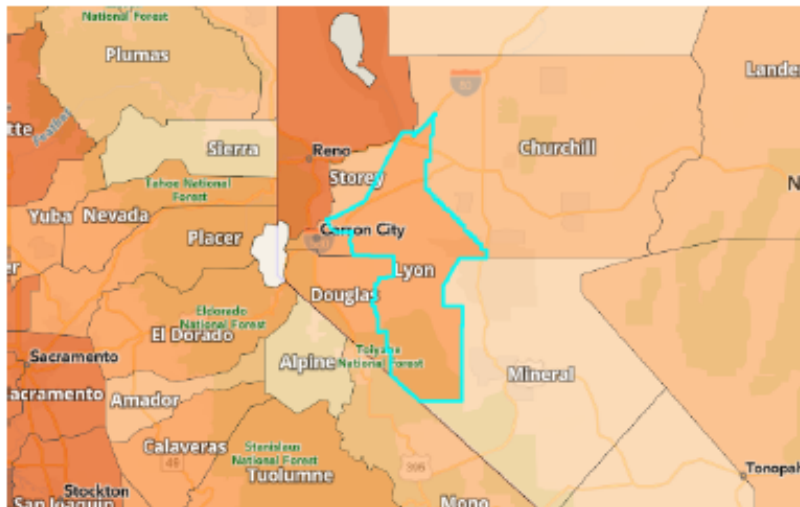
Hazard Type	Risk Index Rating	Risk Index Score	National Percentile
Avalanche	Not Applicable	--	
Coastal Flooding	Not Applicable	--	
Cold Wave	No Expected Annual Losses	0	0 100
Drought	Relatively High	99.2	0 100
Earthquake	Relatively Moderate	96	0 100
Hail	Very Low	22.9	0 100
Heat Wave	Relatively Low	38.3	0 100
Hurricane	Not Applicable	--	
Ice Storm	Relatively Low	43.8	0 100
Landslide	Relatively Low	76.5	0 100
Lightning	Relatively Moderate	70.8	0 100
Riverine Flooding	Relatively Moderate	79.2	0 100
Strong Wind	Very Low	12.3	0 100
Tornado	Very Low	2.5	0 100
Tsunami	Not Applicable	--	
Volcanic Activity	Very Low	46.2	0 100
Wildfire	Relatively Moderate	94.8	0 100
Winter Weather	Relatively Moderate	82.3	0 100

Risk Factor Breakdown

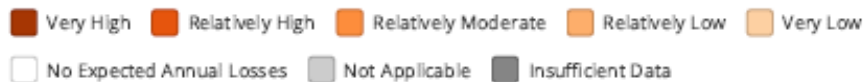
Hazard Type	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Risk Index Score
Earthquake	\$13,318,057	Relatively Moderate	Relatively Low	1.3	\$16,894,120	96.3
Drought	\$7,930,204	Relatively Moderate	Relatively Low	1.3	\$11,069,413	99.2
Wildfire	\$3,407,928	Relatively Moderate	Relatively Low	1.3	\$3,940,620	95
Riverine Flooding	\$1,552,691	Relatively Moderate	Relatively Low	1.3	\$2,158,403	82.5
Winter Weather	\$200,294	Relatively Moderate	Relatively Low	1.3	\$229,393	81.6
Lightning	\$177,140	Relatively Moderate	Relatively Low	1.3	\$208,896	70.3
Landslide	\$56,101	Relatively Moderate	Relatively Low	1.3	\$67,906	76.1
Ice Storm	\$39,934	Relatively Moderate	Relatively Low	1.3	\$46,926	43.7
Strong Wind	\$34,955	Relatively Moderate	Relatively Low	1.3	\$41,959	10.4
Heat Wave	\$31,468	Relatively Moderate	Relatively Low	1.3	\$38,608	37.1
Hail	\$21,332	Relatively Moderate	Relatively Low	1.3	\$25,435	21.1
Volcanic Activity	\$12,126	Relatively Moderate	Relatively Low	1.3	\$14,828	38.2
Tornado	\$3,796	Relatively Moderate	Relatively Low	1.3	\$4,652	2.4
Cold Wave	\$0	Relatively Moderate	Relatively Low	1.3	\$0	0
Avalanche	--	Relatively Moderate	Relatively Low	1.3	--	--
Coastal Flooding	--	Relatively Moderate	Relatively Low	1.3	--	--
Hurricane	--	Relatively Moderate	Relatively Low	1.3	--	--
Tsunami	--	Relatively Moderate	Relatively Low	1.3	--	--

Expected Annual Loss

In **Lyon County, NV**, expected loss each year due to natural hazards is **Relatively Moderate** when compared to the rest of the U.S.



Expected Annual Loss Legend



Composite Expected Annual Loss **\$26,786,026.46**

Composite Expected Annual Loss Rate National Percentile **84.8**

Building EAL **\$14,980,887.49**

Population EAL **0.32 fatalities**

Building EAL Rate **\$1 per \$711.22 of building value**

Population EAL Rate **1 per 183.61K people**

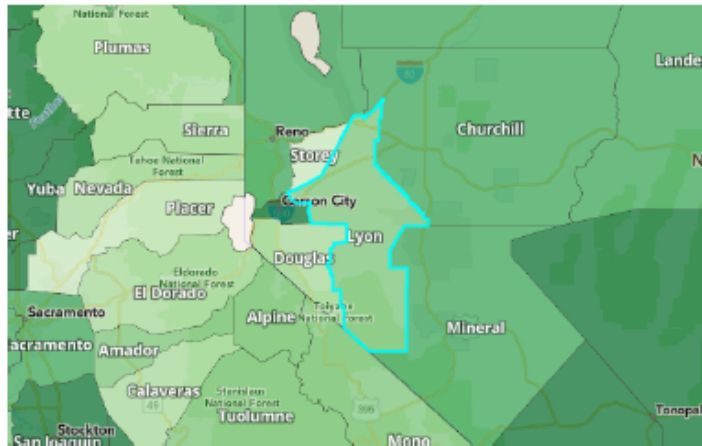
Agriculture EAL **\$8,070,242.16**

Population Equivalence EAL **\$3,734,896.80**

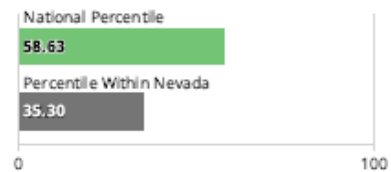
Agriculture EAL Rate **\$1 per \$14.60 of agriculture value**

Social Vulnerability

Social groups in **Lyon County, NV** have a **Relatively Moderate** susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.



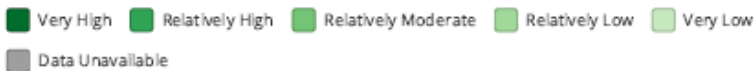
Score **58.63**



59% of U.S. counties have a lower Social Vulnerability

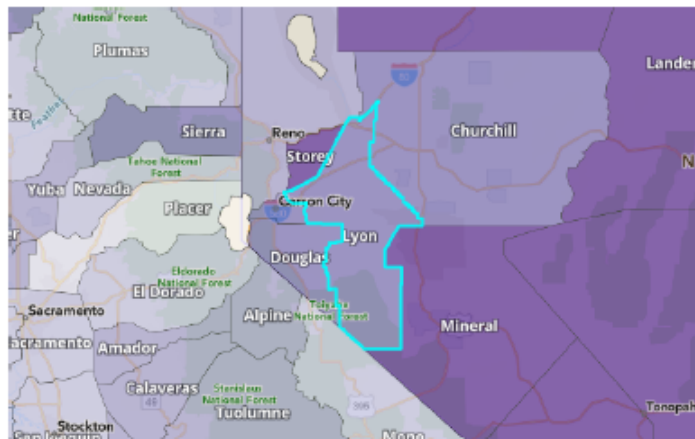
35% of counties in Nevada have a lower Social Vulnerability

Social Vulnerability Legend



Community Resilience

Communities in **Lyon County, NV** have a **Relatively Low** ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.



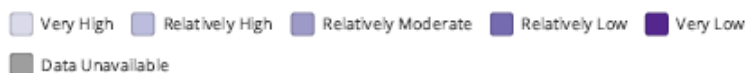
Score **22.34**



78% of U.S. counties have a higher Community Resilience

24% of counties in Nevada have a higher Community Resilience

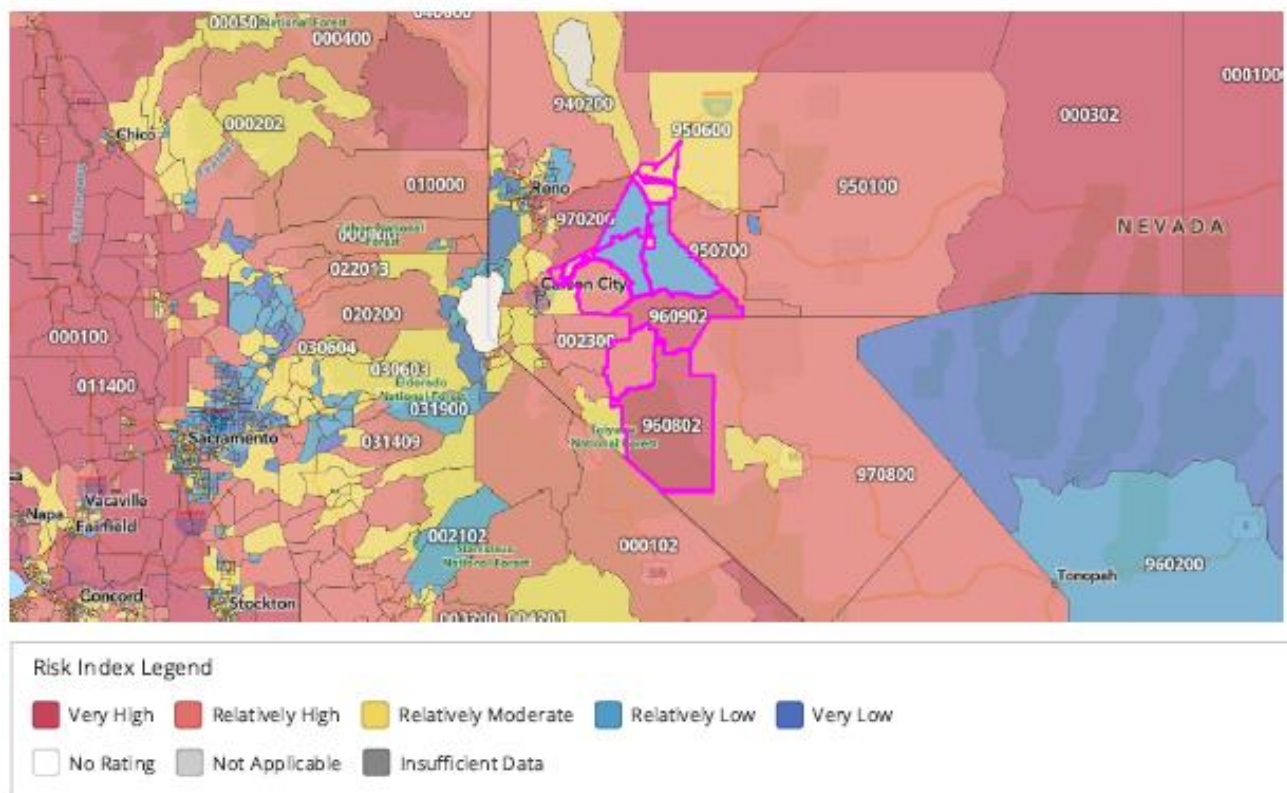
Community Resilience Legend

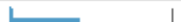


G.2. Lyon County, Nevada Comparison by Census Tracts National Risk Index Report – November 17, 2023

The full Lyon County, NV Comparison by Census Tracts National Risk Index Report is available at <https://hazards.fema.gov/nri/report/viewer?dataLOD=Census%20tracts&dataIDs=T32019960902,T32019960802,T32019960301,T32019960801,T32019960304,T32019960901,T32019960303,T32019960305,T32019960103,T32019960106,T32019960104,T32019960205,T32019960203,T32019960204,T32019960105,T32019960108,T32019960206,T32019960107>

Risk Index



Rank	Community	State	Risk Index Rating	Risk Index Score	National Percentile	
1	Census tract 32019960902	NV	Very High	99.09	0	
2	Census tract 32019960802	NV	Very High	97.49	0	
3	Census tract 32019960301	NV	Relatively High	93.94	0	
4	Census tract 32019960801	NV	Relatively High	93.92	0	
5	Census tract 32019960304	NV	Relatively High	89.39	0	
6	Census tract 32019960901	NV	Relatively High	89.3	0	
7	Census tract 32019960303	NV	Relatively High	85.77	0	
8	Census tract 32019960305	NV	Relatively Moderate	84.94	0	
9	Census tract 32019960103	NV	Relatively Moderate	84.47	0	
10	Census tract 32019960106	NV	Relatively Moderate	72.44	0	
11	Census tract 32019960104	NV	Relatively Moderate	72.34	0	
12	Census tract 32019960205	NV	Relatively Moderate	64.49	0	
13	Census tract 32019960203	NV	Relatively Low	61.82	0	
14	Census tract 32019960204	NV	Relatively Low	47.37	0	
15	Census tract 32019960105	NV	Relatively Low	42.07	0	
16	Census tract 32019960108	NV	Relatively Low	41.5	0	
17	Census tract 32019960206	NV	Relatively Low	34.6	0	
18	Census tract 32019960107	NV	Relatively Low	30.19	0	

APPENDIX H: STAPLE+E EVALUATION

STAPLE + E	Social		Technical			Administrative			Political			Legal			Economic				Environmental					TOTAL IMPACT/PRIORITY		
CRITERIA	X = Not Applicable					+ = Favorable/Positive Impact										- = Not Favorable/Negative Impact										
CONSIDERATIONS	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contribute to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Community Goals	Consistent with Federal Law			
MITIGATION ACTIONS																										
1A. Incorporate HMP update into Participating Entity Strategic Plans	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+		High	
1B. Establish a budget & identify funding opportunities for mitigation outreach (including funding a County Mitigation Coordinator)	+	X	+	+	+	-	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High		
1C. Add mitigation actions to participating agency websites.	+	X	+	+	X	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High		

STAPLE + E	Social		Technical			Administrative			Political		Legal			Economic				Environmental					TOTAL IMPACT/PRIORITY	
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MITIGATION ACTIONS																								
1D. Review and update Master Plan(s) to be consistent with hazard area maps and HMP strategies.	+	-	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	X	X	X	+		+
1E. Continue to adopt building codes and ordinances that protect people and structures from all-hazards.	-	-	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	X	X	X	X	+	+	High
1F. Establish a budget for a workforce development program emphasis on professional engineering	+	X	+	+	+	-	-	+	+	+	+	+	+	X	+	+	+	X	X	X	X	+	+	Medium
1G. Support Development and Maintenance of CWPP	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High

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MITIGATION ACTIONS																								
1H. Support Update to Carson River Watershed Floodplain Management Plan	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X		+	+
1I. Identify FEMA CTP for Walker River Basin.	+	X	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	-	X	X	X	+	+	High
2A. Annually review Lyon County EOP	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High
2B. Conduct a minimum of 1 exercise per year (or real-time activation)	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	-	+	+	X	X	X	+	+	High
2C. Develop a plan to construct a regional Emergency Operations Center (EOC)	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High

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MITIGATION ACTIONS																								
2D. Develop a plan to construct a regional communications (dispatch) center.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+
2E. Prepare, develop, and distribute appropriate public information about all-hazards preparedness programs.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	Medium
2F. Review and update all regional evacuation and sheltering plans.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High
3A. Conduct at least one full-scale active assailant exercise.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium

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MITIGATION ACTIONS																									
3B. Update mass gathering security plans and special events ordinances.	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	X	X	X		+	+	High
3C. Increase education and referrals to MOST.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	-	X	X	X		+	+	Medium
3D. Assess the safety & security of regional critical infrastructure, retrofit public and high-risk buildings.	+	X	+	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X		+	+	High
3E. Continue SRO program with Lyon County School District	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High	
3F. Continue agreement with NTAC.	+	X	+	+	X	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High	

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MITIGATION ACTIONS																									
4A. Create a vegetation management program	+	+	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	+	+	X	X	+		+	High
4B. Implement mitigation strategies in 2023 CWPP	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High
4C. Implement fuels reduction programs	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	+	X	X	+		+	High
4D. Increase communities that adopt WUI code (where appropriate)	-	+	+	+	+	+	-	+	+	+	-	+	+	X	+	+	+	+	X	X	X	+	+	Medium	
4E. Establish standards for defensible space	+	-	+	+	+	+	+	+	+	+	-	+	+	-	+	+	+	+	+	X	X	+	+	Medium	

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MITIGATION ACTIONS																										
4F. Develop a public outreach campaign for Wildfire Awareness Month	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	X	X	X	X	+		+	Medium	
5A. Develop a public awareness campaign for the dangers of extreme heat	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	X	X	X	X	+		+	Medium	
5B. Implement warning systems for hail storms	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High	
5C. Develop public outreach campaign for early warning systems	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High		
5D. Manage vegetation in right-of-way and close to critical infrastructure	+	X	+	+	+	+	+	-	+	+	+	+	+	X	+	+	+	+	+	X	X	+	+	Medium		

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MITIGATION ACTIONS																										
6A. Evaluate natural slopes to prioritize slope stabilization projects	+	X	+	+	+	-	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	Medium	
6B. Conduct slope stabilization projects	+	X	-	+	+	-	-	+	+	+	+	+	+	X	+	+	+	-	+	X	X	+	+	Medium		
6C. Develop plans to restore community lifelines for communities that may be isolated during a landslide	+	X	+	+	+	+	+	-	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	Medium		
7A. Conduct feasibility study for foundational public health services and a local/regional health district.	+	X	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	-	X	X	X	+	+	High		

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MITIGATION ACTIONS																										
7B. Identify regional call center capability.	+	X	-	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	Medium	
7C. Adopt Quad-County MAC interlocal	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High		
7D. Identify a regional inventory management system	+	X	+	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium		
8A. Support NV Energy in hardening utility lifelines	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High		
8B. Secure and reinforce electricity-dependent critical infrastructure with backup power	+	X	+	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High		

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MITIGATION ACTIONS																								
9A. Identify and assess critical transportation infrastructure	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+		+
9B. Collaborate with private GPS map providers to reduce time to report hazards	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High
10A. Secure and reinforce cyber-dependent critical infrastructure	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High
10B. Add a redundant internet connection for Lyon County	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High

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MITIGATION ACTIONS																								
10C. Provide redundant or hardened utility lifelines to areas at risk of loss of communications	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+		+
11A. Work with FEMA/DWR to update flood maps	+	-	+	+	+	+	+	+	+	+	-	+	+	X	+	+	+	+	X	X	X	+	+	High
11B. Reinforce and repair critical infrastructure from flooding	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	+	X	X	+	+	High
11C. Identify funding/sponsors to implement drainage alternatives identified in adopted ADMPs	+	X	+	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	+	X	X	+	+	High

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MITIGATION ACTIONS																									
11D. Collaborate to develop Walker River Flood Risk Analysis.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+		+	High
11E. Identify funding to develop Yerington/Mason Valley ADMP	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High
11F. Identify funding to develop Wellington/Smith Valley ADMP	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High
11G. Identify sediment solutions/ dredging plan for Walker River	+	X	+	+	+	+	-	+	+	+	+	+	-	-	+	+	+	-	X	X	X	+	+	High	
11H. Develop a public outreach campaign on voluntary flood insurance.	+	X	+	+	+	+	+	+	+	+	-	+	+	X	+	+	+	+	X	X	X	+	+	High	

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MITIGATION ACTIONS																									
11I. Fix low points along river banks at critical areas.	+	X	+	+	+	+	-	+	+	+	+	+	-	-	+	+	+	-	X	X	X	+		+	High
12A. Retrofit and Reinforce water/wastewater systems	+	X	+	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High
12B. Identify funding for backup power for water/wastewater infrastructure	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+		+	High
12C. Secure critical water/wastewater from inflow & inundation	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium	
12D. Identify sustainable potable water resources for using during emergencies	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High	

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MITIGATION ACTIONS																								
12E. Update water/wastewater vulnerability assessments and response plans.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-		X	X	X	+	+
13A. Develop drought response plan.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	High
13B. Prioritize use of xeriscaping for participating agency facilities.	-	-	+	+	-	+	-	+	+	+	-	+	+	X	+	+	+	+	+	X	X	+	+	Medium
13C. Develop a public outreach campaign that educates property owners on drought resistant landscaping.	-	-	+	+	-	+	-	+	+	+	+	+	+	X	+	+	+	+	+	X	X	+	+	Medium

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MITIGATION ACTIONS																								
13D. Apply studies from CWSD on water/aquafer recharge to Lyon County.	+	X	+	+	+	+	+	+	+	+	+	+	+	X	+	+	+	+	X	X	X	+	+	Medium
13E. Implement a thirst/invasive weed public awareness campaign.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	+	X	X	+	+	Low
14A. Review and update earthquake fault maps.	+	X	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	X	X	X	+	+	High
14B. Identify unreinforced masonry buildings needing to be seismically retrofit.	+	X	-	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium
14C. Seismically retrofit critical facilities	+	X	-	+	+	+	-	-	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium

STAPLE + E	Social		Technical			Administrative			Political		Legal			Economic				Environmental					TOTAL IMPACT/PRIORITY	
CRITERIA	X = Not Applicable					+ = Favorable/Positive Impact									- = Not Favorable/Negative Impact									
CONSIDERATIONS	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contribute to Economic Goals	Outside Funding Required	Effect on Land/Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Community Goals		Consistent with Federal Law
MITIGATION ACTIONS																								
14D. Educate community on earthquake preparedness and insurance.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	Medium
15A. Work with NDOT to require transportation of hazardous materials follow appropriate routes.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	-	X	X	X	+	+	High
15B. Use participating entity websites to share information on disposal of household chemicals.	+	X	+	+	+	+	-	+	+	+	+	+	+	X	+	+	+	X	X	X	X	+	+	Low