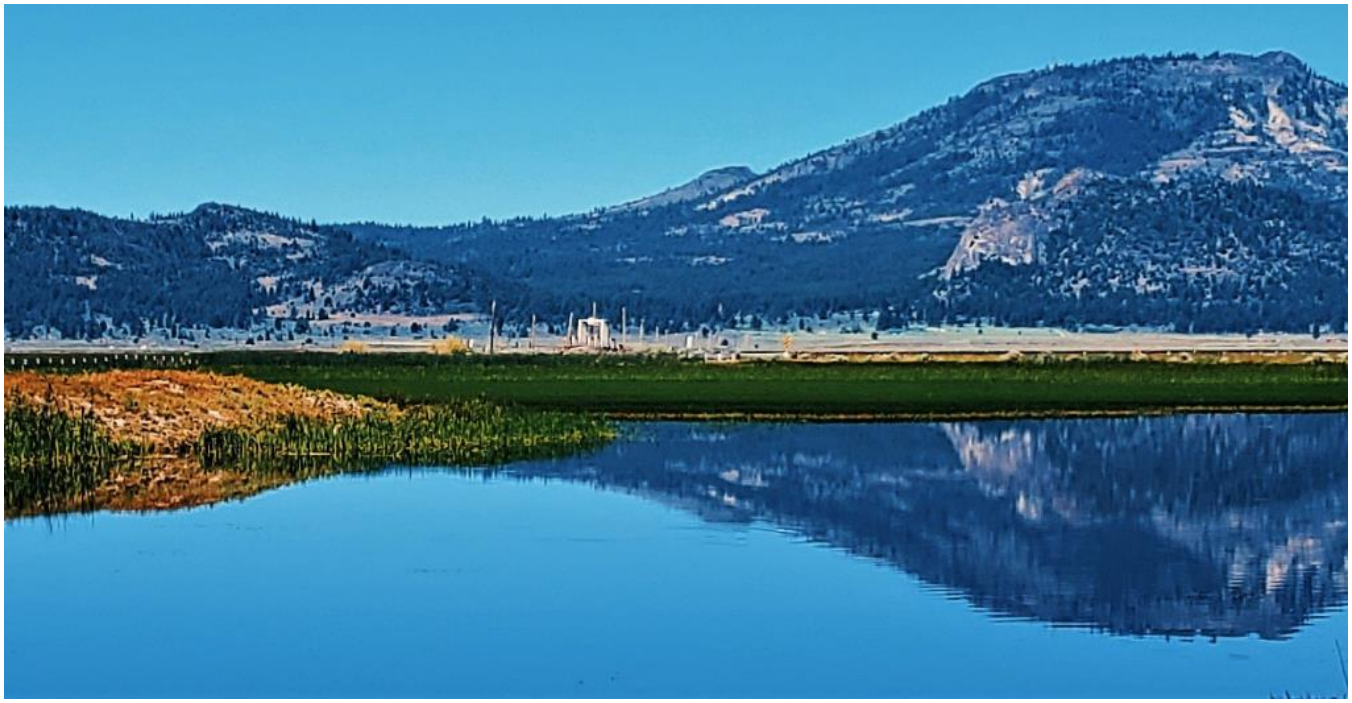
1. SIERRA COUNTY WATERWORKS CALPINE DISTRICT NO.1



Source: Sierra County Waterworks Calpine District No. 1

1.1 LOCAL HAZARD MITIGATION PLANNING TEAM

This annex was developed by the local hazard mitigation planning team for the Sierra County Waterworks Calpine District No.1. Members are listed below in Table 1-1.

Table 1-1. Local Planning Team

Primary Point of Contact		Alternate Point of Contact	
Name and Title:	Bruce Troedson	Name and Title:	Janet Drummond
Address:	P.O. Box 25 Calpine, CA 96124	Address:	P.O. Box 25 Calpine, CA 96124
Phone Number:	530 994-3930	Phone Number:	530 994-3639
Email:	batroedson@gmail.com	Email:	jndrummond123@gmail.com
Contributors:			
Name and Title: Method of Participation:	Bruce Troedson Attended Steering Committee/Planning Partner meetings, developed annex		
Name and Title: Method of Participation:	Janet Drummond Attended Steering Committee/Planning Partner meetings, developed annex		

1.2 JURISDICTIONAL PROFILE

1.2.1 Overview

Sierra County Water Works Calpine District No.1 is special service district located in Sierra County, California and created in 1958. The District is dedicated to delivering high quality, clean water in

accordance with California State Water standards while maintaining and improving the delivery system at the lowest possible cost to its users. Funds for operation are derived from water service user fees and a small allocation of property taxes. The District has no employees. Contractors are utilized for planning, engineering, and system operation. Directors that serve on the Board are voluntary, appointed from property owners within the district boundaries.

1.2.2 Service Area

The District serves an area of approximately 0.4 square miles with an estimated population of 250 full and part-time residents; and provides water services to a majority of the unincorporated community of Calpine, California. Water for fire suppression needs is supplied by a hydrant system from the community water supply (MOU with Sierra County Fire Protection District #1) and a tanker-fill hydrant fed by a small reservoir located on Fletcher Creek. The reservoir is operated and maintained by the District under a special use permit administered by the Tahoe National Forest. The reservoir is identified as a critical water source for community protection/wildfire suppression in the Sierra County Wildfire Protection Plan.

1.2.3 Governing Body

The District is governed by an appointed 5 member Board of Directors, which assumes responsibility for the adoption of this plan. The Board members will have the responsibility to oversee the plan's implementation.

1.2.4 Assets

Asset	Value
Property	
Wells 1, 2, Office, Tank, and planned improvement property	$ 100,000
Equipment	
Well #2 – Pump, piping, electrical, and treatment facilities, 14kW generator	$ 151,657 as of 1/24/2024
Office	$ 2,274 "
Well #1 – pump, piping, electrical, valves, 14kW generator	$ 80,892 "
Tank (140,000 gallon storage capacity)	$ 280,844 "
Fire Hydrants and meters	$ 651,302 "
Total:	***$ 1,166,969*** "
Critical Facilities	
Well #2 - Building	$73,019 "
Office	$33,701 "
Well #1 – Pumphouse	$39,318 "
Fletcher Creek Reservoir/Tanker Fill Hydrant – Fire Emergency use only	$0
Total:	***$146,038*** "

1.3 CURRENT TRENDS

The Sierra County Water Works Calpine District No.1 originally was formed to serve the Calpine community area. The District's service area has expanded throughout the years to include the full area served today. Community residents outside the district boundaries rely on privately owned/operated wells. Total community population has increased by approximately 8 percent since 2010, mostly due to an increase of residents with families. Population in the service area is not projected to change significantly over the next 10 years, and the District has no current plans to expand its service area. The District is currently planning implementation of a capital improvement project to construct a new well and water treatment facility funded by grant funding. Planning has been completed for an additional 140,000 gallon water storage tank to increase residential water service capacity and provide for additional fire protection water needs. This additional tank project is on hold until additional funds are available.

1.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

1.4.1 Planning and Regulatory Capabilities

Jurisdictions have the ability to develop plans and programs and to implement regulations to protect and serve community members. An assessment of planning and regulatory capabilities is presented in Table 1-2.

Table 1-2. Planning and Regulatory Capabilities

Plan, Study or Program	Date of Most Recent Update	Comment
Capital Improvement - New Storage Tank, Well, and Treatment Plant	2020-2021	Project planning complete, with planned implementation updates as needed. Additional storage tank increases water availability for fire protection.
Facility Operations Emergency Plan	2021	Response and contact information for District operated facilities.

Opportunities to Expand Planning and Regulatory Capabilities

The District is currently seeking additional funding for loans and/or grants to complete planned improvement projects.

1.4.2 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant-funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 1-3.

Table 1-3. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes
If yes, specify: Residential water use	
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No

Opportunities to Expand Fiscal Capabilities

Special service district created to provide residential water to users at cost to maintain and operate system. Ability to raise use rates for capital improvements or add staff is very limited.

1.4.3 Administrative and Technical Capabilities

Planning, regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 1-4.

Table 1-4. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		No
If Yes, Department /Position:	Contracted out when needed	
Engineers or professionals trained in building or infrastructure construction practices		No
If Yes, Department /Position:	Contracted out when needed	
Planners or engineers with an understanding of natural hazards		No
If Yes, Department /Position:		
Staff with training in benefit-cost analysis		No
If Yes, Department /Position:		
Surveyors		No
If Yes, Department /Position:	Contracted out when needed	
Personnel skilled or trained in GIS applications		No
If Yes, Department /Position:		
Scientist familiar with natural hazards in local area		No
If Yes, Department /Position:		
Emergency manager		Yes
If Yes, Department /Position:	Board Members and contract Water System Operator	
Grant writers		No
If Yes, Department /Position:	Contracted out when needed	
Procurement Services and Management		Yes
If Yes, Department /Position:	Board Members and contracted services when needed	

Opportunities to Expand Administrative and Technical Capabilities

Small service district that has limited needs for full time employees/staff.

1.4.4 Education and Outreach Capabilities

Regular engagement with the community on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing this outreach and education capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community based on education and public engagement. An assessment of education and outreach capabilities is presented in Table 1-5.

Table 1-5. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	No
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website?	No
If yes, briefly describe:	
Do you use social media for hazard mitigation education and outreach?	No
If yes, briefly describe:	
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	No
If yes, briefly describe:	
Do you have any other programs in place that could be used to communicate hazard-related information?	No
If yes, briefly describe:	District website that could be utilized

Do you have any established warning systems for hazard events?	No
If yes, briefly describe:	

Opportunities to Expand Education and Outreach Capabilities

Existing District website that could be expanded and utilized for hazard communication.

1.4.5 Community Classifications

Other programs, such as Storm Ready, can enhance a jurisdiction's ability to mitigate, prepare for, and respond to natural hazards. These programs indicate a jurisdiction's capability to go beyond minimum regulatory requirements in order to create a more resilient community. These programs focus on communication, mitigation, and community preparedness to minimize the impact of natural hazards on a community. Classifications under various community mitigation programs are presented in Table 1-6.

Table 1-6. Community Classifications

	Participating?	Classification	Date Classified
FIPS Code	N/A	N/A	N/A
UEI#	N/A	N/A	N/A
Community Rating System	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule	N/A	N/A	N/A
Public Protection	N/A	N/A	N/A
Storm Ready	N/A	N/A	N/A
Firewise	Yes	Participating	04/29/2022

1.4.6 Adaptive Capacity for Climate Change

An adaptive capacity assessment evaluates a jurisdiction's ability to anticipate impacts from future conditions. By looking at public support, technical adaptive capacity, and other factors, jurisdictions identify their core capability for resilience against issues such as extreme heat. The adaptive capacity assessment provides jurisdictions with an opportunity to identify areas for improvement by ranking their capacity high, medium, or low. The community's adaptive capacity for the impacts of climate change is presented in Table 1-7.

Table 1-7. Adaptive Capacity for Climate Change

Criterion	Jurisdiction Rating[a]
Technical Capacity	
Jurisdiction-level understanding of potential climate change impacts	Low
Comment:	
Jurisdiction-level monitoring of climate change impacts	Low
Comment:	
Technical resources to assess proposed strategies for feasibility and externalities	Low
Comment:	
Jurisdiction-level capacity for development of greenhouse gas emissions inventory	Low
Comment:	
Capital planning and land use decisions informed by potential climate impacts	Low
Comment:	

Participation in regional groups addressing climate risks	Low
Comment:	
Implementation Capacity	
Clear authority/mandate to consider climate change impacts during public decision-making processes	Unknown
Comment:	
Identified strategies for greenhouse gas mitigation efforts	Low
Comment:	
Identified strategies for adaptation to impacts	Low
Comment:	
Champions for climate action in local government departments	Unknown
Comment:	
Political support for implementing climate change adaptation strategies	Unknown
Comment:	
Financial resources devoted to climate change adaptation	Low
Comment:	*Likely dependent on grant funding*
Local authority over sectors likely to be negative impacted	Unknown
Comment:	
Public Capacity	
Residents' knowledge of and understanding of climate risk	Unknown
Comment:	
Residents' support of adaptation efforts	Unknown
Comment:	
Residents' capacity to adapt to climate impacts	Unknown
Comment:	*Local residents seem pretty adaptable to whatever comes at them*
Local economy current capacity to adapt to climate impacts	Unknown
Comment:	
Local ecosystems capacity to adapt to climate impacts	Unknown
Comment:	

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

1.5 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

1.5.1 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- Sierra County Community Wildfire Protection Plan (currently being updated).

1.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Special purpose districts are not eligible to participate in the National Flood Insurance Program. However, any new assets or infrastructure developed by the district is in compliance with the floodplain regulations established by the County.

1.7 RISK ASSESSMENT

1.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 1-8 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 1-8. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	4/3/2023	
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA	3/10/2023	
Storm	December 2021 Storms	2022-03	12/30/2021	
Fire	Wildfires	DR-4558-CA 2020-06	8/22/2020	
Biological	Covid-19 Pandemic	DR-4482-CA	3/22/2020	
Flood	Severe Winter Storms, Flooding, and Mudslides	DR-4308-CA 2017-03	4/1/2017	
Severe Storm	Severe Winter Storms, Flooding, and Mudslides	DR-4301-CA	2/14/2017	
Flood	2008 January Storms	2008-01	1/5/2008	

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Severe Storm	Severe Storms, Flooding, Mudslides, and Landslides	DR-1628-CA 2006-01	2/3/2006	
Flood	Extreme Rainfall	2005-07	11/7/2005	$504,323
Severe Storm	Severe Storms, Flooding, Mud and Landslides	DR-1155-CA 97-01	1/4/1997	
Severe Storm	Severe Winter Storms, Flooding Landslides, Mud Flow	DR-1046-CA 95-03	3/12/1995	
Flood	Severe Winter Storm, Mud & Land Slides, & Flooding	DR-979-CA 93-01	2/3/1993	
Fire	1987 Wildland Fires	No number	9/10/87, 9/3/87	
Flood	Severe Storms & Flooding	DR-758-CA 86-01	2/21/1986	
Flood	Heavy Rains and Flooding	82-03	4/1/1982	
Flood	1980 April Storms	80-01 thru 80-25	4/1/1980	
Drought	Drought	EM-3023-CA	1/20/1977	
Flood	Severe Storms & Flooding	DR-253-CA	1/26/1969	
Flood	Heavy Rains & Flooding	DR-183-CA	12/24/1964	
Flood	1963 Floods and Rains	No number	2/7/63, 2/26/63, 2/29/63, 4/22/63	
Flood	1962 Floods and Rains	No number	10/17/62, 10/25/62, 10/30/62, & 11/4/62	
Fire	1960 Major Fires	No number	8/16/1960	

1.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for the District is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the District in identifying hazards that pose the most significant threat. Table 1-9 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 1-9. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Avalanche	.60	.60	.40	.40	.30	2.3	Medium
Dam Failure	0	0	0	0	0	0	None
Drought	1.2	.60	.80	.10	.40	3.1	High
Earthquake	.30	.60	.80	.40	.20	2.3	Medium
Extreme Heat	1.2	.60	.80	.10	.40	3.1	High
Flood	.90	.60	.80	.10	.30	2.7	Medium
Landslide/Mass Movement	1.2	.60	.60	.40	.30	3.13.1	High
Volcanic Activity	.30	.30	.80	.10	.20	1.7	Low
Wildfire	1.2	.60	.80	.40	.30	3.3	High
Winter Storm	1.2	.60	.80	.10	.40	3.1	High

1.7.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

There are no other jurisdiction-specific issues that have been identified based on a review of the results of the risk assessment, public involvement strategy.

1.8 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 1-10. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals and Objectives Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	Existing	Goal:	Lead: Board of Directors	Yes	Very High ($1,000,000 and above)		Long-Term (5 years or more)
2	Integrate the hazard mitigation plan into other plans that address natural hazards within the service area including: •	Food, Hydration, Shelter	New and Existing	Goals:	Lead: Board of Directors	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	New and Existing	Goals:	Lead: Board of Directors	Yes	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)
4	Purchase generators for District-owned critical facilities and infrastructure that lack adequate backup power.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation	Existing	Goal:	Lead: Board of Directors	Yes	High ($250,000-$1,000,000)		Short-Term (less than 5 years)

5	Support the Countywide mitigation actions outlined in Volume 1 of this hazard mitigation plan.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	New and Existing	Goals:	Lead: Fire Chief Support: Chairman of the Fire Commission	Yes	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)

1.9 PUBLIC OUTREACH

Broad public participation in the planning process helps ensure that diverse points of view about the jurisdiction's needs are considered and addressed. Jurisdictional outreach efforts are listed in Table 1-11.

Table 1-11. Public Outreach

Local Outreach Activity	Date	Number of People Involved
District staff supported the countywide outreach efforts for this plan	Throughout the planning process	About 200

1.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **District records and local knowledge** used to complete an assessment of capabilities.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.