VOLUME 2

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

HMP submitted 08.11.2020

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Napa County

Multi-Jurisdictional Hazard Mitigation Plan

Volume 2

Participating Jurisdictions/Special District Annexes

JURISDICTIONAL ANNEX

Section 1. City of American Canyon

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
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HMP submitted 08.11.2020

1.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

City of American Canyon Adoption Record

RESOLUTION NO. 2020-44

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF AMERICAN CANYON APPROVING THE 2020 NAPA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

WHEREAS, participating jurisdictions and public agencies within Napa County, including the City of American Canyon ("City"), have prepared the Napa County Multi-Jurisdictional Hazard Mitigation Plan ("Mitigation Plan") in efforts to implement better mitigation planning and projects for the entire County of Napa; and

WHEREAS, preparation of the Mitigation Plan was overseen by the Multi-Jurisdictional Hazard Mitigation Plan Planning Committee, comprised of representatives from each participating jurisdiction, and development of the Mitigation Plan was aided by consultants from the firm Dynamic Planning + Science, as well as staff of the Napa County Office of Emergency Services; and

WHEREAS, the Mitigation Plan has been submitted to the California Office of Emergency Services and the Federal Emergency Management Agency for review and comment; and

WHEREAS, each jurisdiction participating in the Mitigation Plan and the public have contributed to this planning approach, consistent with applicable law, including the Federal Disaster Mitigation Act of 2000 ("DMA"), as amended; and

WHEREAS, fire protection, fire prevention, and emergency response services within the City are provided by the American Canyon Fire Protection District ("District"), a subsidiary special district of the City, which has also participated in the formulation of the Mitigation Plan; and

WHEREAS, the District has, by resolution, adopted the draft 2020 Mitigation Plan, which is now presented to the City for ratification and adoption; and

WHEREAS, the City has read and agrees to abide by the DMA's guidance and grant guidelines, and this Mitigation Plan represents the compliance with same; and

NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF AMERICAN CANYON RESOLVES that the 2020 Napa County Operational Hazard Mitigation Plan, as shown on the following webpage: www.cityofamericancanyon.org/hazardmitigationplan is formally adopted by the City of American Canyon and shall be used to enhance the community's preparation for, and resistance to, disasters.

City of American Canyon Adoption Record

PASSED, APPROVED and **ADOPTED** at a regularly scheduled meeting of the City Council of the City of American Canyon held on the 2nd day of June, 2020, by the following vote:

AYES:	Council Members Aboudamous, Joseph, Leary, Vice Mayor Oro, and Mayor Garcia
NOES:	None
ABSTAIN:	None
ABSENT:	None

Leon Garcia, Mayor

ATTEST:

Suellen Johnston, CMC, City Clerk

APPROVED AS TO FORM:

William D. Ross, City Attorney

American Canyon Fire Protection District Adoption Record

RESOLUTION NO. 2020-08

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE AMERICAN CANYON FIRE PROTECTION DISTRICT APPROVING THE 2020 NAPA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

WHEREAS, the American Canyon Fire Protection District ("District") provides fire protection, fire prevention, and emergency response services within its jurisdictional territory, including the City of American Canyon ("City"), for which the District is a subsidiary special district; and,

WHEREAS, participating jurisdictions and public agencies within Napa County, including the City and District, have prepared the Napa County Multi-Jurisdictional Hazard Mitigation Plan ("Mitigation Plan") in efforts to implement better mitigation planning and projects for the entire County of Napa; and

WHEREAS, preparation of the Mitigation Plan was overseen by the Multi-Jurisdictional Hazard Mitigation Plan Planning Committee, comprised of representatives from each participating jurisdiction, and development of the Mitigation Plan was aided by consultants from the firm Dynamic Planning + Science, as well as staff of the Napa County Office of Emergency Services; and

WHEREAS, the Mitigation Plan has been submitted to the California Office of Emergency Services and the Federal Emergency Management Agency for review and comment; and

WHEREAS, each jurisdiction participating in the Mitigation Plan and the public have contributed to this planning approach, consistent with applicable law, including the Federal Disaster Mitigation Act of 2000 ("DMA"), as amended; and

WHEREAS, the District has read and agrees to abide by the DMA's guidance and grant guidelines, and this Mitigation Plan represents the compliance with same; and

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE AMERICAN CANYON FIRE PROTECTION DISTRICT RESOLVES that the 2020 Napa County Operational Hazard Mitigation Plan is formally adopted by the District and shall be used to enhance the community's preparation for, and resistance to, disasters.

APPROVED AND ADOPTED at a joint meeting of the City Council of the City of American Canyon and the Board of Directors of the American Canyon Fire Protection District held on the 2nd day of June, 2020 by the following vote:

AYES:	Chairman Garcia, Vice-Chair Oro, Board Members Aboudamous, Joseph and Leary
NOES:	None
ABSTAIN:	None
ABSENT:	None

American Canyon Fire Protection District Adoption Record

Leon Garcia

Leon Garcia, Board President

ATTEST:

Glen E. Weeks, District Clerk

APPROVED AS TO FORM

William D. Ross, District Counsel

1.2 Purpose

This Annex details the hazard mitigation planning elements specific to the City of American Canyon. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City. This Annex provides additional information specific to the City of American Canyon, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact

Glen Weeks, Fire Chief
American Canyon Fire Protection District
911 Donaldson Way E
American Canyon, CA 94503
Telephone: (707) 551-0650
e-mail Address: GlenW@amcanfire.com

Alternate Point of Contact

Rick Kaufman, Public Works Director
4381 Broadway, Suite 201
American Canyon, CA
Telephone: (707) 647-4366
e-mail Address:
shartwig@cityofamericancanyon.org

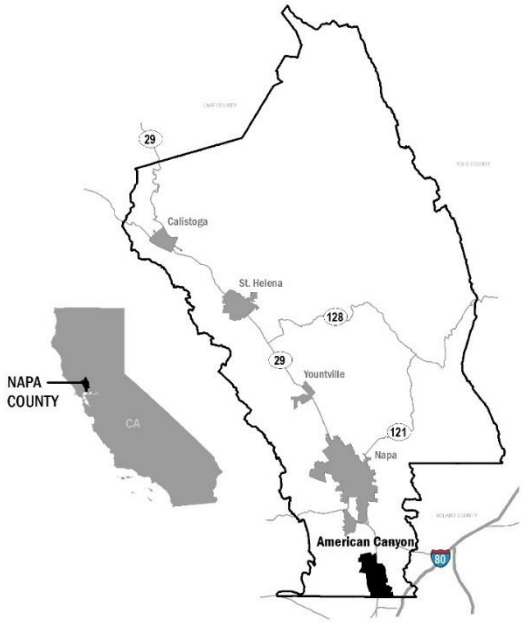


Figure 1-1: City of American Canyon Location.

1.3 Planning Methodology

The City of American Canyon followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 1-1.

Table 1-1: American Canyon Planning Committee Members

Planning Committee Members	Department
Brent Cooper	Planning Department
Glen Weeks	Fire Department
Oscar Ortiz	Police Department
Rick Kaufman	Public Works Department

1.3.1 What's New

The City of American Canyon has been making improvements toward reducing natural hazard risks to life and property within the City since the 2013 MJHMP was adopted. Mitigation actions developed from the 2013 MJHMP for the City have been edited, consolidated and developed to meet new priorities. See Vol. 1 for listing of historic mitigation actions.

1.4 Risk Assessment

The intent of this section is to profile the City of American Canyon's hazards and assess the City's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to the City of American Canyon is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

1.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 1-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The American Canyon Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect American Canyon Table 1-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, American Canyon General Plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and

2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to American Canyon and which ones were not. Section 1.4.2 below describes the hazard risk ranking process that was performed by the American Canyon planning team which prioritized hazards that are specifically relevant to American Canyon.

Table 1-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 1-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	American Canyon General Plan	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■			■
Climate Change	■		■	■
Dam Failure	■	■	■	■
Drought	■		■	■
Earthquake	■	■	■	■
Flood	■	■	■	■
Landslide	■	■	■	■
Levee Failure	■		■	■
Manmade Hazards				■
Pandemic Disease				■
Sea Level Rise	■			■
Severe Weather	■			■
Terrorism & Tech Hazards		■		■
Tsunami			■	■
Volcano				■
Wildfire	■	■	■	■

1.4.2 Hazard Risk Ranking

The City of American Canyon's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 1-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess American Canyon's vulnerability to following hazards: climate change, drought, earthquake, flood, severe weather, wildfire, and dam failure**. All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address American Canyon's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the City of American Canyon.

1.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within American Canyon are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

1.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to American Canyon. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

City of American Canyon Risk Matrix

PROBABILITY \ IMPACT	Minor	Limited	Critical	Catastrophic
Highly Likely	Medium	SEVERE WEATHER	DROUGHT	EARTHQUAKE
Likely	LANDSLIDE, WILDFIRE, CLIMATE CHANGE		High	Extreme
Possible	Low	DAM FAILURE, FLOOD	High	High
Unlikely	Low	Low	Medium	Medium

Figure 1-2: American Canyon Risk Assessment Matrix

1.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display American Canyon's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the American Canyon Planning Team prioritized are displayed below in Figure 1-3 through Figure 1-8.

1.4.3.3 Past and Future Development

The City of American Canyon approves growth consistent with its General Plan, which serve as the blueprint for establishing long-range development policies. A GP provides a basis for private development proposals and public projects to remain consistent with existing city, regional and state policies. One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

While growth has occurred in hazard areas in the past, increasing hazard risks to come degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Problematic development generally occurred many decades ago, and thus much of this HMP focuses on retrofits or replacements from that older construction.

As a charter city, American Canyon is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire, and other natural hazards. In addition to California minimum develop standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

As the General Plan is updated and incorporates information from this HMP, American Canyon staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP will inform those responsible for future development to make better decisions where and how future development occurs.

American Canyon reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan. See Section 1.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

Future development is planned near or adjacent to known fault lines. Portions of American Canyon have been identified in an active fault. Alquist-Priolo Special Study zone runs from the airport, along the east side of Oat Hill southeast to near the City boundary. The Alquist-Priolo Special Study zone requires distinct standards which are enforced by the City. (Napa Operational Area Hazard Mitigation Plan, 2013)

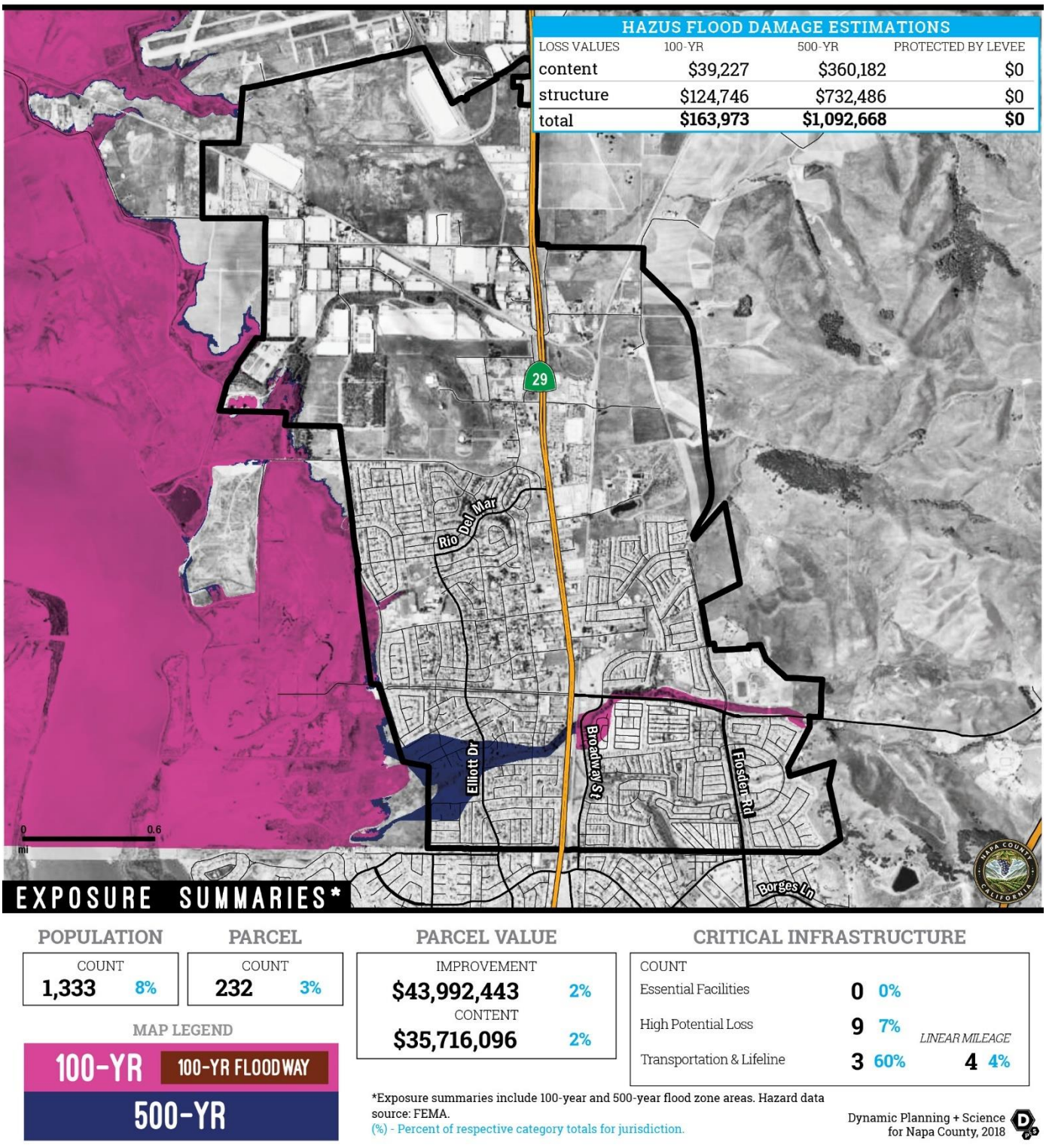


Figure 1-3: FLOOD EXSPOSURE SUMMARY

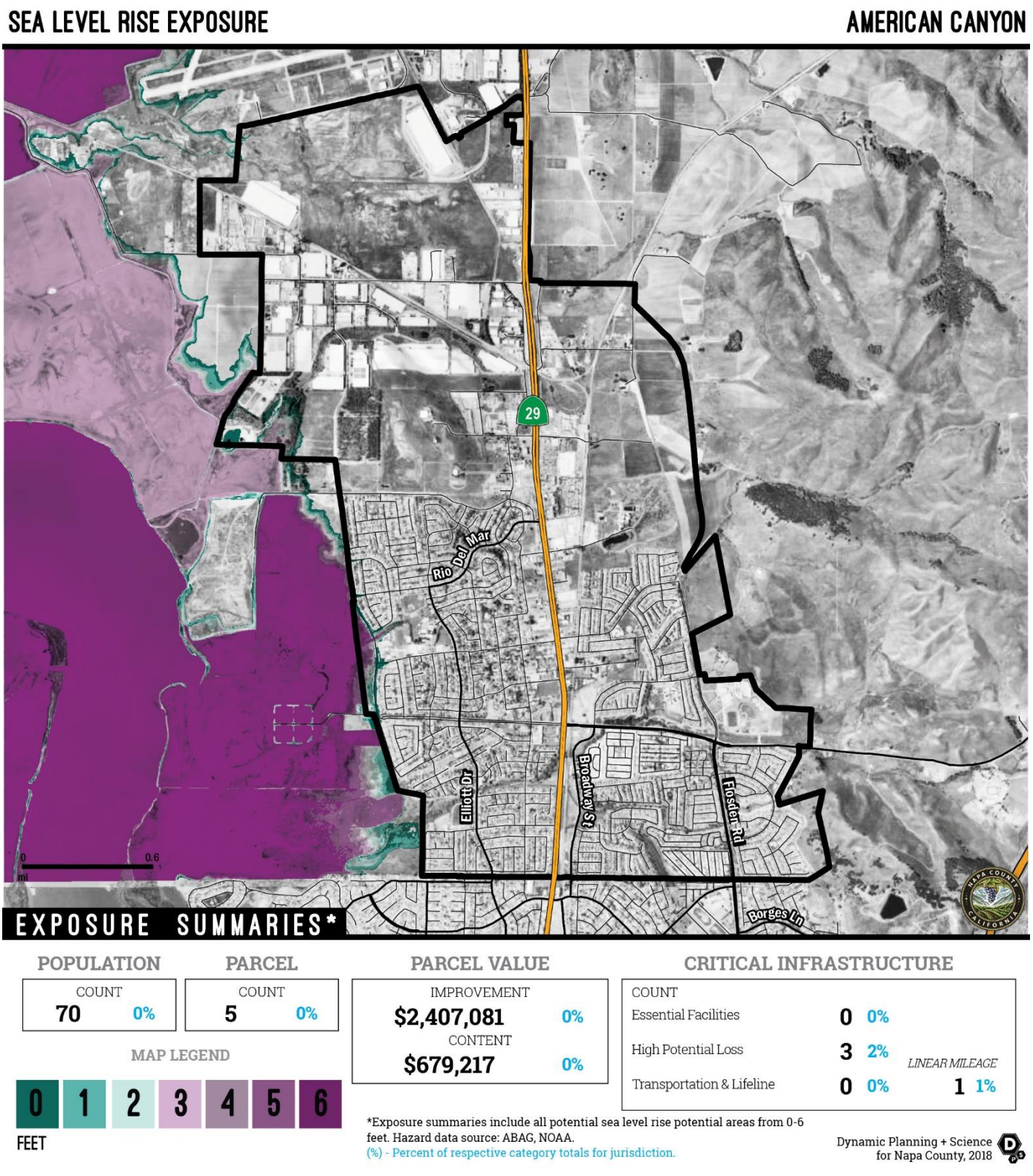


Figure 1-4: SEA LEVEL RISE EXSPOSURE SUMMARY

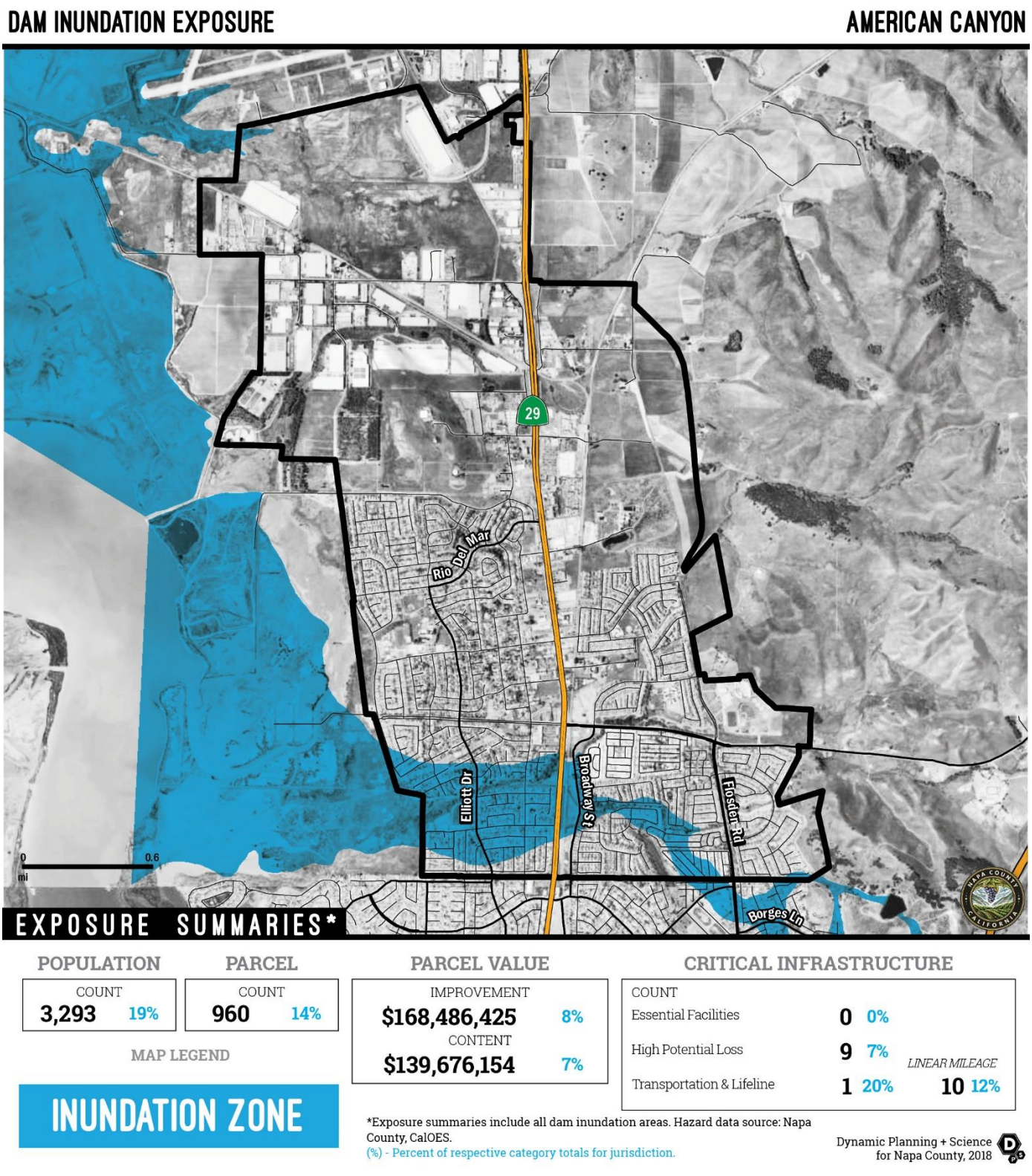
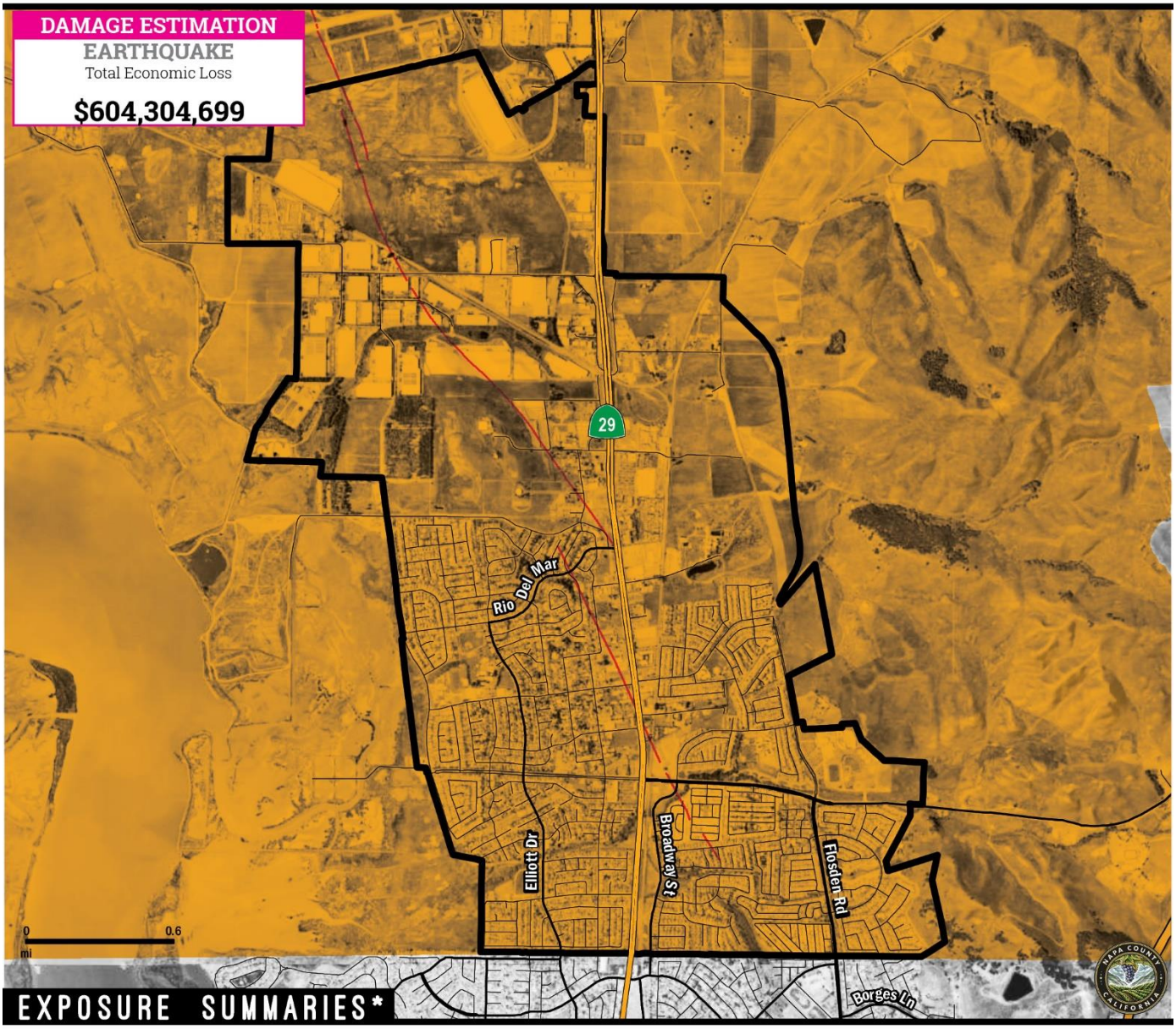


Figure 1-5: DAM FAILURE EXPOSURE SUMMARY

PROBABILISTIC EQ EXPOSURE (PHSA)

AMERICAN CANYON



EXPOSURE SUMMARIES*

POPULATION

COUNT	
17,751	100%

PARCEL

COUNT	
6,721	100%

PARCEL VALUE

IMPROVEMENT	
$2,125,235,360	100%
CONTENT	
$1,924,893,953	100%

CRITICAL INFRASTRUCTURE

COUNT		LINEAR MILEAGE
Essential Facilities	3 100%	
High Potential Loss	137 100%	
Transportation & Lifeline	5 100%	87 100%

MAP LEGEND

III	IV	V	VI	VII	VIII	IX	X
WEAK MMI	LIGHT	MODERATE	STRONG	VERY STRONG	SEVERE	VIOLENT	EXTREME

*Exposure summaries include strong, very strong, severe, and violent MMI classes.
Hazard data source: USGS.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science for Napa County, 2018

Figure 1-6: 50 YR PROBABILISTIC EARTHQUAKE EXPOSURE SUMMARY

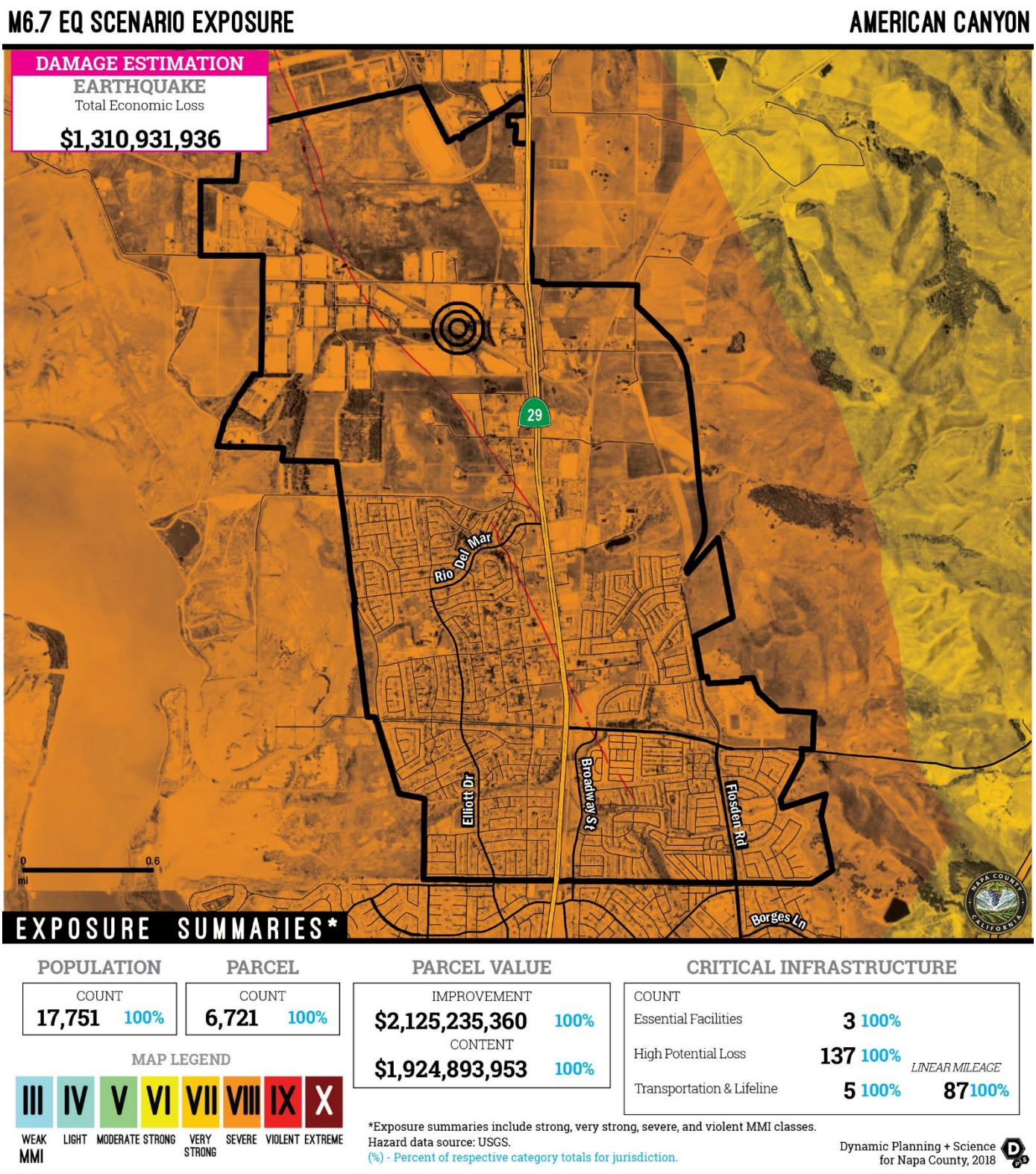


Figure 1-7: WEST NAPA 6.7 EARTHQUAKE EXPOSURE SUMMARY

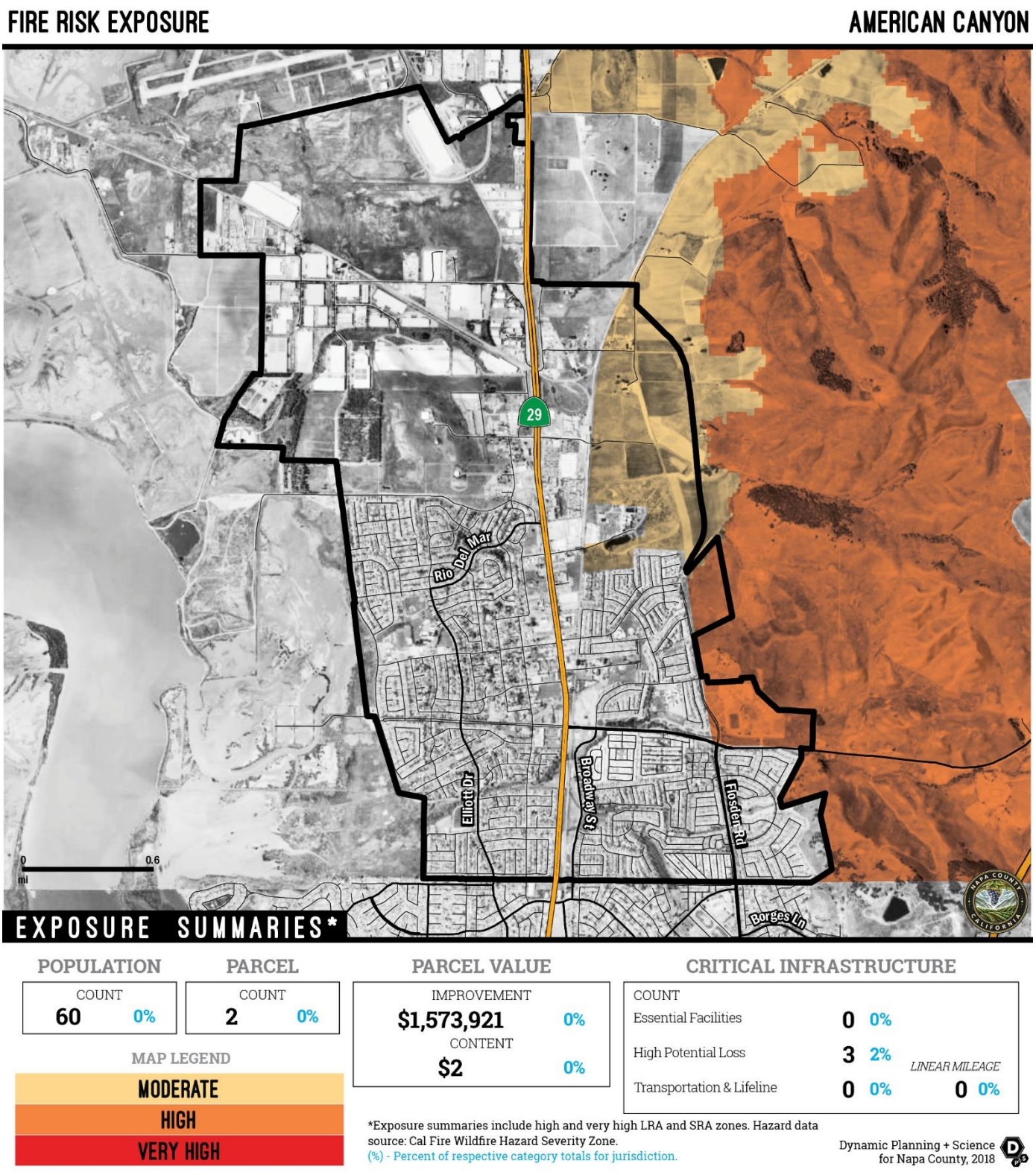


Figure 1-8: WILDFIRE VULNERABILITY SNAPSHOT

1.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the American Canyon Planning Committee are listed in Table 1-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 1-10 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 1-4 and Table 1-10.

Table 1-4 American Canyon Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
CC-16	Climate Change	Threat	PPRO - Property Protection	**American Canyon**	Sea Level Rise could affect American Canyon Critical Facilities include the Waste Water Treatment Plant, Public Works Yard and a pump stations located along Wetlands Edge Rd.	**AC-04-2020**
DF-28	Dam Failure	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	Approx. 1600 people that live within a Dam Inundation Zone in the City of American Canyon.	**AC-07-2020, NC-34-2020, NC-35-2020, NC-36-2020**
DF-29	Dam Failure	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	There are 956 parcels within a Dam Inundation Zone in the City of American Canyon.	**AC-07-2020, NC-34-2020, NC-35-2020, NC-36-2020**
DR-02	Drought	Threat	NRP - Natural Resource Protection	**American Canyon**	The City of American Canyon is without a local reservoir and has a limited water supply. Most of the City's water is imported from the State Water Project and the amount available each year varies depending on how much snow or rain is received in the Sierra Tahoe Mountains. An increase in demand due to new construction could raise prices for current customers.	**AC-02-2020, NC-17-2020**
EQ-14	Earthquake	Victim	PE&A - Public Education & Awareness	**American Canyon**	Approx. 18,000 people live in a severe earthquake probability zone in American Canyon.	**AC-05-2013**
EQ-15	Earthquake	Victim	SP - Structural Projects , PRV - Prevention , PE&A - Public Education & Awareness	**American Canyon**	Approx. 6,691 parcels (almost $2 billion in content value) within American Canyon are in a severe earthquake probability zone.	**AC-05-2013**
EQ-16	Earthquake	Victim	SP - Structural Projects , PRV - Prevention , PE&A - Public Education & Awareness	**American Canyon**	79 critical infrastructure features (including 15 adult residential facilities and 12 family child care homes) are located in a severe earthquake probability zone in American Canyon.	**AC-05-2013**
EQ-24	Earthquake	Threat	SP - Structural Projects , PRV - Prevention , PPRO - Property Protection	**American Canyon**	Water distribution system (mains, etc.) in American Canyon is vulnerable to a severe earthquake.	**AC-06-2020**
EQ-25	Earthquake	Threat	SP - Structural Projects , PRV - Prevention , PPRO - Property Protection	**American Canyon**	Other public utilities (gas mains etc.), including major gas supply pipelines are present throughout American Canyon and are vulnerable to a severe earthquake.	**AC-06-2020**
FL-27	Flood	Victim	PE&A - Public Education &	**American Canyon**	There are Approx. 1000 people living within the 500 Year Floodplain in the City of American Canyon.	**AC-07-2020, AC-07-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
			Awareness , SP - Structural Projects			
FL-30	Flood	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	There are 159 parcels within the 500 Year Floodplain in the City of American Canyon.	**AC-01-2013**
FL-31	Flood	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	There are 68 parcels and approx. 280 residents within the 100 Year Floodplain in the City of American Canyon. Most of the at risk population is within the American Canyon Mobile Home Park.	**AC-01-2013**
FL-32	Flood	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	There are 10 Critical Infrastructure Facilities in the 500 Year Flood Plain within the City of American Canyon.	**AC-07-2020**
SW-02	Severe Weather	Threat	PRV - Prevention	**American Canyon**	Heavy rains during winter months could cause flooding (but not as severe as the northern parts of the valley).	**NC-12-2020, NC-13-2020, NC-14-2020**
WF-21	Wildfire	Victim	PPRO - Property Protection , PE&A - Public Education & Awareness	**American Canyon**	There are approx. 60 people live in a high wildfire intensity zone and close to 1,400 live in a moderate wildfire intensity zone.	**AC-03-2013, NC-02-2020, NC-03-2020**
WF-22	Wildfire	Victim	PPRO - Property Protection , PE&A - Public Education & Awareness	**American Canyon**	There are 2 parcels in the high wildfire intensity zone and 4 in the moderate wildfire intensity zone.	**AC-03-2013**
WF-23	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**American Canyon**	Legacy High School is in a high wildfire intensity zone.	**AC-03-2013**
WF-34	Wildfire	Threat	SP - Structural Projects , PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**American Canyon**	The American Canyon Water Treatment Plant is in high wildfire intensity zone.	**AC-03-2013**

Mitigation Action Support Tool (MAST)

As a living document, hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for participating jurisdictions. The Mitigation Action Support Tool (MAST) is accessible through www.mitigatehazards.com

MAST is a web based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.

1.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the City's planning committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The American Canyon Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 1-10 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

1.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.

1.5.1.1 National Flood Insurance Program (NFIP)

The City of American Canyon has participated in the NFIP since 1994. See Table 1-5 for more information on the City's policies and historic flood insurance claims. American Canyon is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Volume 1 for general information on the NFIP.

The City of American Canyon will maintain NFIP compliance by continuing to enforce Chapter 8.16 (Floodplain Management Regulations) of the American Canyon Municipal Code. Chapter 8.16 Article IV contains provisions for flood hazard reduction.

Table 1-5: American Canyon NFIP Status Table

NFIP Status	Participating since 1/11/1994
Policies in Force	24
Policies in SFHA	3
Policies in non-SFHA	21
Total Claims Paid	0
Paid Losses	$ 0
Repetitive Loss Properties	0
Severe Repetitive Loss Properties	0
Repetitive Loss Payment by NFIP on Building	N/A
Repetitive Loss Payment by NFIP on Contents	N/A

See Volume 1, Section 9.2.1 for more information on the NFIP.

1.5.1.2 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 1-6. Planning and Regulatory Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Construction and Future Development Regulations				
Building Codes				Updated in 2019, referenced in 2020 HMP
BCEGS Rating				Unknown
Public Protection (ISO Class)				Class 2 / 2Y
Site Plan Review Requirements				Water Efficient Landscaping (Ch. 19.22); Slope provisions (Ch. 18.40.115); Storm drain and watercourse easements (Ch. 18.40.070; 18.40.95); mapping requirements for inundation areas (Ch. 18.40.100)
Zoning Ordinance				Municipal Code, Chapter 19
Hazard-Specific Ordinance				Floodplain Management (Ch. 8.16); Water Conservation Plan (Ch. 13.14); Stormwater Discharge & Pollution Program (Ch. 14.28)
Growth Management Ordinance				
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				Administered by the Engineering Division
Erosion/Sediment Control Program				Administered by the Engineering Division
Hazard-Related Public Outreach Program				Significant outreach efforts, but no program
Stormwater Management Program (Annual Inspections)				Utilizes County Program
Seismic Safety Program (Building Safety)				Administered by the Building Division

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Earthquake Modernization Plan (Non-structural)				
Hazard Plans				
Community Wildfire Protection Plan (CWPP)				County-wide CWPP in development
Comprehensive, Master, or General Plan				2022 Update in Progress
Floodplain Management Plan				Administered by the Engineering Division
Stormwater Management Plan				Last update: 2008
Emergency Operations Plan				2009
Climate Action Plan				Energy Efficiency Climate Action Plan, 2012
Urban Water Management Plan				2015
Drought Management Plan				Municipal Code Chapter 13.14
Napa Valley Drought Contingency Plan				Includes County and County Municipalities
Ground Water Management Planning / Plans				
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				Meets minimum standards
Flood Insurance Education and Technical Assist.				
Flood Hazard Mapping / Re-Mapping				
Community Rating System (CRS)				

1.5.1.3 Administrative and Technical Capabilities

Table 1-7: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Community Planning and Development Services:		
Community Planner		
Civil Engineer		
Building Code Official		
Floodplain Administrator		
Fire Official		
Resiliency Planner		
Transportation Planner		Circulation Element in General Plan
Warning Systems/ Services		
General		Nixle and IPAWS
Flood		
Wildfire		
Geological Hazards		
Other		
GIS Specialist and Capability		Coord. with County GIS
Emergency Manager		City Manager
Full-Time Building Official		
Grant Manager, Writer, or Specialist		

1.5.1.4 Financial Capabilities

Table 1-8: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Voter Approved Special Purpose Tax		
Utilities Fees		
Benefit assessments		
System Development Fee		
General Obligation Bonds to Incur Debt		
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

1.5.1.5 Education and Outreach

Table 1-9: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		
Dedicated Social Media		
Hazard Info. Avail. at Library/ Planning Desk		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		
Resource Conservation Districts		
Other		

1.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. American Canyon has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.

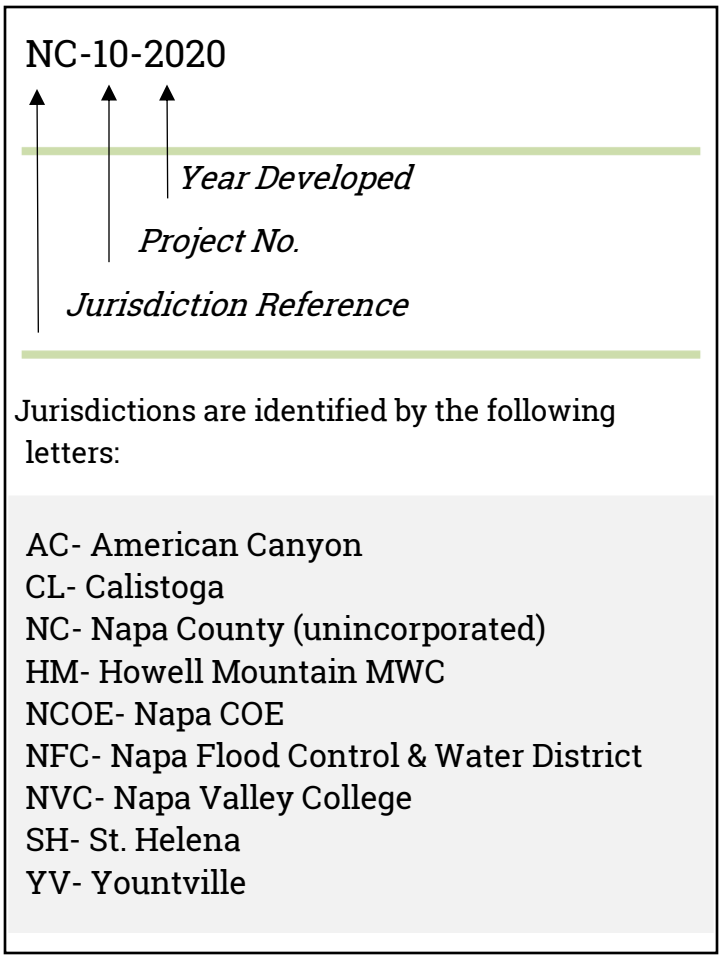


Table 1-10 lists each mitigation action for American Canyon. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 1-10 meets the regulatory requirements of FEMA and DMA 2000.

Table 1-10: American Canyon Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
AC-04-2020	Climate Change	PPRO - Property Protection	2020	**American Canyon**	Plan for and construct sea level rise protection for American Canyon Critical Infrastructure such as Public Works Yard, Sewer Treatment Plant, and Pump Station.	Plan for and construct sea level rise protection for American Canyon Critical Infrastructure such as Public Works Yard, Sewer Treatment Plant, and Pump Station.	City Planners	Ongoing	Unknown	Unknown	FEMA; http://www.resilientbayarea.org/grand-bayway	Medium	**CC-16**
AC-02-2020	Drought	PRV - Prevention	2020	**American Canyon**	Require mandatory water conservation measures during drought emergencies.	Require mandatory water conservation measures during drought emergencies.	City Water	Ongoing	Unknown	Unknown	Existing Budget, grants	High	**DR-02**
AC-05-2013	Earthquake	SP - Structural Projects	2020	**American Canyon**	Develop a public outreach program for mitigation of earthquake risk for residents of American Canyon proper.	Preliminary Identified Tasks for American Canyon: Participate in Earthquake Month Public Education	City of American Canyon	Ongoing	$25,000.00	Unknown	Federal Grants, General Funds, Public Education, Fire District, and County	High	**EQ-14, EQ-15, EQ-16**
AC-06-2020	Earthquake	SP - Structural Projects	2020	**American Canyon**	Retrofit critical facilities that are vulnerable to extreme and violent shaking.	Retrofit critical facilities that are vulnerable to extreme and violent shaking.	City of American Canyon	5-10 Years	Unknown	Unknown	Bonds, grants, fee increases	High	**EQ-24, EQ-25**
AC-01-2013	Flood	PPRO - Property Protection	2013 (Ongoing)	**American Canyon**	Elevate 100 of the most flood prone residential structures along areas not receiving direct protection from Measure "A" Flood Project. Provide flood mitigation resource (e.g. ways to reduce flood risk) to residents within the American Canyon Mobile Home Park (68 parcels).	Preliminary Identified Tasks for American Canyon Public Works: Enhance Knights Bridge Draining (Stormwater); Regular Inspection/Cleaning of Storm Water Drainages	American Canyon Public Works	5-10 Years	$5,000,000.00	Unknown	City Capital Budget Grants; Federal Grants	High	**FL-31, FL-30**
AC-07-2020	Flood	PRV - Prevention	2020	**American Canyon**	Inform American Canyon residents and in-home Adult Care providers of possible flooding during "major" flood events.	Inform American Canyon residents and in-home Adult Care providers of possible flooding during "major" flood events.	City of American Canyon	Ongoing	Unknown	Unknown	Existing budget or grants	High	**DF-28, DF-29, FL-27, FL-27, FL-32**
AC-03-2013	Wildfire	PRV - Prevention	2013 (Ongoing)	**American Canyon**	Maintain and Further Develop the Fuel Reduction Program to include provisions for Legacy High School fuel breaks.	Weed Abatement Enforcement on Private Property.	American Canyon Fire Protection District	Ongoing	Unknown	N/A	ACFPD General Fund, Fire Prevention Grant Programs, Cost Recovery Fees	Extreme	**WF-21, WF-22, WF-23, WF-34**
AC-201-2020	Severe Weather	NRP - Natural Resource Protection	2020	**American Canyon**	Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure	1. Prioritize areas to be inspected 2. Assign inspection duties	City of American Canyon	Ongoing	Unknown	Unknown	FMA	High	**SW-02**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorporated**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**

JURISDICTIONAL ANNEX

Section 2. City of Calistoga

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

2.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

RESOLUTION NO. 2020-053

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CALISTOGA, COUNTY OF NAPA, STATE OF CALIFORNIA, ADOPTING THE 2020 NAPA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND INCORPORATING IT BY REFERENCE INTO THE GENERAL PLAN PUBLIC SAFETY ELEMENT

WHEREAS, the City is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

WHEREAS, the City recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

WHEREAS, the City, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

WHEREAS, the City Annex in Vol 2. of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, the City has reviewed the MJHMP and affirms that the plan actions in the City's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

WHEREAS, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

WHEREAS, the City, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, the California Office of Emergency Services (CalOES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

WHEREAS, the City Council desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

WHEREAS, adoption by the City Council for the City demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

WHEREAS, the incorporation of this Plan into the Calistoga Public Safety Element will satisfy requirements of SB 379 by addressing climate change hazards; and

WHEREAS, the City Council reviewed the MJHMP and the proposed amendment to the Safety Element at a public hearing on June 16, 2020, and during its review, considered the public record, including the written and oral staff reports and written materials and testimony presented by the public during the hearing; and

WHEREAS, in accordance with Section 15061(b)(3) of the California Environmental Quality Act (CEQA) Guidelines, the proposed updated Infrastructure Element is not subject to CEQA because it can be seen with certainty that there is no possibility that the Element itself could have a significant effect on the environment.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF CALISTOGA DOES RESOLVE, DECLARE, DETERMINE AND ORDER AS FOLLOWS:

Section 1. Adopts the 2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan Vol. 1 for Napa County and the City of Calistoga Annex in Vol. 2, as approved by FEMA and CalOES, as the mitigation plan for the City.

Section 2. Orders the City Manager to submit an approved and signed copy of this resolution to the CalOES and FEMA Region IX officials to enable the plan's final approval.

Section 3. Adopts the updated Public Safety Element with the incorporation by reference of the 2020 Napa County Multi-Jurisdictional as shown in Exhibit A attached hereto.

PASSED, APPROVED AND ADOPTED by the City Council of the City of Calistoga at a regular meeting held on the 16th day of June 2020.

I, Kendall Rose Granucci, City Clerk of the City of Calistoga, hereby certify that the foregoing Resolution was duly adopted by the City Council of the City of Calistoga at a regular meeting held on the 16th day of June 2020, by the following vote:

AYES:	**Councilmembers Kraus, Lopez-Ortega, and Williams, Vice Mayor Dunsford and Mayor Canning**
NOES:	**None**
ABSTAIN:	**None**
ABSENT:	**None**

ATTEST:

Kendall Rose Granucci, City Clerk

APPROVED:

Chris Canning, Mayor

2.2 Purpose

This Annex details the hazard mitigation planning elements specific to the City of Calistoga. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City. This Annex provides additional information specific to the City of Calistoga, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Steve Campbell, Fire Chief
Calistoga Fire Department
1113 Washington Street
Calistoga, CA 94515
Telephone: (707) 889-2783
e-mail Address: scampbell@ci.calistoga.ca.us

Alternate Point of Contact
Zach Tusinger, Senior Planner
City of Calistoga
1232 Washington Street
Calistoga, CA 94515
Telephone: (707) 942-2830
e-mail Address: ztusinger@ci.calistoga.ca.us

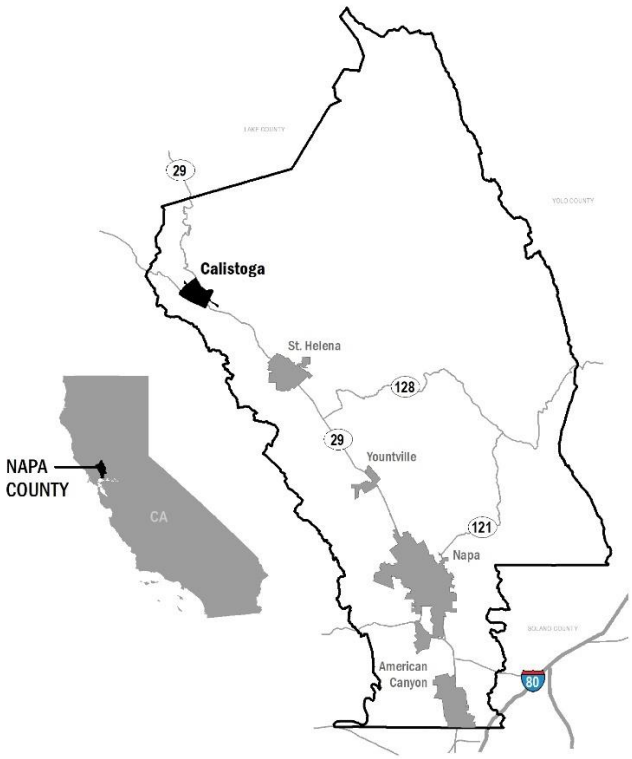


Figure 2-1: City of Calistoga Location

2.3 Planning Methodology

The City of Calistoga followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 2-1.

Table 2-1: Calistoga Planning Committee Members

Planning Committee Members	Department
Derek Rayner	Public Works Department
Lynn Goldberg	Planning and Building Department
Michael Kirn	City Manager
Steve Campbell	Fire Department
Zach Tusinger	Planning Department
Chris Ochs	Calistoga Joint Union School District

2.3.1 What's New

The City of Calistoga has been making improvements toward reducing natural hazard risks to life and property within the City since the 2013 MJHMP was adopted. Mitigation actions develop from the 2013 MJHMP for the City have been edited, consolidated and developed to meet new priorities. See Vol. 1 for listing of historic mitigation actions. Listed below are success stories where the City of Calistoga successfully implemented mitigation actions that were defined in the 2013 MJHMP.

2.3.2 Mitigation Success Story

STORY 1: *Structural Retrofit for Earthquake and Seismic Deficiency for critical 1MG Drinking water tank*

The purpose of this project was to mitigate a seismically deficient drinking water tank which was on the verge of catastrophic failure. Mitigation was to replace the 1960's welded steel tank with a new one million gallon, glass lined bolted steel tank designed to current seismic standards. The existing 50-year old, 1.0 MG tank was at the end of its useful life, and without a foundation was at major risk of seismic failure due to its structural deficiencies. The new tank was online in December of 2019 and funded by the Hazard Mitigation Grant Program.

STORY 1: *Development of Hazard and Risk Model to better understand the City's wildfire vulnerability.*

City has contracted (2020) with Anchor Point Wildland Fire Solutions to develop a Hazard and Risk Model for Calistoga and its surrounding environs using the National Hazard and Risk Model (No-HARM), to develop a more in depth understanding of the City's wildfire vulnerability. The assessment would provide context for decision making and potentially guide the City in determining if additional fire-resistant construction measures and vegetation maintenance would be required. Additional components of the contract will provide the City with a web map interface integrated into the City's website and potentially available to the general public. The contract provides for additional deliverables including evacuation planning, and guidance regarding interface response. All deliverables are expected before the September 2020 fire season. Contract is for $80,000 out of the General Fund.

2.4 Risk Assessment

The intent of this section is to profile the City of Calistoga's hazards and assess the City's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to the City of Calistoga is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

2.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 2-2 below. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The Calistoga Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect the City of Calistoga. Table 2-3provides a crosswalk of hazards identified in Vol. 1 of this plan, Calistoga General Plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to Calistoga and which ones were not. Section 2.4.2 below describes the hazard risk ranking process that was performed by the Calistoga Planning Team which prioritized hazards that are specifically relevant to Calistoga.

Table 2-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 2-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	Calistoga General Plan	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■			■
Climate Change	■		■	■
Dam Failure	■	■	■	■
Drought	■		■	■
Earthquake	■	■	■	■
Flood	■	■	■	■
Landslide	■	■	■	■
Levee Failure	■		■	■
Manmade Hazards				■
Pandemic Disease				■
Sea Level Rise	■			■
Severe Weather	■			■
Terrorism & Tech Hazards				■
Tsunami		■	■	■
Volcano				■
Wildfire	■	■	■	■

2.4.2 Hazard Risk Ranking

The Calistoga's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 2-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess Calistoga's vulnerability to following hazards: climate change, drought, earthquake, flood, severe weather, wildfire, and dam failure**. All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address Calistoga's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the City of Calistoga.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

City of Calistoga Risk Matrix

IMPACT

PROBABILITY	Minor	Limited	Critical	Catastrophic
Highly Likely	Medium	High	Extreme	Extreme
Likely	Medium	CLIMATE CHANGE, DROUGHT, SEVERE WEATHER	WILDFIRE	Extreme
Possible	LANDSLIDE	FLOOD	EARTHQUAKE	High
Unlikely	Low	DAM FAILURE	Medium	Medium

Figure 2-2 City of Calistoga Risk Assessment Matrix

2.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within the City of Calistoga are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

2.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to Calistoga. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

2.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display Calistoga's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the Calistoga Planning Team prioritized are displayed below in Figure 2-3 through Figure 2-8.

2.4.3.3 Past and Future Development

The City of Calistoga approves growth consistent with its General Plan, which serve as the blueprint for establishing long-range development policies. A GP provides a basis for private development proposals and public projects to remain consistent with existing city, regional and state policies. One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

While growth has occurred in hazard areas in the past, increasing hazard risks to come degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Problematic development generally occurred many decades ago, and thus much of this HMP focuses on retrofits or replacements from that older construction.

Calistoga is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire and other natural hazards. In addition to California minimum develop standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

As the General Plan is updated and incorporates information from this HMP, Calistoga staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP[1] will inform those responsible for future development to make better decisions where and how future development occurs.

Calistoga reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan. See Section 2.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

City of Calistoga has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the city. Planned development consists of new residential units southeast of Highway 29 south of Kortum Canyon Road. Currently, there is one new resort being constructed in this area, with another resort under construction at the intersection of Silverado Trail and Rosedale. (Napa Operational Area Hazard Mitigation Plan, 2013)

[1] Risk Assessment Mapping Platform (RAMP) as part of this plan process will be maintained by the County for the next 5 years to inform and improve participating jurisdictions knowledge of local hazards.

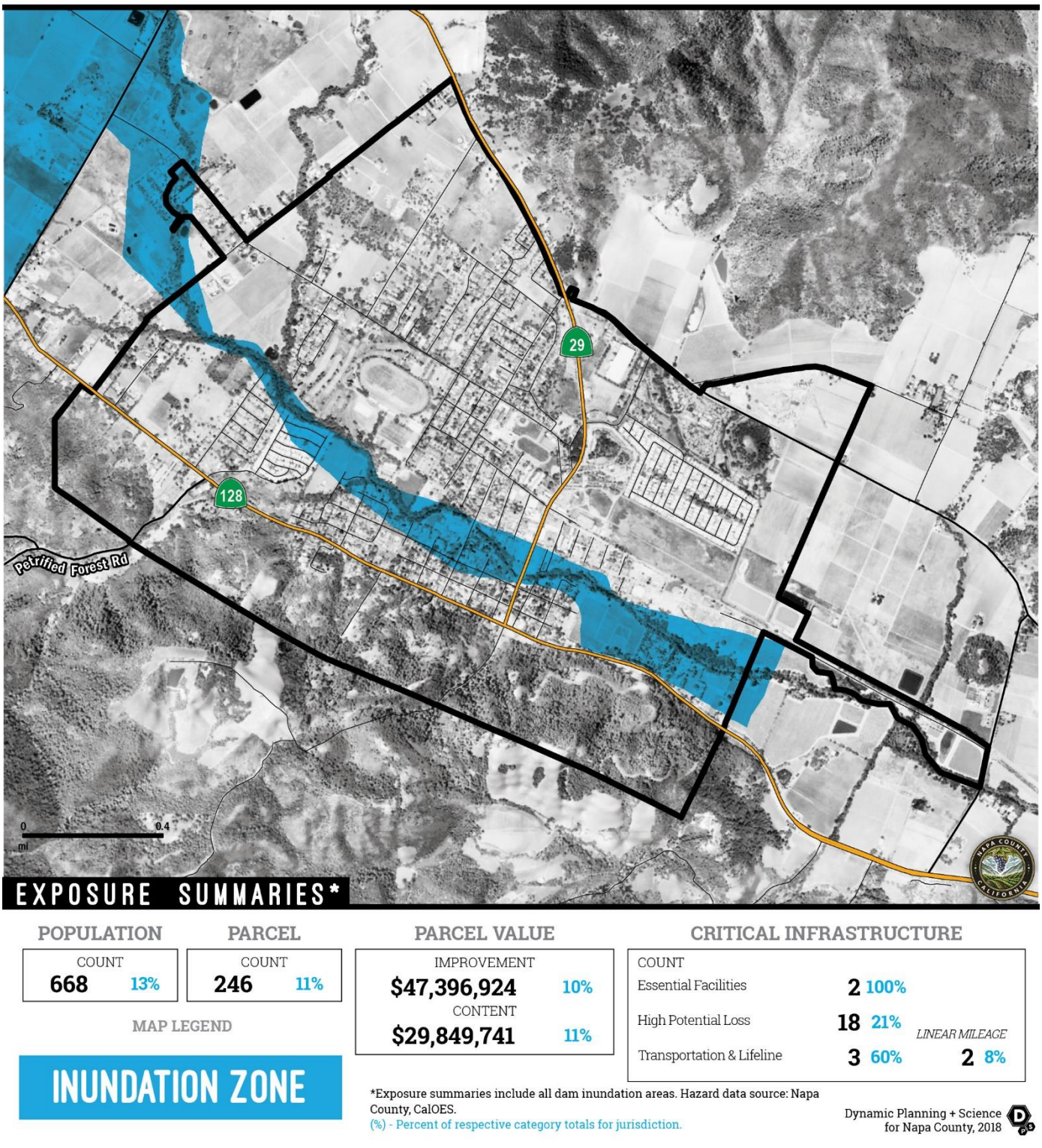
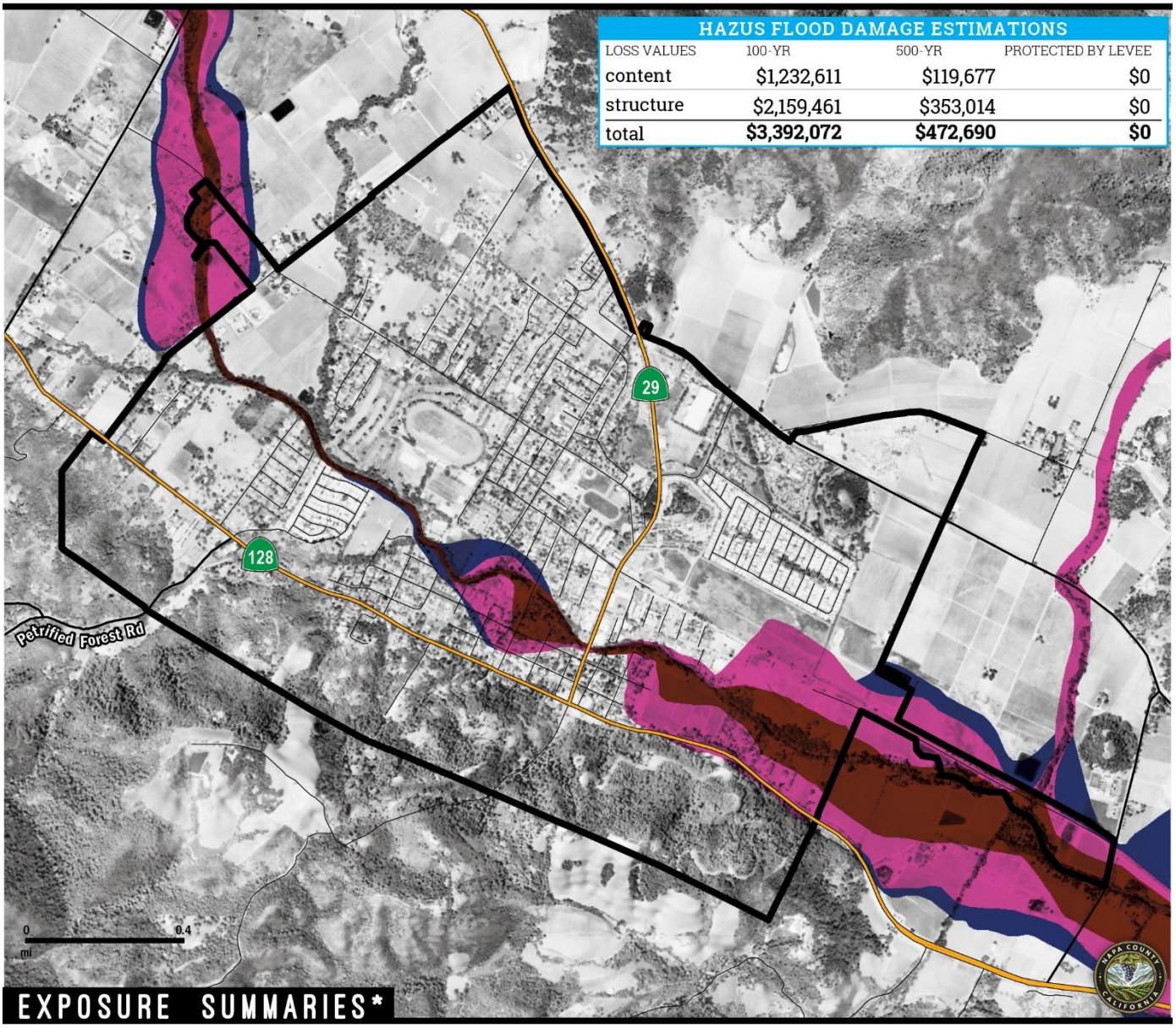


Figure 2-3 Dam Inundation Exposure Summary

FEMA FLOOD ZONE EXPOSURE

CALISTOGA



EXPOSURE SUMMARIES*

POPULATION

COUNT 874 17%

PARCEL

COUNT 147 7%

PARCEL VALUE

IMPROVEMENT $44,371,579 9%

CONTENT $22,564,609 8%

CRITICAL INFRASTRUCTURE

COUNT			LINEAR MILEAGE
Essential Facilities	0	0%	
High Potential Loss	20	23%	
Transportation & Lifeline	3	60%	3 14%

MAP LEGEND

100-YR | 100-YR FLOODWAY

500-YR

*Exposure summaries include 100-year and 500-year flood zone areas. Hazard data source: FEMA.

(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science for Napa County, 2018

Figure 2-4 Flood Exposure Summary

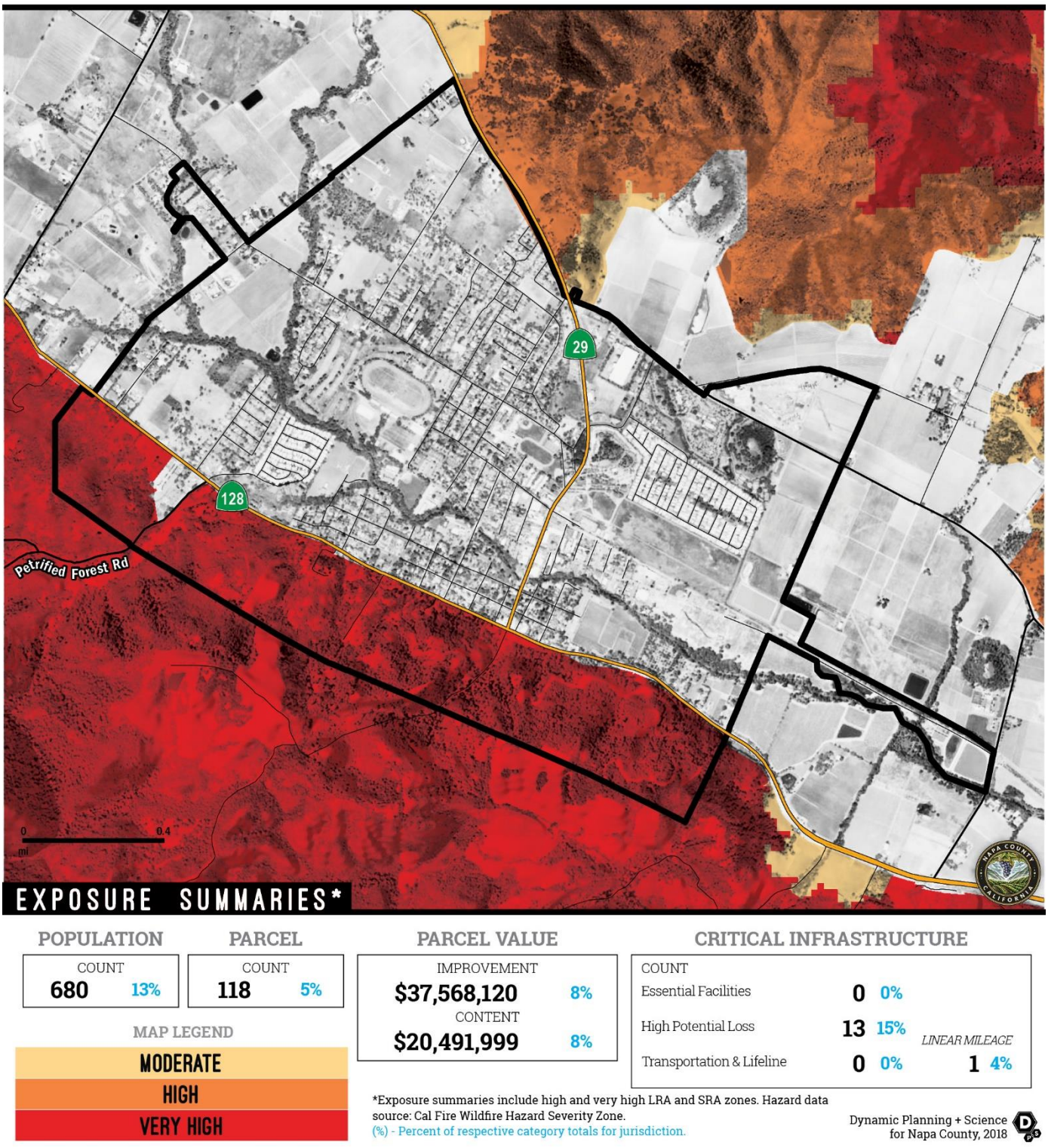


Figure 2-5 Wildfire Exposure Summary

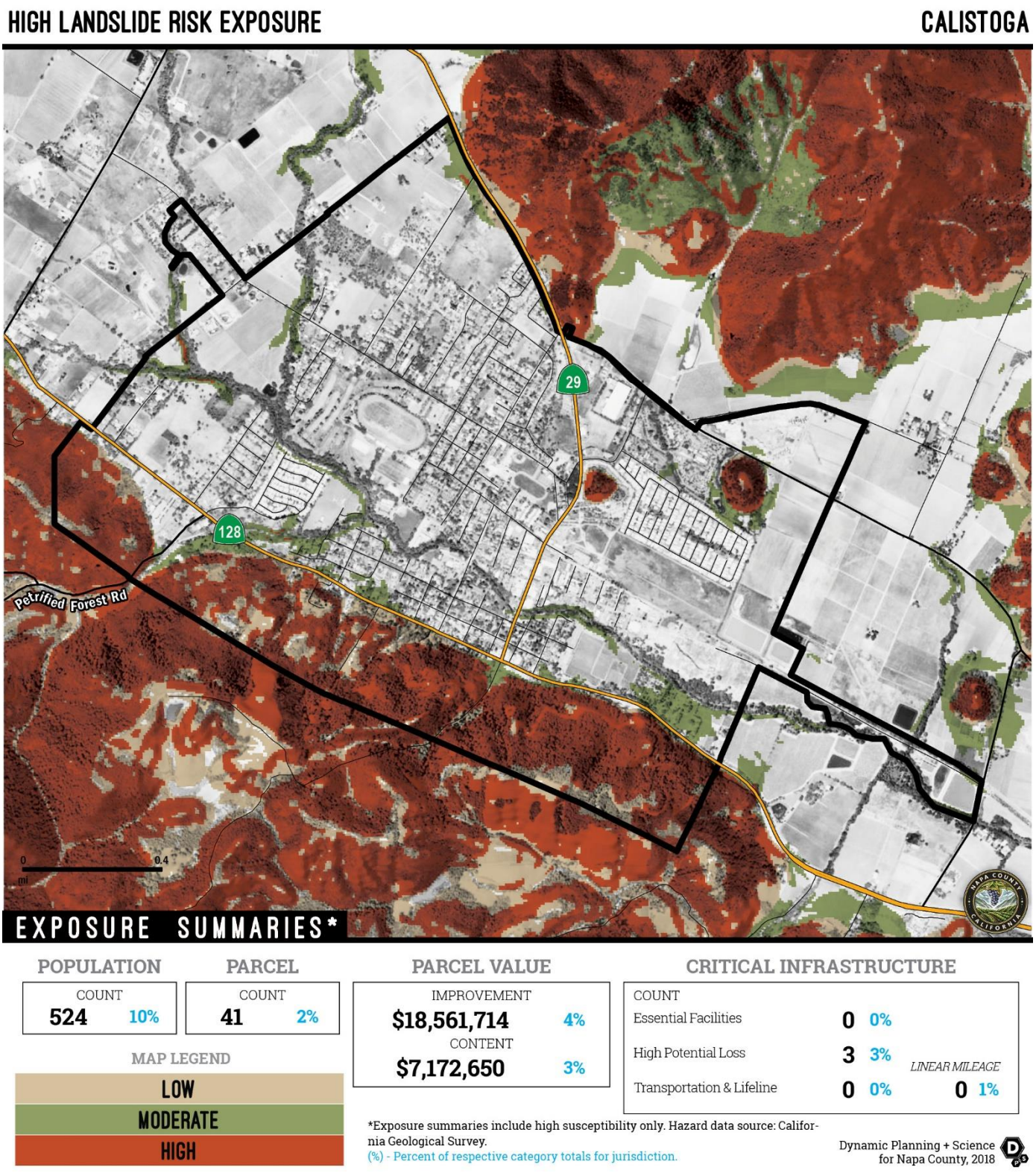


Figure 2-6 Landslide Exposure Summary

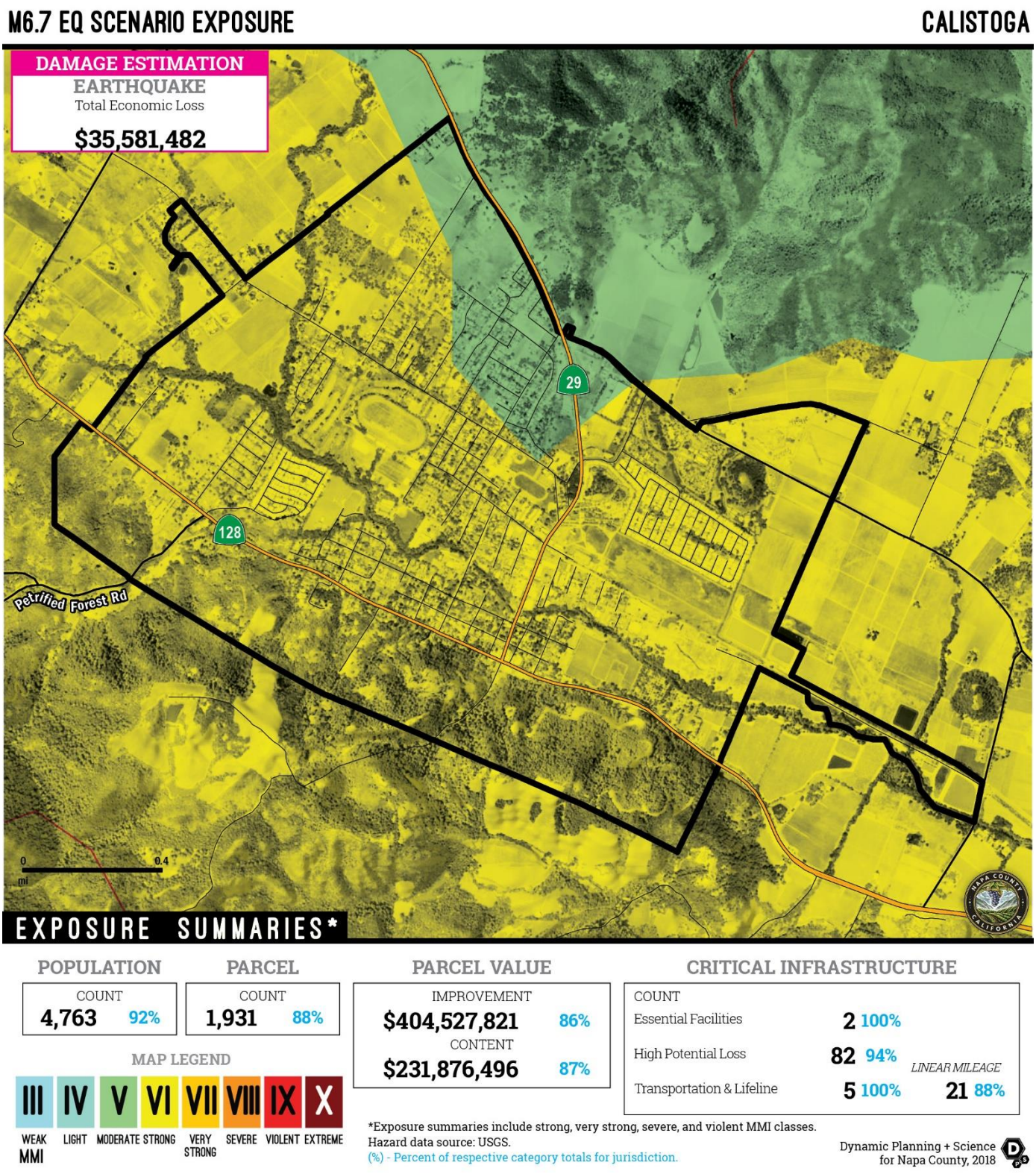


Figure 2-7 West Napa 6.7 Scenario Exposure Summary

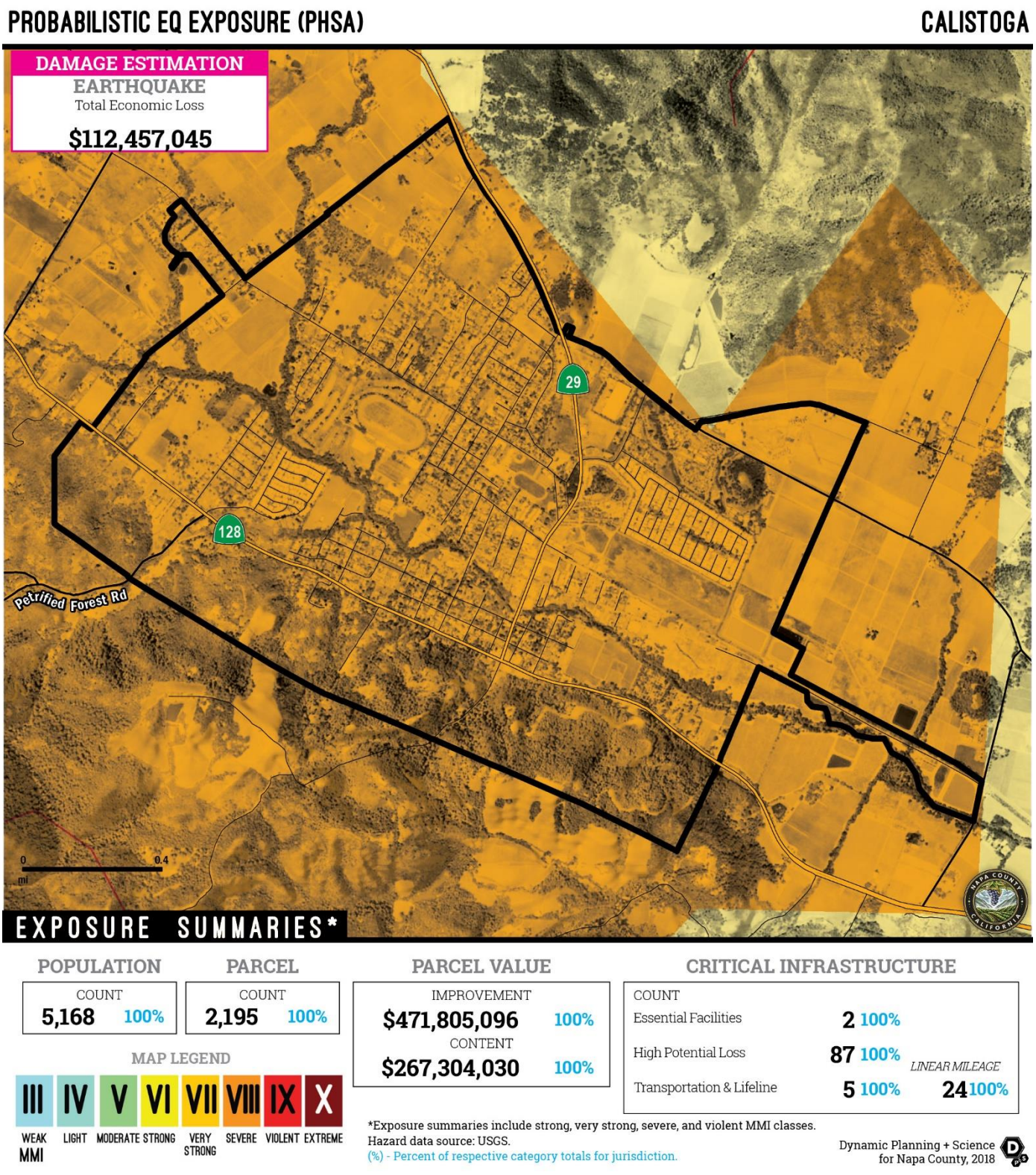


Figure 2-8 50-Yr. Probabilistic Scenario Exposure Summary

2.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the City of Calistoga's Planning Committee are listed in Table 2-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 2-10 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 2-4 and Table 2-10.

Table 2-4 City of Calistoga Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
CC-13	Climate Change	Impact	PRV - Prevention , PE&A - Public Education & Awareness , ES - Emergency Services , SP - Structural Projects	**Calistoga**	Increased wildfire and decreased air quality will have economic, physical, and health impacts on the City of Calistoga.	**CL-08-2020**
CC-15	Climate Change	Threat	PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection , ES - Emergency Services , SP - Structural Projects	**Calistoga**	Increased drought, an expanded wildfire season, and potential for heavy rain events (extreme weather) all have the potential to severely threaten the City of Calistoga and its surroundings.	**CL-08-2020**
DF-07	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**Calistoga**	Approximately 700 people that live within a Dam Inundation Zone in the City of Calistoga.	**NC-34-2020, NC-35-2020, NC-36-2020**
DF-13	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public Education & Awareness	**Calistoga**	There are 12 Critical Infrastructure Facilities in a Dam Inundation Zone within the City of Calistoga	**NC-34-2020, NC-35-2020, NC-36-2020**
DR-06	Drought	Impact	NRP - Natural Resource Protection , PE&A - Public Education & Awareness	**Calistoga**	The economy, agriculture, and water supply in the City of Calistoga could all be severely impacted by a major drought.	**NC-17-2020**
DR-07	Drought	Threat	NRP - Natural Resource Protection , PE&A - Public Education & Awareness	**Calistoga**	Drought increases the likelihood of wildfire associated threats to the City of Calistoga.	**CL-04-2020**
DR-08	Drought	Threat	NRP - Natural Resource Protection , PE&A - Public Education & Awareness	**Calistoga**	Drought has the potential to severely threaten the agricultural and tourism based economy, and the City's water supply.	**CL-09-2020**
EQ-11	Earthquake	Victim	PPRO - Property Protection , ES - Emergency Services & PE&A - Public Education & Awareness	**Calistoga**	Approx. 5,274 people live in an area with server earthquake probability within the City of Calistoga.	**CL-12-2020, CL-13-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
EQ-12	Earthquake	Victim	PPRO - Property Protection , ES - Emergency Services & PE&A - Public Education & Awareness	**Calistoga**	There are approximately 90 Critical Infrastructure Facilities that are susceptible to a severe earthquake within the City of Calistoga.	**CL-12-2020**
EQ-26	Earthquake	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Calistoga**	The City of Calistoga's water supply and other infrastructure could be critically impacted by a major earthquake. This includes wastewater infrastructure, streets, bridges, building damage, fire damage (broken gas lines leading to fire) due to earthquake	**CL-12-2020**
EQ-27	Earthquake	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Calistoga**	A major earthquake poses a significant threat to the City of Calistoga and its surroundings.	**CL-13-2020**
FL-08	Flood	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**Calistoga**	Approx. 800 people live in the 100 Year Flood Plain within the City of Calistoga.	**CL-01-2013, CL-11-2020**
FL-09	Flood	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**Calistoga**	Approx. 100 people live in the 500 Year Flood Plain within the City of Calistoga.	**CL-01-2013, CL-11-2020**
FL-12	Flood	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public Education & Awareness	**Calistoga**	There are approximately 18 Critical Infrastructure Facilities in the 100 Year Flood Plain within the City of Calistoga	**CL-01-2013, CL-11-2020**
FL-33	Flood	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Calistoga**	A severe flood event could disable or damage utilities, wastewater and stormwater infrastructure and potentially impact the water supply, streets, bridges, building damage, etc.	**CL-10-2013**
FL-34	Flood	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Calistoga**	Prolonged periods of heavy rain could lead to a flood event that threatens lives, property, and critical infrastructure.	**CL-10-2013**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
SW-04	Severe Weather	Threat	SP - Structural Projects , PE&A - Public Education & Awareness	**Calistoga**	Heavy rains during winter months could cause flooding within the City of Calistoga..	**NC-12-2020, NC-13-2020, NC-14-2020**
SW-06	Severe Weather	Threat	PRV - Prevention , NRP - Natural Resource Protection , PPRO - Property Protection , PE&A - Public Education & Awareness	**Calistoga**	Winds associated with severe weather could spark or exacerbate wildfire conditions within the City of Calistoga.	**CL-02-2020**
SW-07	Severe Weather	Threat	PRV - Prevention , NRP - Natural Resource Protection , PPRO - Property Protection , PE&A - Public Education & Awareness	**Calistoga**	Severe winds could damage electrical infrastructure and lead to downed trees within the City of Calistoga.	**CL-02-2020, CL-07-2020**
WF-27	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**Calistoga**	The City of St. Calistoga has significant areas that are within the Wildland Urban Interface (WUI)	**CL-03-2013, CL-05-2013, CL-06-2013, NC-02-2020, NC-03-2020**
WF-32	Wildfire	Victim	PE&A - Public Education & Awareness , PPRO - Property Protection , ES - Emergency Services	**Calistoga**	There are approx. 306 people living in a Very High Wildfire Intensity Zone within the City of St. Calistoga.	**CL-05-2013, NC-02-2020, NC-03-2020**
WF-33	Wildfire	Impact	PRV - Prevention , PPRO - Property Protection , SP - Structural Projects	**Calistoga**	Potential wildfire impacts to the City of Calistoga include smoke, power failures, and potential loss of life, property, and infrastructure.	**CL-05-2013, CL-14-2020**

Mitigation Action Support Tool (MAST)

As a living document, hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for participating jurisdictions. The Mitigation Action Support Tool (MAST) is accessible through www.mitigatehazards.com

MAST is a web based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based

tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.

2.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the City's planning committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The Calistoga Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 2-10 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

2.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.

2.5.1.1 National Flood Insurance Program (NFIP)

The City of Calistoga has participated in the NFIP since 1979. See Table 2-5 for more information on the City's policies and historic flood insurance claims. Calistoga is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Volume 1 for general information on the NFIP.

The City of Calistoga will maintain NFIP compliance by continuing to enforce Chapter 18.20 (Provisions for Flood Hazard Reduction) of the Calistoga Municipal Code. Chapter 18.20 includes standards for construction, utilities, subdivisions, manufactured homes, recreational vehicles and floodways.

Table 2-5: Calistoga NFIP Status Table

NFIP Status	**Participating since 9/28/1979**
Policies in Force	**82**
Policies in SFHA	**59**
Policies in non-SFHA	**23**
Total Claims Paid	**15**
Paid Losses	**$ 43,435**
Repetitive Loss Properties	**0**
Severe Repetitive Loss Properties	**0**
Repetitive Loss Payment by NFIP on Building	**N/A**
Repetitive Loss Payment by NFIP on Contents	**N/A**

See Volume 1, Section 9.2.1 for more information on the NFIP.

2.5.1.2 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 2-6: Calistoga Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Construction and Future Development Regulations				
Building Codes				2019 Cal. Code
BCEGS Rating				Unknown
Public Protection (ISO Class)				Class 5
Site Plan Review Requirements				Grading, Drainage, Landscaping (Ch. 16.16.40-60), Fire Protection (16.16.80), Resource preservation (16.16.110)
Zoning Ordinance				
Hazard-Specific Ordinance				Floodplain Mgmt (Ch. 18); Erosion & Sediment Control, 2015 Update; Stormwater (19.02)
Growth Management Ordinance				Municipal Code, Ch. 19.02
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				Revised CIP expected 2021
Erosion/Sediment Control Program				Plan updated 2015
Hazard-Related Public Outreach Program				See Education and Outreach Resource Capabilities
Stormwater Management Program (Annual Inspections)				Napa Countywide Stormwater Pollution Prevention Program
Seismic Safety Program (Building Safety)				Unreinforced masonry ordinance (Ch. 15.46), actively working to reinforce
Earthquake Modernization Plan (Non-structural)				

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Plans				
Community Wildfire Protection Plan (CWPP)				County-wide CWPP in development
General Plan				22012; Safety Element updated 2014 with HMP, will be updated 2020 with new HMP and new 2020 Infrastructure Element
Floodplain Management Plan				Napa River Flood Management Plan
Stormwater Management Plan				2015 revision
Emergency Operations Plan				Napa County EOP (2017) and Emergency Services Program
Climate Action Plan				2014
Drought Management Plan				Napa Valley Drought Contingency Plan (DCP). https://www.napawatersheds.org/dcp
Ground Water Management Planning / Plans				Napa County Groundwater Sustainability Agency Implements the local Groundwater Sustainability Plan
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				Meets minimum standards.
Flood Insurance Education and Technical Assist.				
Flood Hazard Mapping / Re-Mapping				
Community Rating System (CRS)				Class 7

2.5.1.3 Administrative and Technical Capabilities

Table 2-7: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Community Planning and Development Services:		
Planning & Building Director		Planning and Building
Civil Engineer		Public Works Department
Building Code Official		Planning and Building
Floodplain Administrator		
Fire Marshal		Fire Chief
Resiliency Planner		
Transportation Planner		
Warning Systems/ Services		
General		NIXLE Services are used
Flood		
Wildfire		2020, new Town siren system
Geological Hazards		
Other		
GIS Specialist and Capability		
Emergency Manager		City Manager
Full-Time Building Official		
Grant Manager, Writer, or Specialist		

2.5.1.4 Financial Capabilities

Table 2-8: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Voter Approved Special Purpose Tax		
Utilities Fees		
Benefit assessments		
System Development Fee		
General Obligation Bonds to Incur Debt		
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

2.5.1.5 Education and Outreach

Table 2-9: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		
Dedicated Social Media		
Hazard Info. Avail. at Library/ Planning Desk		Resources avail at planning desk
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		Calistoga Fire Safe Council
Resource Conservation Districts		Partner with Napa County Resource Conservation District
Other		

2.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. Calistoga has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.

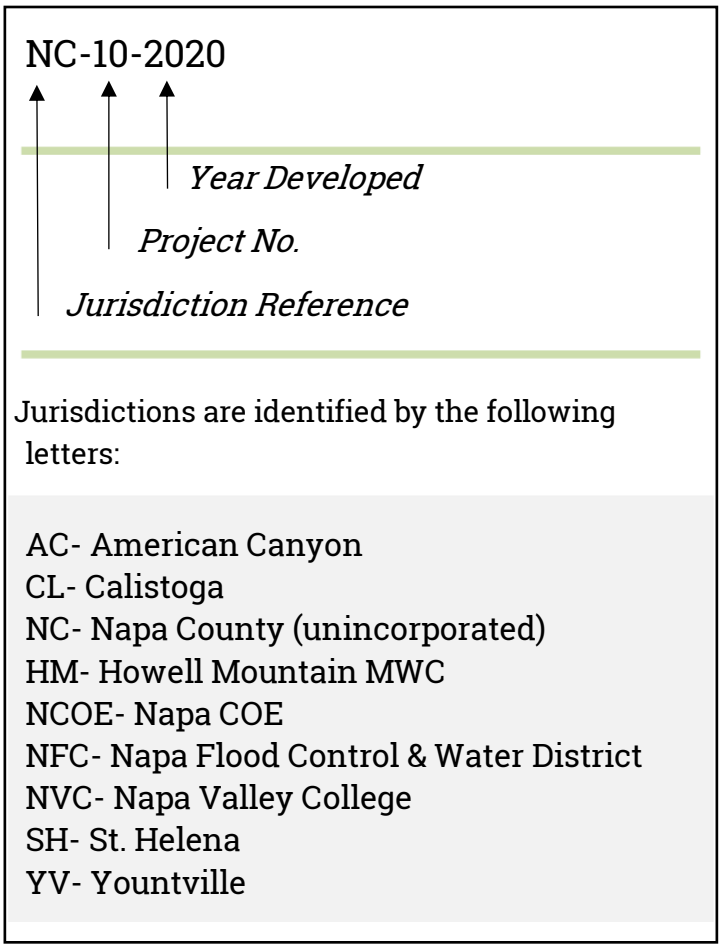


Table 2-10 lists each mitigation action for Calistoga. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 2-10 meets the regulatory requirements of FEMA and DMA 2000.

Table 2-10: City of Calistoga Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
CL-14-2020	All Hazard	ES - Emergency Services	2020	**Calistoga**	Perform due diligence on microgrids for emergency power. Continue to work with PG&E on implementing Planned Interconnection Hub (PIH) to provide emergency power to Tier 1 areas in town.	unknown	City of Calistoga	3-5 Years	unknown	unknown	General Fund/Grants	High	**WF-33**
CL-08-2020	Climate Change	PRV - Prevention	2020	**Calistoga**	Map and identify locations and implement fuel reduction projects in high risk areas in the City such as the areas west of Highway 128.	Mapping, Develop Fuel Reduction Strategy	City of Calistoga	Ongoing	unknown	unknown	Existing department budgets	High	**CC-13, CC-15**
CL-04-2020	Drought	PRV - Prevention	2020	**Calistoga**	During Drought conditions increase fuel reduction in parks and open space areas.	Develop City procedures	Public Works	Annually	unknown	unknown	General Fund/Grants	High	**DR-07**
CL-09-2020	Drought	SP - Structural Projects	2020	**Calistoga**	Augment City water supply systems with supply contingency projects for Drought years, such as increasing water supply and treatment capacity of Kimball Reservoir and Water Treatment Plant. Contingency planning/projects will include provisions for ag sector.	unknown	City of Calistoga	5-10 Years	unknown	unknown	Water Enterprise/General Fund/Impact Fees/Grants	High	**DR-08**
CL-12-2020	Earthquake	PPRO - Property Protection	2020	**Calistoga**	Retrofit critical facilities that are vulnerable to failure during extreme and violent shaking.	Identify facilities, needed retrofits, and funding sources	City of Calistoga	5-10 Years	unknown	unknown	General Fund/Grants	High	**EQ-11, EQ-12, EQ-26**
CL-13-2020	Earthquake	PE&A - Public Education & Awareness	2020	**Calistoga**	Develop a public outreach program for mitigation of earthquake risk for residents of Calistoga proper.	Preliminary Identified Tasks for Calistoga: Distribute information materials; Public Workshop (school, city, mobile home parks)	City of Calistoga	1-3 Years	unknown	unknown	unknown	High	**EQ-11, EQ-27**
CL-01-2013	Flood	PPRO - Property Protection	2020	**Calistoga**	Implement localized flood reduction projects or flood-proof 100 of the most flood-prone residential structures receiving direct protection from Measure "A" Flood Project in the City of Calistoga.	Preliminary Identified Tasks for Participating Jurisdictions with RL Properties: Identify repetitive loss properties & approach owners; Apply for funding; Identify flood-proofing techniques suitable; Identify flood prone structures not covered by Measure A	City of Calistoga	3-5 Years	$5,000,000.00	Unknown	City Capital Budget Grants; Federal Grants	High	**FL-08, FL-09, FL-12**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
CL-10-2013	Flood	PPRO - Property Protection	2020	**Calistoga**	Routinely inspect and maintain storm water inlets and outfalls for debris and obstructions, sand & gravel build-up, and structural damage or vandalism.	Preliminary Identified Tasks for City of Calistoga: Inspection Program: Already in Progress	City of Calistoga	Annually	$30,000.00	100,000	Local Jurisdictions Annual Budget, General Fund, Local Funding	High	**FL-33, FL-34**
CL-11-2020	Flood	SP - Structural Projects	2020	**Calistoga**	Develop a localized remap of the floodplain, flood projects, or flood-proofing for Critical Facilities within the City.	Identify exact geographical area and then engage professional services to develop strategies	City of Calistoga	3-5 Years	unknown	unknown	General Fund/Grants	High	**FL-08, FL-09, FL-12**
CL-02-2020	Severe Weather	PRV - Prevention	2020	**Calistoga**	Establish tree pruning / removal standards for above ground utilities lines within City limits. PG&E actively trimming around lines.	unknown	City of Calistoga	1-3 Years	unknown	unknown	Existing department budgets	High	**SW-06, SW-07**
CL-07-2020	Severe Weather	ES - Emergency Services	2020	**Calistoga**	Identify schools that have been designated as emergency shelters by the Red Cross within City Limits and ensure they have sufficient back up power generators. Identify City or School emergency shelters...ensure shelters are adequate and improved to current codes and not located in SFHA and have standby power and equipped to provide shelter to the public during emergencies.	unknown	City of Calistoga	1-3 Years	unknown	unknown	Grants	High	**SW-07**
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorporated**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**

JURISDICTIONAL ANNEX

Section 3. City of St. Helena

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

3.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

CITY OF ST. HELENA

RESOLUTION NO. 2020-54

A RESOLUTION FOR THE CITY OF ST. HELENA TO ADOPT THE 2020 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR NAPA COUNTY AS ITS OFFICIAL PLAN

RECITALS

A. The City of St. Helena is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

B. The City of St. Helena recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

C. The City of St. Helena, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

D. The City of St. Helena Annex in Vol 2. of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

E. City of St. Helena has reviewed the MJHMP and affirms that the plan actions in the City of St. Helena's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

F. Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

G. The Disaster Mitigation Act made available mitigation grants to state and local governments; and

H. An adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

I. The City Council fully participated in the FEMA-prescribed mitigation planning process to prepare this MJHMP; and

J. The citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

K. The City of St. Helena, as a fully participating jurisdiction of the MJHMP, is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

L. The California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

M. The City of St. Helena desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

N. Adoption by the City Council for the City of St. Helena demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

O. Adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. The City of St. Helena adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Vol. 1 for Napa County and the City of St. Helena Annex in Vol. 2, as approved by FEMA and Cal OES, as the mitigation plan for the City of St. Helena.

2. The City Council orders the City Manager to submit an approved and signed copy of this resolution to the Cal OES and FEMA Region IX officials to enable the plan's final approval.

Approved at a regular meeting of the St. Helena City Council on June 9, 2020 by the following vote:

Mayor Ellsworth:	Yes
Vice Mayor Dohring:	Yes
Council Member Chouteau:	Yes
Council Member Knudsen:	Yes
Council Member Koberstein:	Yes

APPROVED:

Geoff Ellsworth, Mayor

CITY OF ST. HELENA Incorporated March 24, 1876 Reincorporated May 14, 1992 STATE OF CALIFORNIA

ATTEST:

Cindy Tzafopoulos, City Clerk

3.2 Purpose

This Annex details the hazard mitigation planning elements specific to the City of St. Helena. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City. This Annex provides additional information specific to the City of St. Helena, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Mark Prestwich, City Manager
City of St. Helena
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St.Helena,CA94574
Telephone: 707-968-2744 x500
e-mail Address: MPrestwich@cityofsthelena.org

Alternate Point of Contact
Erica Ahmann Smithies, Public Works Director
City of St. Helena
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e-mail Address: esmithies@cityofsthelena.org

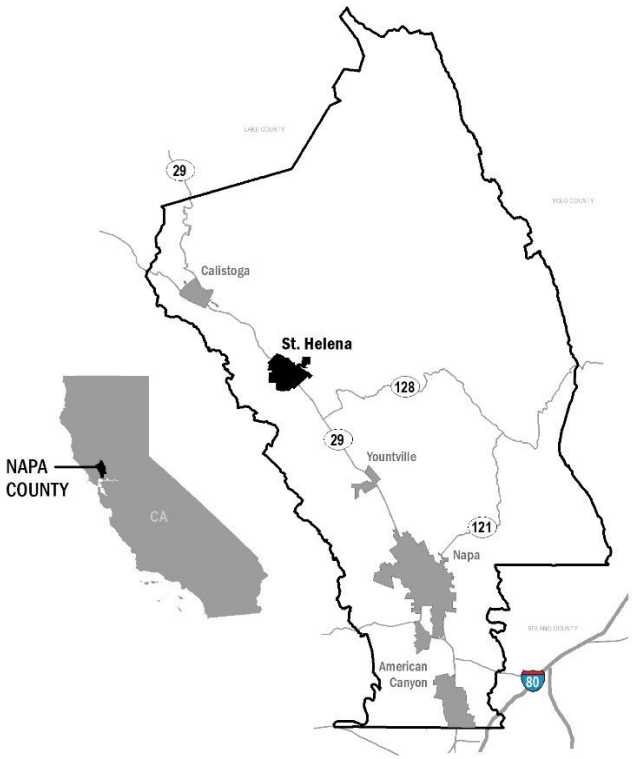


Figure 3-1: City of St. Helena Location

3.3 Planning Methodology

The City of St. Helena followed the planning process detailed in Vol. 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 3-1.

Table 3-1: St. Helena Planning Committee Members

Planning Committee Members	Department
Chris Hartley	Police Department
Erica Smithies	Public Works Department
Mark Prestwich	Administration
Maya DeRosa	Planning Department

3.3.1 What's New

The City of St. Helena has been making improvements toward reducing natural hazard risks to life and property within the City since the 2013 MJHMP was adopted. Mitigation actions develop from the 2013 MJHMP for the City have been edited, consolidated and developed to meet new priorities. See Vol. 1 for listing of historic mitigation actions. Listed below are success stories where the City of St. Helena successfully implemented mitigation actions that were defined in the 2013 MJHMP.

3.3.2 Mitigation Success Story

Hazard Mitigation Grant awarded for Emergency Back-up Power to four critical infrastructure facilities in St. Helena.

The purpose of this project will be to upgrade four existing City facilities with back-up power generation capabilities through the purchase and installation of four generators. With back-up power, the City Library will be able to fully function as a community shelter during power outages, a cooling station during extreme weather conditions, and a location for the community to receive disaster related information and support charging stations. Securing generators for the Stonebridge Wells, Madrone Knoll Pump Station, and City Flood Control Site will ensure continued water service and flood control during natural disasters and/or power outages.

3.4 Risk Assessment

The intent of this section is to profile the City of St. Helena's hazards and assess the City's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability

specific to the City of St. Helena is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

3.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 3-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The St. Helena Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect St. Helena. Table 3-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, St. Helena General Plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to St. Helena and which ones were not. Section 3.4.2 below describes the hazard risk ranking process that was performed by the St. Helena Planning Team which prioritized hazards that are specifically relevant to the City of St. Helena.

Table 3-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**

Hazard Type	Explanation
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 3-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	St. Helena General Plan	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■			■
Climate Change	■	■	■	■
Dam Failure	■	■	■	■
Drought	■	■	■	■
Earthquake	■	■	■	■
Flood	■	■	■	■
Landslide	■	■	■	■
Levee Failure	■		■	■
Manmade Hazards				■
Pandemic Disease				■
Sea Level Rise	■			■
Severe Weather	■			■
Terrorism & Tech Hazards		■		■
Tsunami			■	■
Volcano				■
Wildfire	■	■	■	■

3.4.2 Hazard Risk Ranking

The City of St. Helena's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 3-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess St. Helena's vulnerability to following hazards: drought, earthquake, dam failure, flood, and wildfire.** All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address St. Helena's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the City of St. Helena.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

City of Saint Helena Risk Matrix

IMPACT

PROBABILITY

	Minor	Limited	Critical	Catastrophic
Highly Likely	SEVERE WEATHER	DROUGHT	WILDFIRE	Extreme
Likely	Medium	FLOOD, EARTHQUAKE	High	Extreme
Possible	LANDSLIDE	CLIMATE CHANGE, DAM FAILURE	High	High
Unlikely	Low	Low	Medium	Medium

Figure 3-2 City of St. Helena Risk Assessment Matrix

3.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within the City of St. Helena are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

3.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP. The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the City of St. Helena. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

3.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display St. Helena's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the St. Helena Planning Team prioritized are displayed below in Figure 3-3 through Figure 3-8.

3.4.3.3 Past and Future Development

The City of St. Helena approves growth consistent with its General Plan, which serve as the blueprint for establishing long-range development policies. A GP provides a basis for private development proposals and public projects to remain consistent with existing city, regional and state policies. One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

While growth has occurred in hazard areas in the past, increasing hazard risks to come degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Problematic development generally occurred many decades ago, and thus much of this HMP focuses on retrofits or replacements from that older construction.

As a general law city, St. Helena is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes

provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire and other natural hazards. In addition to California minimum develop standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

As the General Plan is updated and incorporates information from this HMP, City of St. Helena staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP[2] will inform those responsible for future development to make better decisions where and how future development occurs.

St. Helena reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan. See Section 3.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

St. Helena has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004, and there are no plans of future development via annexation. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the city. (Napa Operational Area Hazard Mitigation Plan, 2013)

[2] Risk Assessment Mapping Platform (RAMP) as part of this plan process will be maintained by the County for the next 5 years to inform and improve participating jurisdictions knowledge of local hazards.

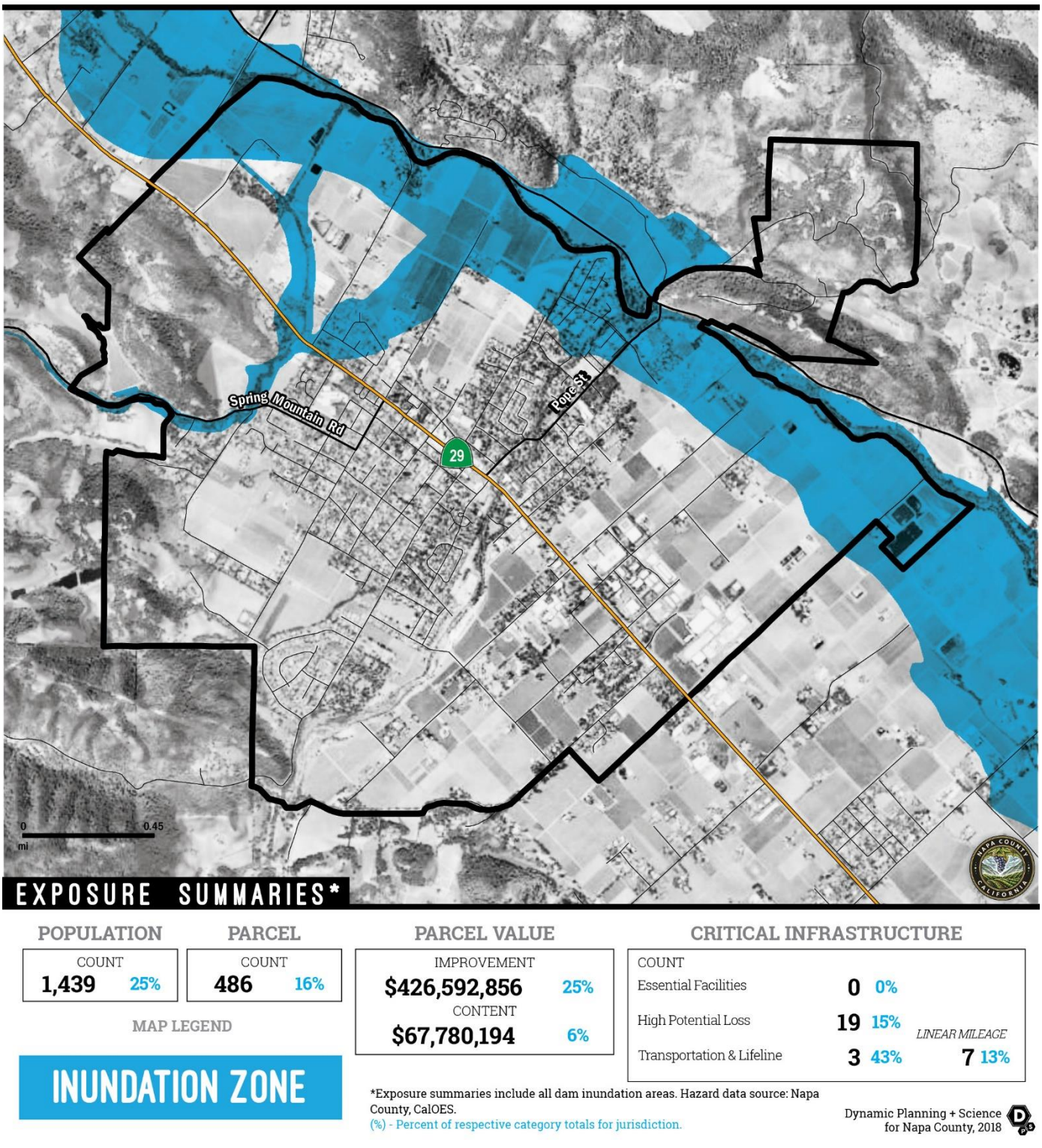
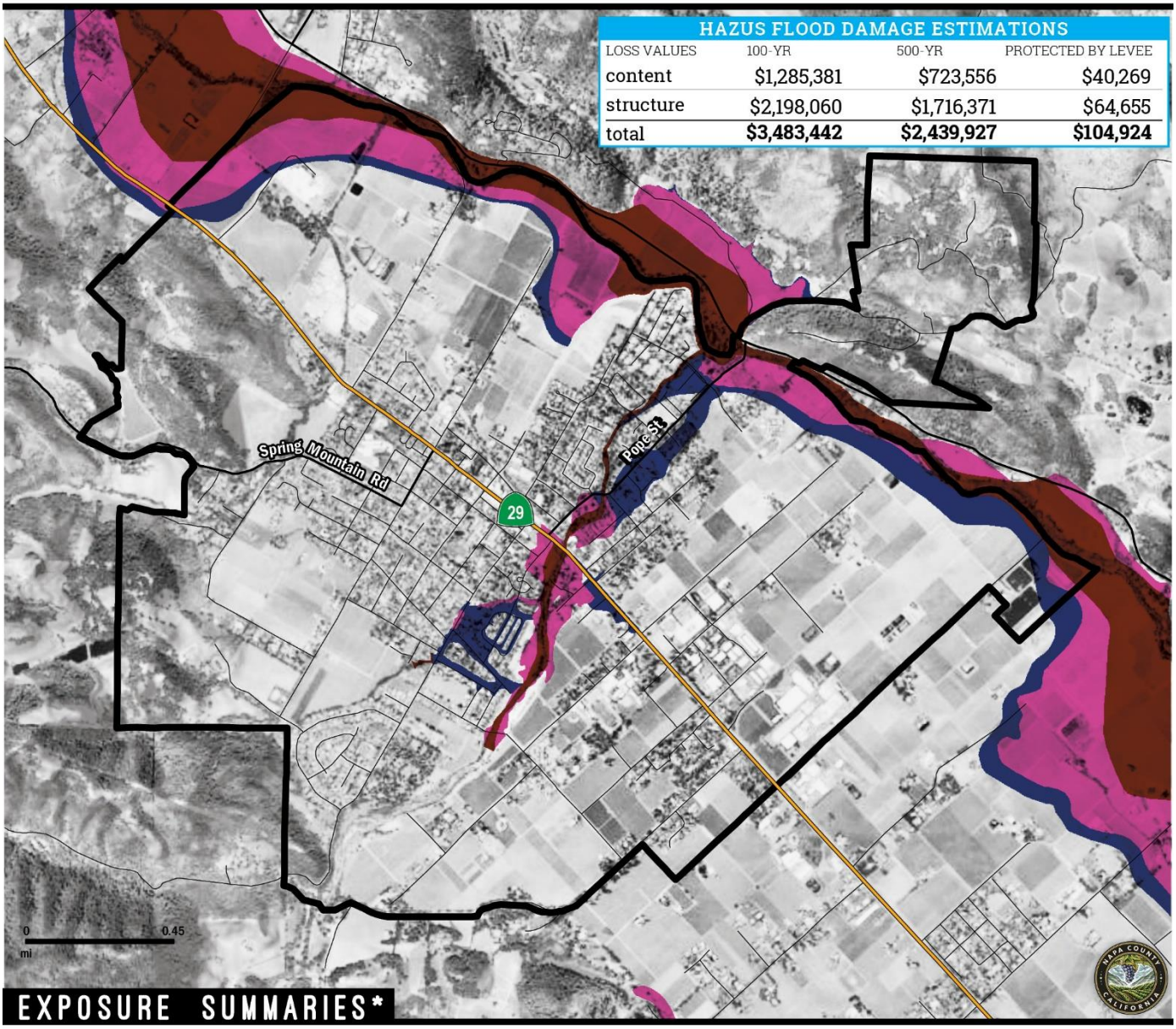


Figure 3-3 Dam Failure Exposure Summary

FEMA FLOOD ZONE EXPOSURE — ST. HELENA



EXPOSURE SUMMARIES*

POPULATION
COUNT 761 13%

PARCEL
COUNT 289 10%

PARCEL VALUE
IMPROVEMENT $387,868,317 23%
CONTENT $54,001,626 5%

CRITICAL INFRASTRUCTURE

COUNT		LINEAR MILEAGE
Essential Facilities	0 0%	
High Potential Loss	15 12%	
Transportation & Lifeline	4 57%	6 12%

MAP LEGEND
100-YR
100-YR FLOODWAY
500-YR

*Exposure summaries include 100-year and 500-year flood zone areas. Hazard data source: FEMA.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science for Napa County, 2018

Figure 3-4 Flood Exposure Summary

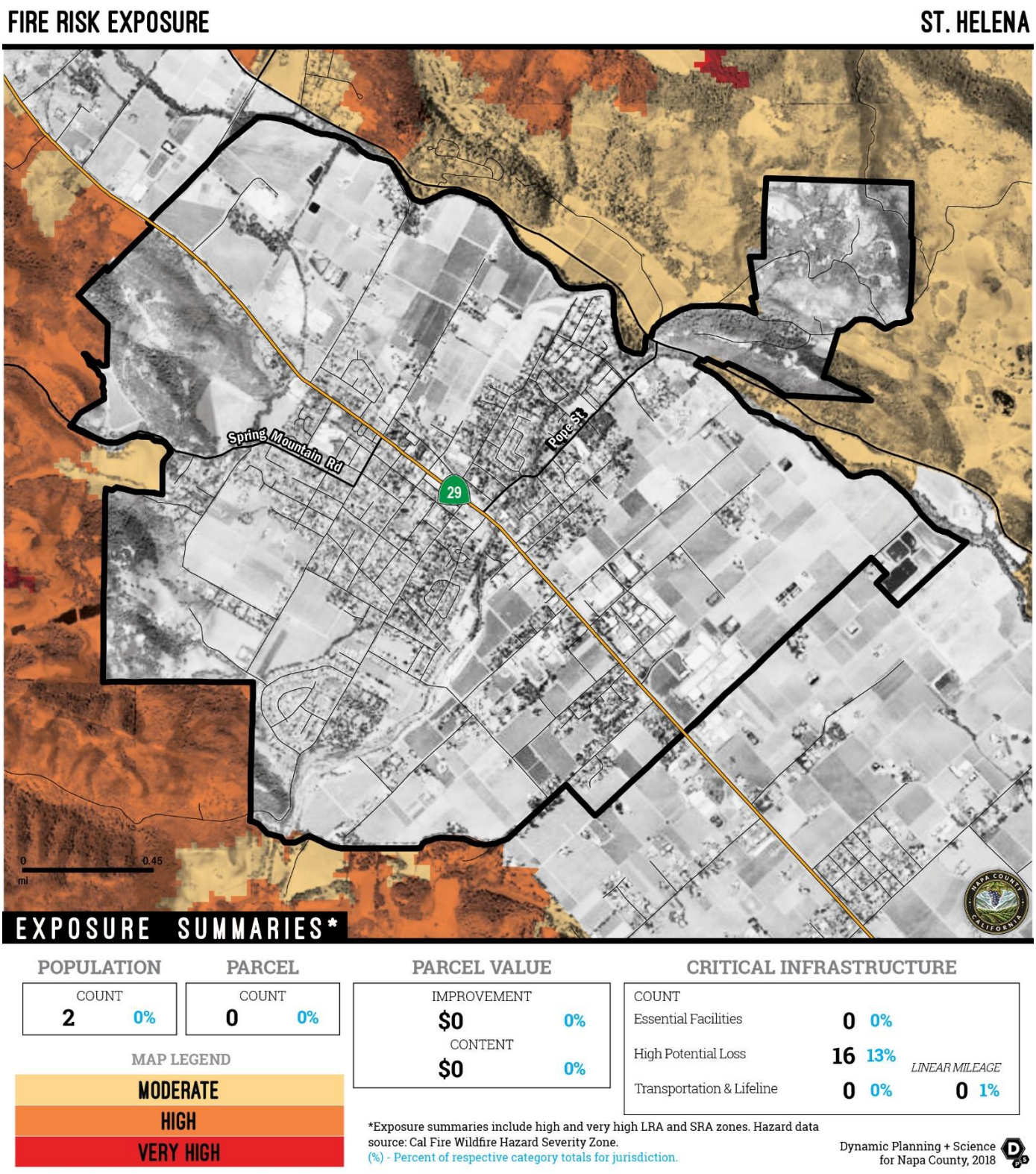
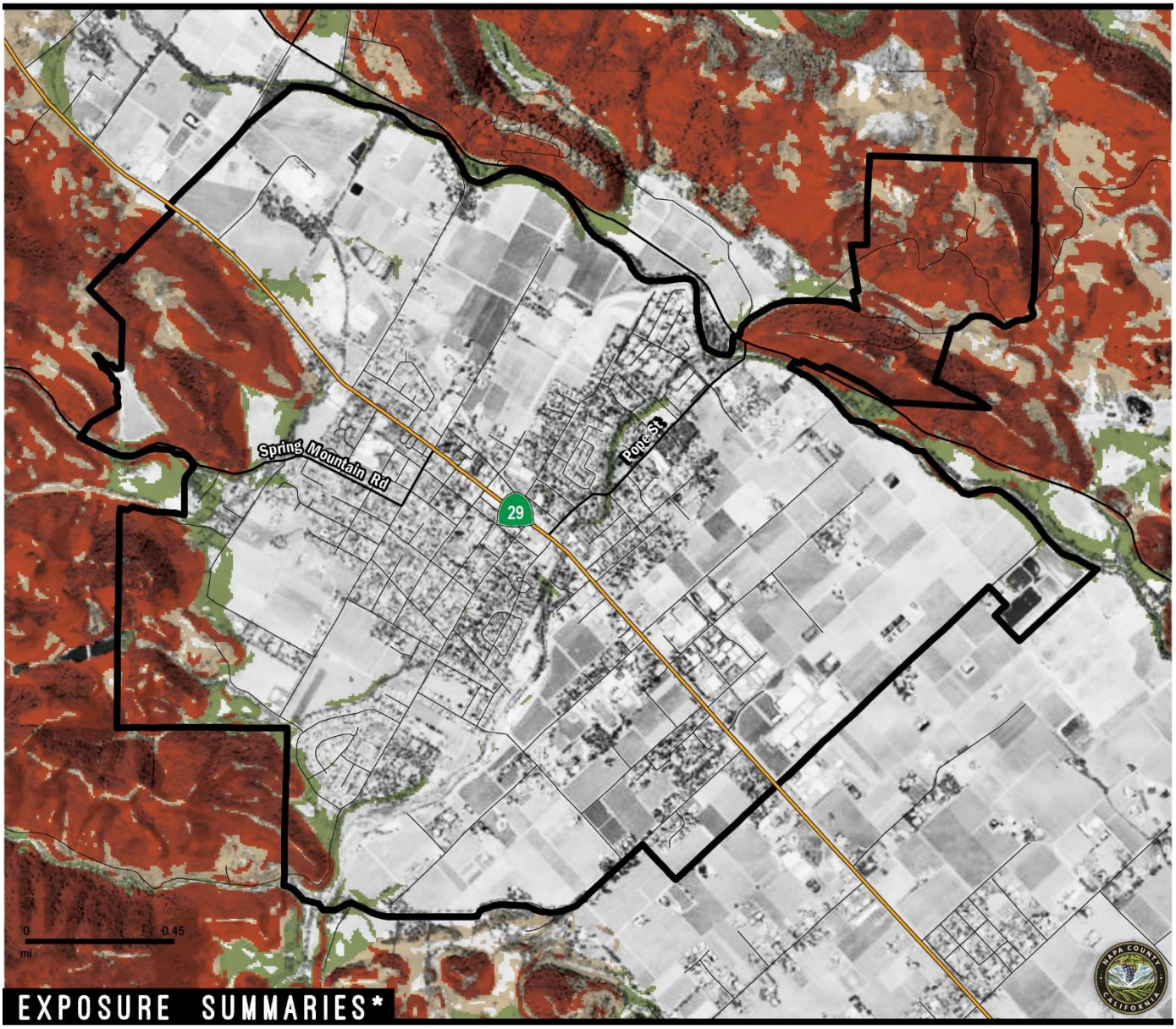


Figure 3-5 Wildfire Exposure Summary

HIGH LANDSLIDE RISK EXPOSURE

ST. HELENA



EXPOSURE SUMMARIES*

POPULATION

COUNT	
624	11%

PARCEL

COUNT	
61	2%

PARCEL VALUE

IMPROVEMENT	
$107,708,097	6%
CONTENT	
$103,813,366	10%

CRITICAL INFRASTRUCTURE

COUNT			LINEAR MILEAGE	
Essential Facilities	0	0%		
High Potential Loss	11	9%		
Transportation & Lifeline	0	0%	3	6%

MAP LEGEND

LOW
MODERATE
HIGH

*Exposure summaries include high susceptibility only. Hazard data source: California Geological Survey.
(%) - Percent of respective category totals for jurisdiction.

Dynamic Planning + Science for Napa County, 2018

Figure 3-6 Landslide Exposure Summary

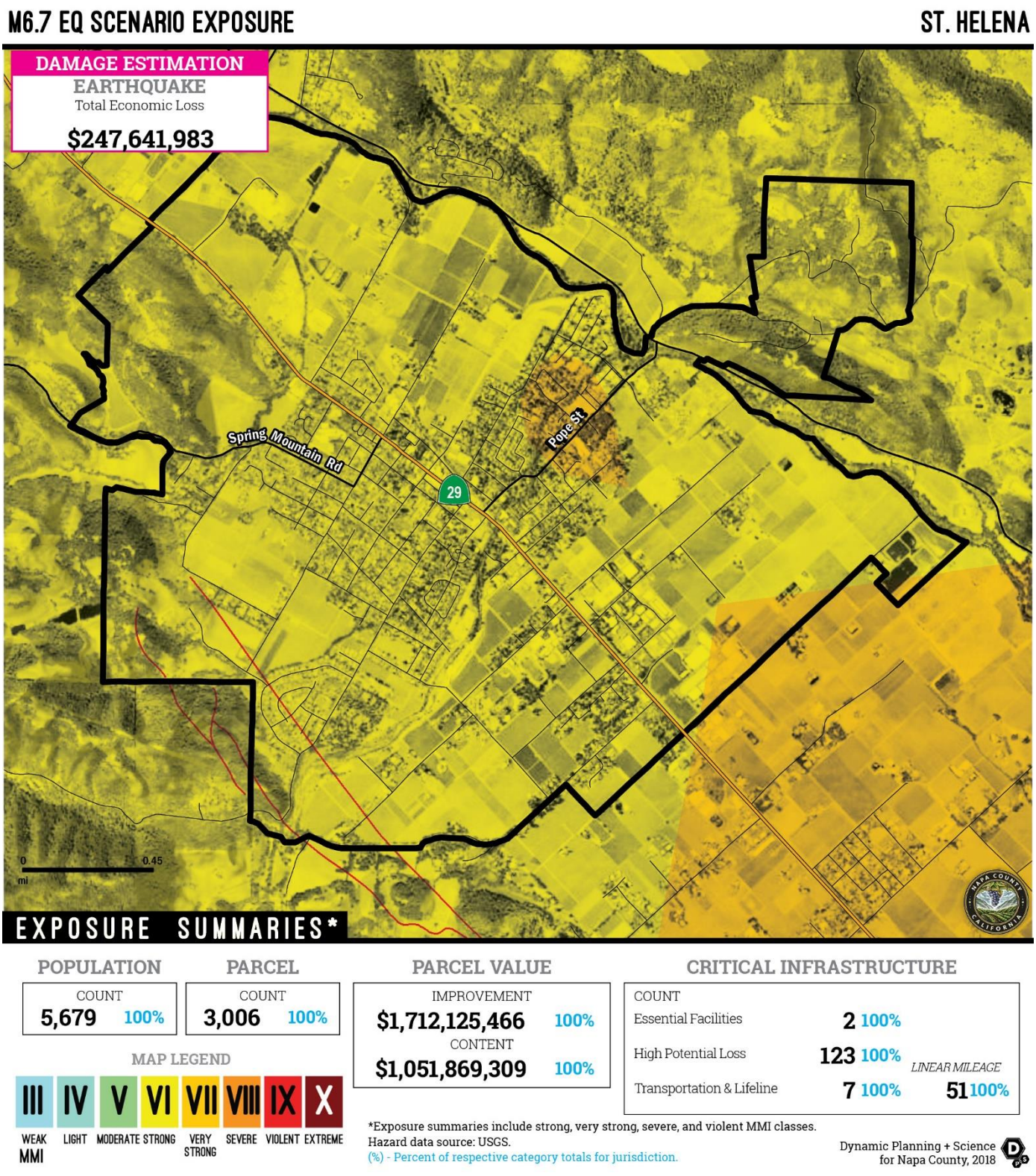


Figure 3-7 West Napa 6.7 Scenario Exposure Summary

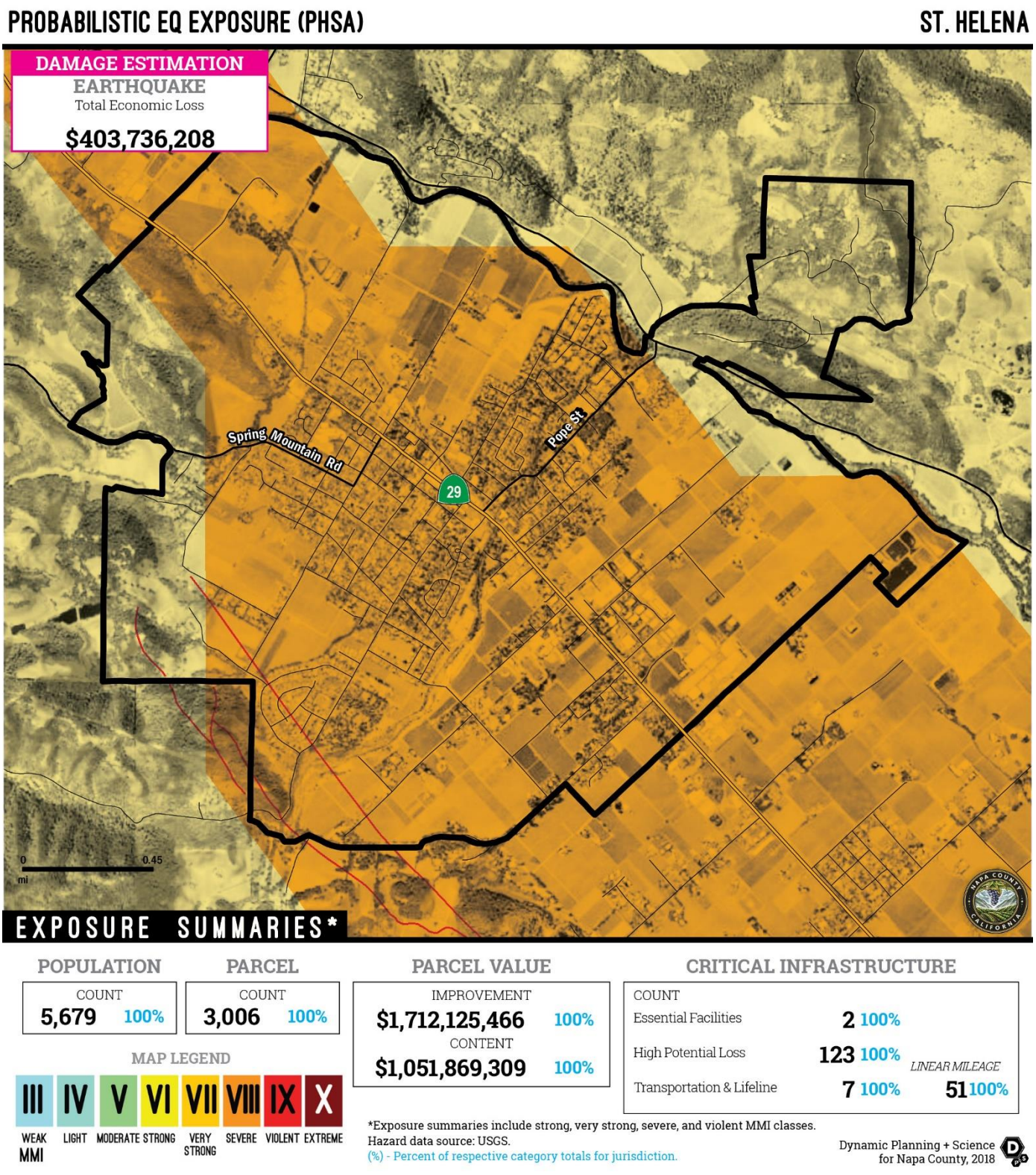


Figure 3-8 50-Yr. Probabilistic Scenario Exposure Summary

3.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the St. Helena Planning Committee are listed in Table 3-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 3-10 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 3-4 and Table 3-10

Table 3-4 St. Helena Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
DF-14	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public Education & Awareness	**St. Helena**	There are 1400 people living within a Dam Inundation Zone in the City of St. Helena	**NC-30-2020, NC-35-2020**
DR-09	Drought	Impact	PE&A - Public Education & Awareness	**St. Helena**	Lack of information for residents on water rationing.	**SH-15-2020**
DR-10	Drought	Impact	PE&A - Public Education & Awareness	**St. Helena**	Increased fire danger due to dry conditions.	**SH-16-2020**
EQ-13	Earthquake	Victim	PPRO - Property Protection , ES - Emergency Services & PE&A - Public Education & Awareness	**St. Helena**	Approx. 5,000 people live in an area with server earthquake probability within the City of St. Helena.	**SH-14-2020**
EQ-32	Earthquake	Impact	PPRO - Property Protection , ES - Emergency Services	**St. Helena**	Damaged / Destroyed structures. Displaced residents needing shelter, food and water. Businesses unable to open; economic impact to business and employees. Tourism impacted.	**SH-14-2020**
EQ-33	Earthquake	Impact	ES - Emergency Services	**St. Helena**	Traffic congestion: Civilians leaving area create traffic jams on all roads. Local bridge failure.	**SH-06-2020**
EQ-34	Earthquake	Impact	PE&A - Public Education & Awareness	**St. Helena**	Looting: Evacuated areas subject to looting.	**SH-06-2020**
EQ-35	Earthquake	Impact	ES - Emergency Services	**St. Helena**	Public safety and city staff; Work long hours, strain on family. Homes may be threatened or destroyed.	**SH-12-2020**
EQ-37	Earthquake	Impact	PPRO - Property Protection , ES - Emergency Services	**St. Helena**	Power outages caused by earthquake.	**SH-07-2020**
EQ-38	Earthquake	Impact	PE&A - Public Education & Awareness	**St. Helena**	Seniors in Vineyard Valley and Silverado Orchards.	**SH-14-2020**
EQ-39	Earthquake	Impact	PE&A - Public Education & Awareness	**St. Helena**	Lack of Civilian Preparedness; 3-5 day supplies on hand.	**SH-14-2020**
FL-15	Flood	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public	**St. Helena**	There are approx. 500 people living within the 100 Year Floodplain in the City of St. Helena	**NC-31-2020, SH-04-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
			Education & Awareness			
FL-16	Flood	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public Education & Awareness	**St. Helena**	There are approx. 200 people living within the 500 Year Floodplain in the City of St. Helena	**NC-31-2020**
FL-25	Flood	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	St. Helena has one RL property that has two loss claims for a total paid claims amount of $121, 129.32 located at 222 Pope Street.	**SH-01-2020, SH-04-2020**
FL-42	Flood	Impact	PE&A - Public Education & Awareness , PPRO - Property Protection	**St. Helena**	Damaged / Destroyed structures and vineyards: Displaced residents needing shelter, food and water. Businesses unable to open; economic impact to business and employees. Tourism impacted.	**SH-01-2020**
FL-43	Flood	Impact	PE&A - Public Education & Awareness	**St. Helena**	Traffic congestion: Civilians leaving area create traffic jams on all roads	**SH-06-2020**
FL-44	Flood	Impact	PE&A - Public Education & Awareness	**St. Helena**	Looting: Evacuated areas subject to looting	**SH-06-2020**
FL-45	Flood	Impact	PE&A - Public Education & Awareness	**St. Helena**	Public safety and city staff; Work long hours, strain on family. Homes may be threatened.	**SH-12-2020**
FL-46	Flood	Impact	PRV - Prevention	**St. Helena**	Pratt and Pope Street bridges in St. Helena damaged or water flow blocked by debris.	**SH-13-2020**
FL-47	Flood	Impact	PE&A - Public Education & Awareness	**St. Helena**	Evacuation and shelter of impacted people.	**SH-06-2020**
WF-35	Wildfire	Impact	PE&A - Public Education & Awareness , PPRO - Property Protection	**St. Helena**	Smoke: Thick possibly toxic smoke causing breathing and health issues. Hospitals and medical facilities stressed.	**SH-02-2020**
WF-36	Wildfire	Impact	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Damaged / Destroyed structures and vineyards: Displaced residents needing shelter, food and water. Businesses unable to open; economic impact to business and employees. Tourism impacted.	**SH-03-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
WF-37	Wildfire	Impact	PE&A - Public Education & Awareness	**St. Helena**	Traffic congestion: Civilians leaving area create traffic jams on all roads.	**SH-05-2020**
WF-38	Wildfire	Impact	PE&A - Public Education & Awareness	**St. Helena**	Looting: Evacuated areas subject to looting.	**SH-06-2020**
WF-39	Wildfire	Impact	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Public safety and city staff; Work long hours, strain on family. Homes may be threatened.	**SH-06-2020**
WF-40	Wildfire	Impact	SP - Structural Projects , PRV - Prevention	**St. Helena**	Power outages caused by wildfire.	**SH-07-2020**
WF-41	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Possible loss of home and health issues from wildfire for City residents.	**SH-02-2020, SH-03-2020, SH-08-2020**
WF-42	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Tourists would need to evacuate the area in event of a wildfire.	**SH-02-2020, SH-06-2020**
WF-43	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Businesses; Destroyed/damaged property, loss of income.	**SH-03-2020, SH-05-2020**
WF-44	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Schools and students: Closure impacting education. Possible school destroyed. Relocation possible.	**SH-09-2020**
WF-45	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Seniors in Silverado Orchards and Vineyard Valley	**SH-08-2020**
WF-46	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	The City of St. Helena has significant areas that are within the Wildland Urban Interface (WUI)	**SH-03-2020, SH-05-2020**
WF-47	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Arsonists causing wildfire.	**NC-08-2013, SH-11-2020**
WF-48	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Human factor: Controlled burns, Barbeques, etc. leading to greater wildfire.	**SH-10-2020**
WF-49	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**St. Helena**	Increased fuel due to wet winter.	**SH-10-2020**

Mitigation Action Support Tool (MAST)

As a living document, hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for participating jurisdictions. The Mitigation Action Support Tool (MAST) is accessible through www.mitigatehazards.com

MAST is a web based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.

3.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the City's Planning Committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The St. Helena Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 3-10 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

3.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.

3.5.1.1 National Flood Insurance Program (NFIP)

The City of St. Helena has participated in the NFIP since 1980. See Table 3-5 for more information on the City's policies and historic flood insurance claims. St. Helena is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California

Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Volume 1 for general information on the NFIP. The City of St. Helena will maintain NFIP compliance by continuing to enforce Chapter 15.52 (Flood Damage Prevention) of the St. Helena Municipal Code. Chapter 15.52 contains provisions for includes development standards for flood damage prevention.

Table 3-5: St. Helena NFIP Status Table

NFIP Status	Participating since 5/1/1980
Policies in Force	89
Policies in SFHA	38
Policies in non-SFHA	51
Total Claims Paid	50
Paid Losses	$ 1,733,691
Repetitive Loss Properties	5
Severe Repetitive Loss Properties	1
Repetitive Loss Payment by NFIP on Building	$ 115,475
Repetitive Loss Payment by NFIP on Contents	$ 5,653

See Volume 1, Section 9.2.1 for more information on the NFIP.

3.5.1.2 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 3-6: St. Helena Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Construction and Future Development Regulations				
Building Codes				Updated in 2019, referenced in 2020 HMP
BCEGS Rating				Class 2
Public Protection (ISO Class)				Class 3
Site Plan Review Requirements				
Zoning Ordinance				2020 Update Chpt. 17.04 of Municipal Code
Hazard-Specific Ordinance				Floodplain Ordinance Chpt. 15.52 of Municipal Code
Growth Management Ordinance				Chpt. 17.152 of Municipal Code
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				
Erosion/Sediment Control Program				
Hazard-Related Public Outreach Program				See Education and Outreach Resource Capabilities
Stormwater Management Program (Annual Inspections)				
Seismic Safety Program (Building Safety)				
Earthquake Modernization Plan (Non-structural)				

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Plans				
Community Wildfire Protection Plan (CWPP)				County-wide CWPP in development
Comprehensive, Master, or General Plan				Updated in 2019
Floodplain Management Plan				
Stormwater Management Plan				Up to date
Emergency Operations Plan				EOP Updated in 2020
Climate Action Plan				Slated to begin development of first CAP
Drought Management Plan				
Ground Water Management Planning / Plans				Napa County Groundwater Sustainability Agency Implements the local Groundwater Sustainability Plan
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				Meets minimum standards.
Flood Insurance Education and Technical Assist.				
Flood Hazard Mapping / Re-Mapping				
Community Rating System (CRS)				

3.5.1.3 Administrative and Technical Capabilities

Table 3-7: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Community Planning and Development Services:		
Community Planner		
Civil Engineer		
Building Code Official		
Floodplain Administrator		
Fire Marshal		
Resiliency Planner		
Transportation Planner		
Warning Systems/ Services		
General		Nixle
Flood		
Wildfire		Nixle plus siren system
Geological Hazards		
Other		
GIS Specialist and Capability		Not in house, have conducted a lot of GIS work as City.
Emergency Manager		Coordinate with Napa County EOC, Police Chief acts as Em Manager
Full-Time Building Official		
Grant Manager, Writer, or Specialist		

3.5.1.4 Financial Capabilities

Table 3-8: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Voter Approved Special Purpose Tax		County special for flood district
Utilities Fees		
Benefit assessments		
System Development Fee		
General Obligation Bonds to Incur Debt		
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

3.5.1.5 Education and Outreach

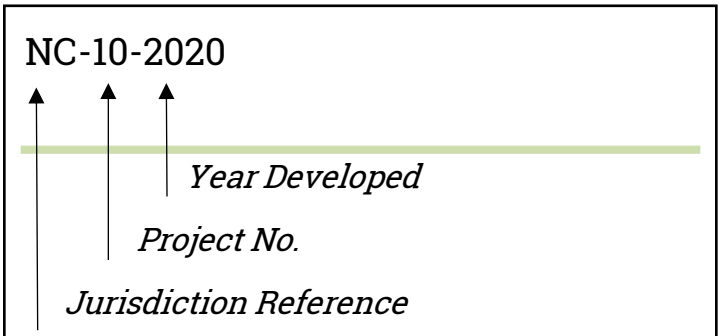
Table 3-9: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		
Dedicated Social Media		
Hazard Info. Avail. at Library/ Planning Desk		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		
Resource Conservation Districts		
Other		

3.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. St. Helena has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.



Jurisdictions are identified by the following letters:

AC- American Canyon
CL- Calistoga
NC- Napa County (unincorporated)
HM- Howell Mountain MWC
NCOE- Napa COE
NFC- Napa Flood Control & Water District
NVC- Napa Valley College
SH- St. Helena
YV- Yountville

Table 3-10 lists each mitigation action for St. Helena. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 3-10 meets the regulatory requirements of FEMA and DMA 2000

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Table 3-10 St. Helena Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
SH-06-2020	All Hazard	PE&A - Public Education & Awareness	2020	**St. Helena**	Inform residents and tourists of shelter locations and evacuation routes and procedures for storing or taking valued items before large scale evacuations.	Inform residents and tourists of shelter locations and evacuation routes and procedures for storing or taking valued items before large scale evacuations.	St. Helena Police Dept.	Ongoing	Unknown	Unknown	Unknown	High	**WF-38, WF-39, WF-42, FL-47, FL-44, FL-43, EQ-34, EQ-33**
SH-07-2020	All Hazard	SP - Structural Projects	2020	**St. Helena**	Develop microgrids to provide emergency power during natural disasters.	Develop microgrids to provide emergency power during natural disasters.	St. Helena Public Works Dept.	3-5 Years	Unknown	Unknown	Bonds, grants, fee increases	Medium	**WF-40, EQ-37**
SH-12-2020	All Hazard	PE&A - Public Education & Awareness	2020	**St. Helena**	Provide hazard mitigation information (e.g. ways to reduce risk) to first responders living within hazard-prone areas.	Provide hazard mitigation information (e.g. ways to reduce risk) to first responders living within hazard-prone areas.	St. Helena	Ongoing	Unknown	Unknown	Exisiting budget, grants	Medium	**FL-45, EQ-35**
SH-15-2020	Drought	NRP - Natural Resource Protection	2020	**St. Helena**	Develop landscape planting procedures and planting plans for residents and business wishing to reduce water usage through landscape design.	Develop landscape planting procedures and planting plans for residents and businesses wishing to reduce water usage through landscape design.	City of St. Helena	Ongoing	Unknown	Unknown	Existing budget, grants	High	**DR-09**
SH-16-2020	Drought	PRV - Prevention	2020	**St. Helena**	During drought conditions increase fuel reduction in parks and open space areas.	During drought conditions increase fuel reduction in parks and open space areas.	St. Helena Fire Department	Ongoing	Unknown	Unknown	Existing budget, grants	High	**DR-10**
SH-14-2020	Earthquake	PE&A - Public Education & Awareness	2020	**St. Helena**	Develop resource kits for mitigation of earthquake risk for residents of St. Helena proper. This includes targeted outreach and project development for adult care providers, private schools and other gathering facilities.	Develop resource kits for mitigation of earthquake risk for residents of St. Helena proper. This includes targeted outreach and project development for adult care providers, private schools and other gathering facilities.	Planning Department	1-3 Years	Unknown	Unknown	Existing budget, grants	High	**EQ-32, EQ-38, EQ-39, EQ-13**
SH-01-2020	Flood	PPRO - Property Protection	2020	**St. Helena**	Provide flood protection resources to residents on the Napa River to reduce flood losses. Resources could include technical, education and grant application assistance for floodproofing properties.	Provide flood protection resources to residents on the Napa River to reduce flood losses. Resources could include technical, education and grant application assistance for floodproofing properties.	St. Helena	Ongoing	Unknown	Unknown	Existing budget, grants	High	**FL-25, FL-42**
SH-04-2020	Flood	PPRO - Property Protection	2020	**St. Helena**	Provide flood mitigation resources (e.g. ways to reduce flood risk) to residents within the Vineyard Valley Mobile Home Park.	Provide flood mitigation resources (e.g. ways to reduce flood risk) to residents within the Vineyard Valley Mobile Home Park.	City of St. Helena	Ongoing	Unknown	Unknown	Existing budget, grants	High	**FL-15, FL-25**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
SH-13-2020	Flood	SP - Structural Projects	2020	**St. Helena**	Improve stormwater drainage system capacity and maintenance for Pratt and Pope Street bridges in St. Helena.	Structural stormwater management projects could include: 1. Using stream restoration to ensure adequate drainage and diversion of stormwater. 2. Regular maintenance that will help drainage systems and flood control structures continue to function properly. 3. Routinely cleaning debris from support bracing underneath low-lying bridges. 4. Regularly clearing sediment build-up on riverbanks near aerial lines. 5. Inspecting bridges and identifying if any repairs or retrofits are needed to prevent scour.	City of St. Helena	5-10 Years	Unknown	Unknown	Bonds, grants, fee increases	High	**FL-46**
SH-02-2020	Wildfire	PPRO - Property Protection	2020	**St. Helena**	Provide smoke/air quality mitigation measures for Critical Facility Air Intakes.	Provide smoke/air quality mitigation measures for Critical Facility Air Intakes.	St. Helena Public Works Dept.	1-3 Years	Unknown	Unknown	Bonds, grants, fee increases	Extreme	**WF-35, WF-41, WF-42**
SH-03-2020	Wildfire	PPRO - Property Protection	2020	**St. Helena**	Implement fuel reduction projects to reduce impacts to homes and businesses.	Based on 2019 survey results. This can include: 1. Creating buffers around residential and non-residential structures through the removal or reduction of flammable vegetation, including vertical clearance of tree branches. 2. Replacing flammable vegetation with less flammable species. 3. Creating defensible zones around power lines, oil and gas lines, and other infrastructure systems.	St. Helena Public Works Dept.	Ongoing	Unknown	Unknown	Existing budget, grants	Extreme	**WF-36, WF-41, WF-43, WF-46**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
SH-05-2020	Wildfire	SP - Structural Projects	2020	**St. Helena**	Retrofit At-Risk Structures with Ignition-Resistant Materials or Require or Encourage Fire-Resistant Construction Techniques.	Based upon 2019 survey results. This can include: 1. Installing roof coverings, sheathing, flashing, skylights, roof and attic vents, eaves, and gutters that conform to ignition-resistant construction standards. 2. Installing wall components that conform to ignition-resistant construction standards. 3. Protecting propane tanks or other external fuel sources. 4. Purchasing and installing external, structure-specific water hydration systems (sprinklers); dedicated power sources; and dedicated cisterns if no water source (e.g., lake, river, or swimming pool) is available.	St. Helena Public Works Dept.	Ongoing	Unknown	Unknown	Exisitng budgets, grants	Extreme	**WF-37, WF-43, WF-46**
SH-08-2020	Wildfire	PE&A - Public Education & Awareness	2020	**St. Helena**	Develop and or share outreach material on air quality mitigation measures for residents before wildfire season.	Develop and or share outreach material on air quality mitigation measures for residents before wildfire season.	St. Helena , Public Works Dept.	Annually	10,000	2,500	Existing budget, grants	Extreme	**WF-41, WF-45**
SH-09-2020	Wildfire	SP - Structural Projects	2020	**St. Helena**	Implement fuel reduction/building retrofit projects to limit combustibility to school facilities.	Implement fuel reduction/building retrofit projects to limit combustibility to school facilities.	St. Helena , Public Works and Building Dept.	Ongoing	Unknown	Unknown	Bonds, grants, fee increases	Extreme	**WF-44**
SH-10-2020	Wildfire	PE&A - Public Education & Awareness	2020	**St. Helena**	Develop Public awareness information for wildfire season related to flame/sparking equipment.	Develop Public awareness information for wildfire season related to flame/sparking equipment.	St. Helena Public Works Dept.	Ongoing	10,000	2,500	Existing budget, grants	Extreme	**WF-48, WF-49**
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorporated**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Uknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**

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JURISDICTIONAL ANNEX

Section 4. Town of Yountville

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

4.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

Town of Yountville Adoption Record

Town of Yountville

Resolution Number 20-3988

Adopt Resolution Approving the 2020 Multi-Jurisdictional Hazard Mitigation Plan for Napa County as its Official Plan

Recitals

A. **WHEREAS**, the Town of Yountville is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

B. **WHEREAS**, the Town of Yountville recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

C. **WHEREAS**, the Town of Yountville, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

D. **WHEREAS**, the Town of Yountville Annex in Volume 2 of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

E. **WHEREAS**, the Town of Yountville has reviewed the MJHMP and affirms that the plan actions in the Town of Yountville's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

F. **WHEREAS**, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

G. **WHEREAS**, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

H. **WHEREAS**, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

I. **WHEREAS**, the Town of Yountville fully participated in the FEMA-prescribed mitigation planning process to prepare this MJHMP; and

J. **WHEREAS**, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

K. **WHEREAS**, the Town of Yountville, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

L. **WHEREAS**, the California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

M. **WHEREAS**, the Town Council desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

Town of Yountville Adoption Record

N. **WHEREAS**, adoption by the Town Council for the Town of Yountville demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

O. **WHEREAS**, adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP;

Now therefore, the Town Council of the Town of Yountville does resolve as follows:

1. That the Town of Yountville adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Vol. 1 for Napa County and the Town of Yountville Annex in Vol. 2, as approved by FEMA and Cal OES, as the mitigation plan for the Town of Yountville.

2. That the Town Council orders the Town Manager to submit an approved and signed copy of this resolution to the Cal OES and FEMA Region IX officials to enable the plan's final approval.

3. The Resolution is hereby adopted and becomes effective and in full force immediately upon adoption.

PASSED AND ADOPTED at a regular meeting of the Town Council of the Town of Yountville, State of California, held on this 19th day of May, 2020 by the following vote:

AYES: Mohler, Dorman, Dorenbecher, Durham, Dunbar
NOES: None
ABSENT: None
ABSTAIN: None

DocuSigned by:
54[illegible]CA8E4D...
John F. Dunbar, Mayor

ATTEST:

DocuSigned by:
Michelle Dahme
A[illegible]
Michelle Dahme, CMC
Town Clerk

4.2 Purpose

This Annex details the hazard mitigation planning elements specific to the Town of Yountville. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Town. This Annex provides additional information specific to the Town of Yountville, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Steven Rogers, Town Manager
Town of Yountville
6550 Yount Street
Yountville, CA 94599
Telephone: 707-944-8851
e-mail Address: srogers@yville.com

Alternate Point of Contact
Joe Tagliaboschi, Public Works Director
Town Of Yountville
6550 Yount Street
Yountville, CA 94599
Telephone: 707-944-8851
e-mail Address: jtagliaboschi@yville.com

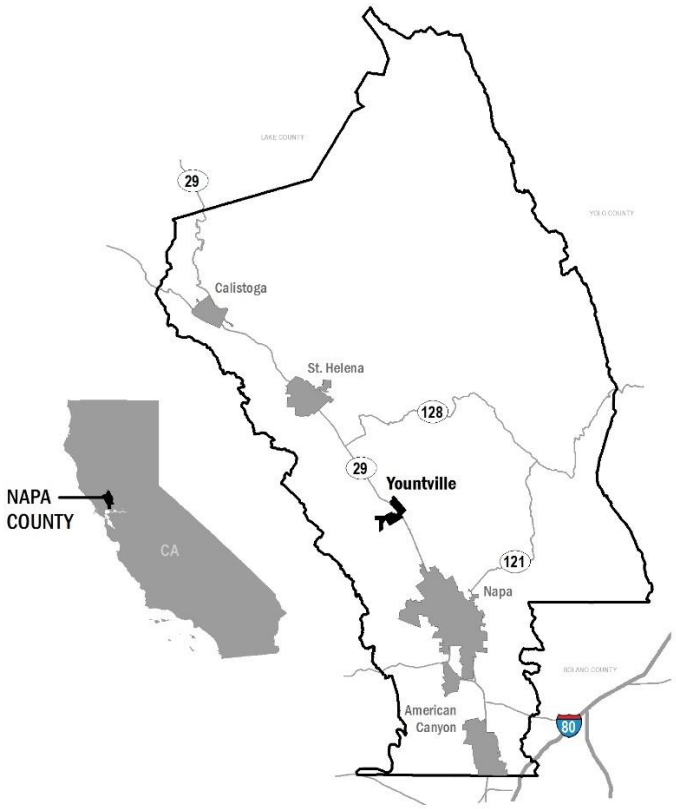

Figure 4-1: Town of Yountville Location

4.3 Planning Methodology

The Town of Yountville followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the Town formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 4-1

Table 4-1: Yountville Planning Committee Members

Planning Committee Members	Department
Eddy Gomez	Town Manager's Office
Erica Teagarden	Finance Department
Joe Tagliaboschi	Public Works Department
John Ferons	Public Works Department
Samantha Holland	Parks & Recreation Department
Sandra Liston	Planning and Building Department
Steven Rogers	Town Manger's Office

4.3.1 What's New

The Town of Yountville has been making improvements toward reducing natural hazard risks to life and property within the Town since the 2013 MJHMP was adopted. In the 2013 MJHMP, the Town of Yountville did not commit to any mitigation actions as a primary agency; instead, they committed to mitigation actions generally for all jurisdictions. See Volume 1, Section 2.3 for listing of historic mitigation actions.

The Town of Yountville has increased their capacity to mitigate hazard risks by identifying mitigation actions specific to the Town. All mitigation actions identified in this annex are new for 2020 as a result.

4.4 Risk Assessment

The intent of this section is to profile the Town of Yountville's hazards and assess the Town's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to the Town of Yountville is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

4.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 4-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The Town of Yountville Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect Yountville. Table 4-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, Yountville General Plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to Yountville and which ones were not. Section 4.4.2 below describes the hazard risk ranking process that was performed by the Yountville Planning Team which prioritized hazards that are specifically relevant to Yountville.

Table 4-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**

Hazard Type	Explanation
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 4-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	Yountville General Plan	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■			■
Climate Change	■	■	■	■
Dam Failure	■	■	■	■
Drought	■	■	■	■
Earthquake	■	■	■	■
Flood	■	■	■	■
Landslide	■	■	■	■
Levee Failure	■		■	■
Manmade Hazards				■
Pandemic Disease				■
Sea Level Rise	■	■		■
Severe Weather	■			■
Terrorism & Tech Hazards		■		■
Tsunami		■	■	■
Volcano				■
Wildfire	■	■	■	■

4.4.2 Hazard Risk Ranking

The Town of Yountville's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 4-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess Yountville's vulnerability to following hazards: climate change, drought, earthquake, flood, wildfire, and dam failure**. All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address Yountville's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the Town of Yountville.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Town of Yountville Risk Matrix

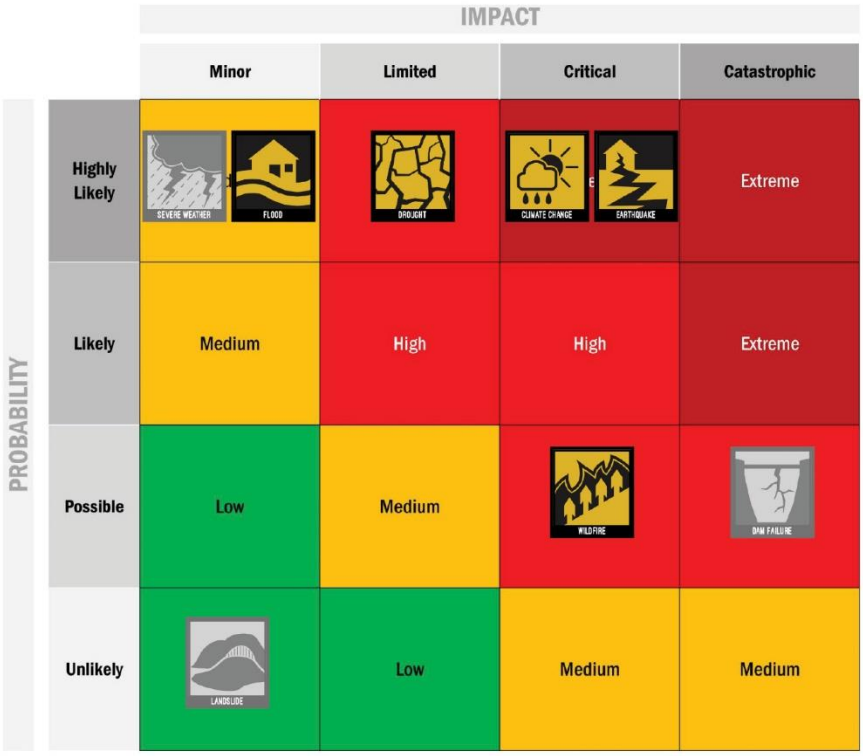

Figure 4-2 Yountville Risk Assessment Matrix

4.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within the Town of Yountville are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

4.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the Town of Yountville. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

4.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display Yountville's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the Yountville Planning Team prioritized are displayed below in Figure 4-3 through Figure 4-8.

4.4.3.3 Past and Future Development

The Town of Yountville approves growth consistent with its General Plan, which serve as the blueprint for establishing long-range development policies. A GP provides a basis for private development proposals and public projects to remain consistent with existing city, regional and state policies. One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

While growth has occurred in hazard areas in the past, increasing hazard risks to come degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Problematic development generally occurred many decades ago, and thus much of this HMP focuses on retrofits or replacements from that older construction.

As a general law municipality, Yountville is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire and other natural hazards. In addition to California minimum develop standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

As the General Plan is updated and incorporates information from this HMP, Yountville staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP[3] will inform those responsible for future development to make better decisions where and how future development occurs.

Yountville reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan. See Section 4.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

The Town of Yountville has experienced minimal development since the 2004 Napa County HMP. Annexation has not occurred since 2004, and there is no anticipated future development via annexation. Development that has occurred since the previously approved (2004) HMP has been primarily residential and has occurred in small areas throughout the Town. (Napa Operational Area Hazard Mitigation Plan, 2013)

[3] Risk Assessment Mapping Platform (RAMP) as part of this plan process will be maintained by the County for the next 5 years to inform and improve participating jurisdictions knowledge of local hazards.

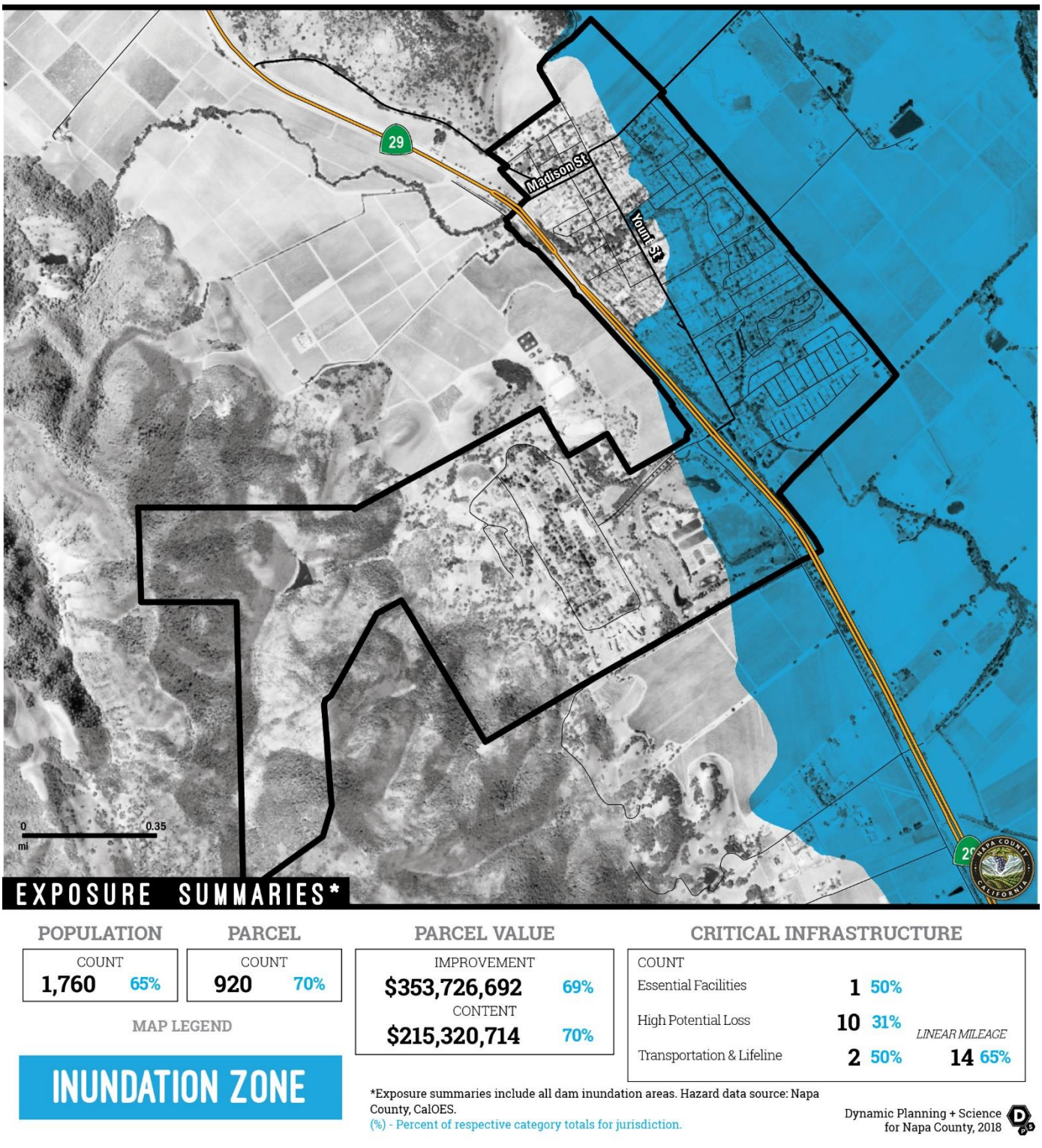

Figure 4-3 Dam Failure Exposure Summary

FEMA FLOOD ZONE EXPOSURE

YOUNTVILLE

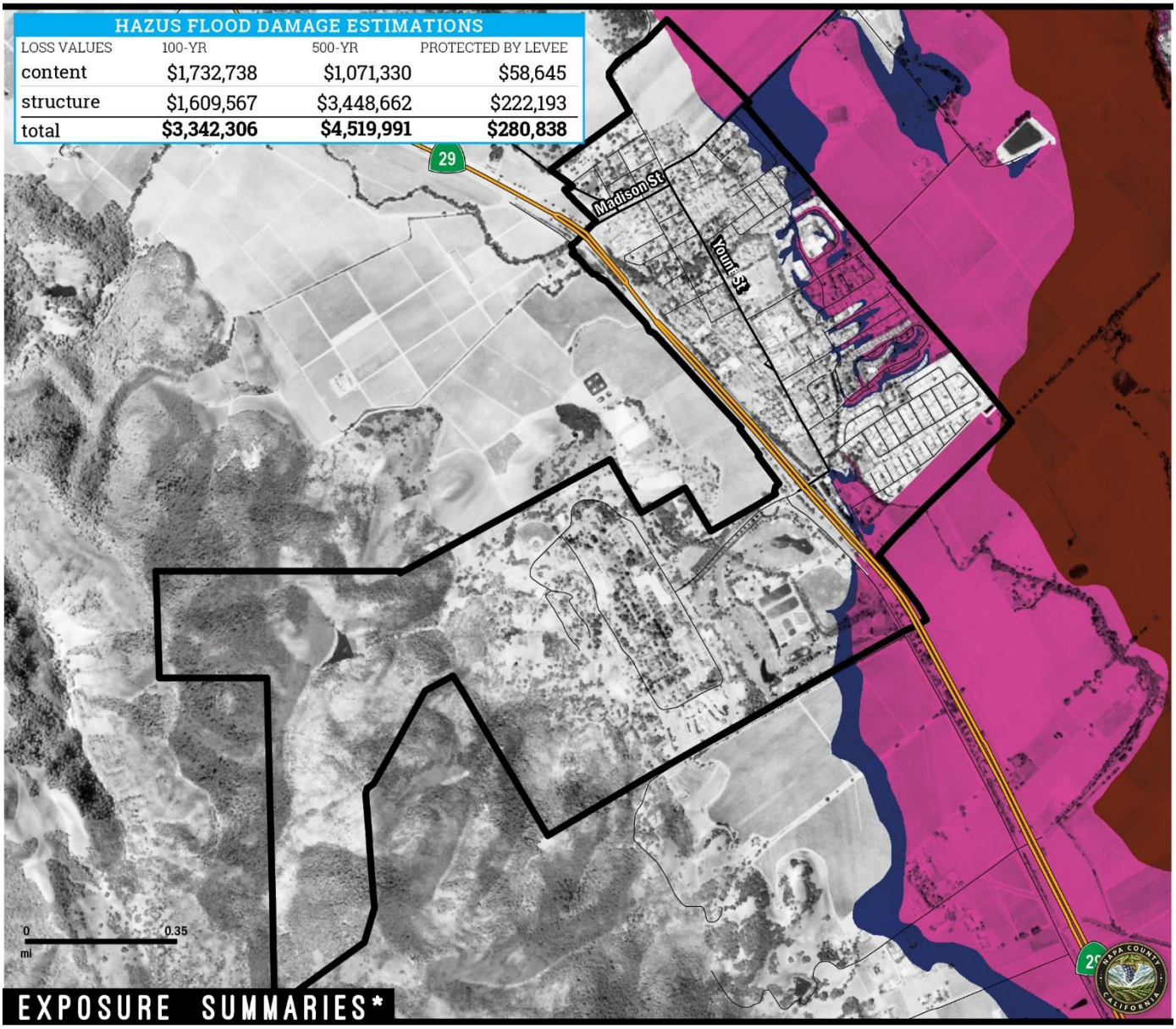

Figure 4-4 Flood Exposure Summary

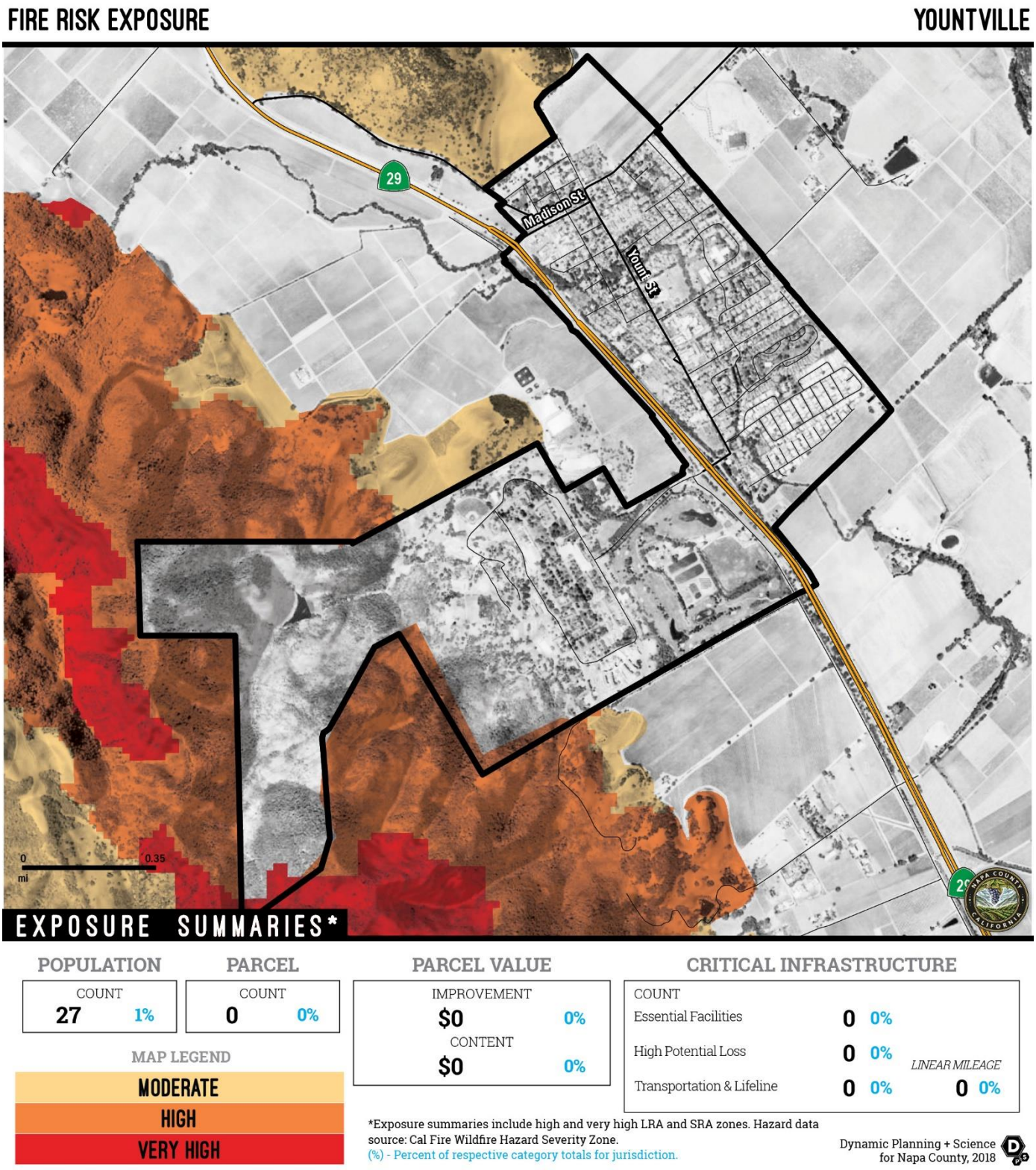

Figure 4-5 Wildfire Exposure Summary

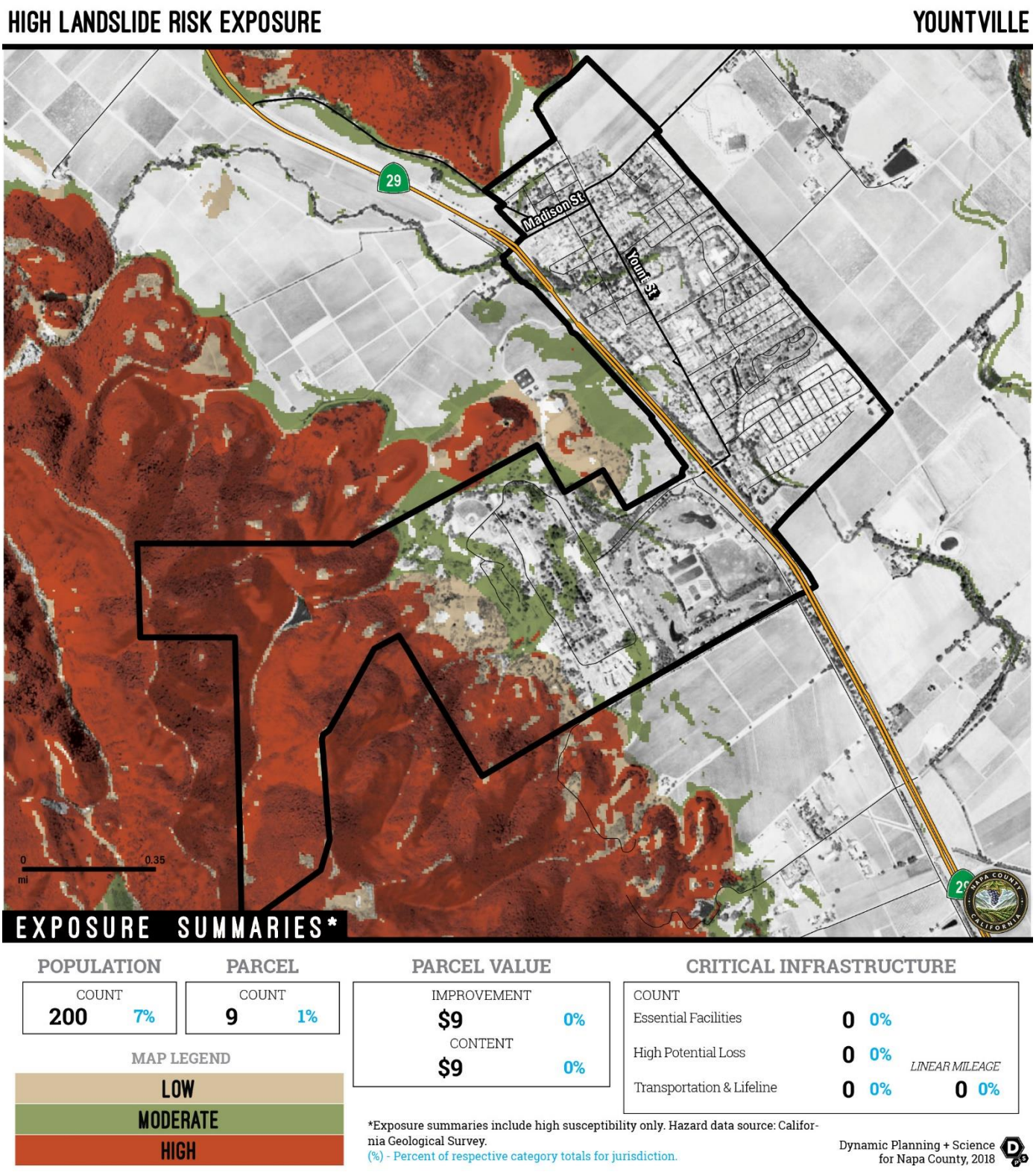

Figure 4-6 Landslide Exposure Summary

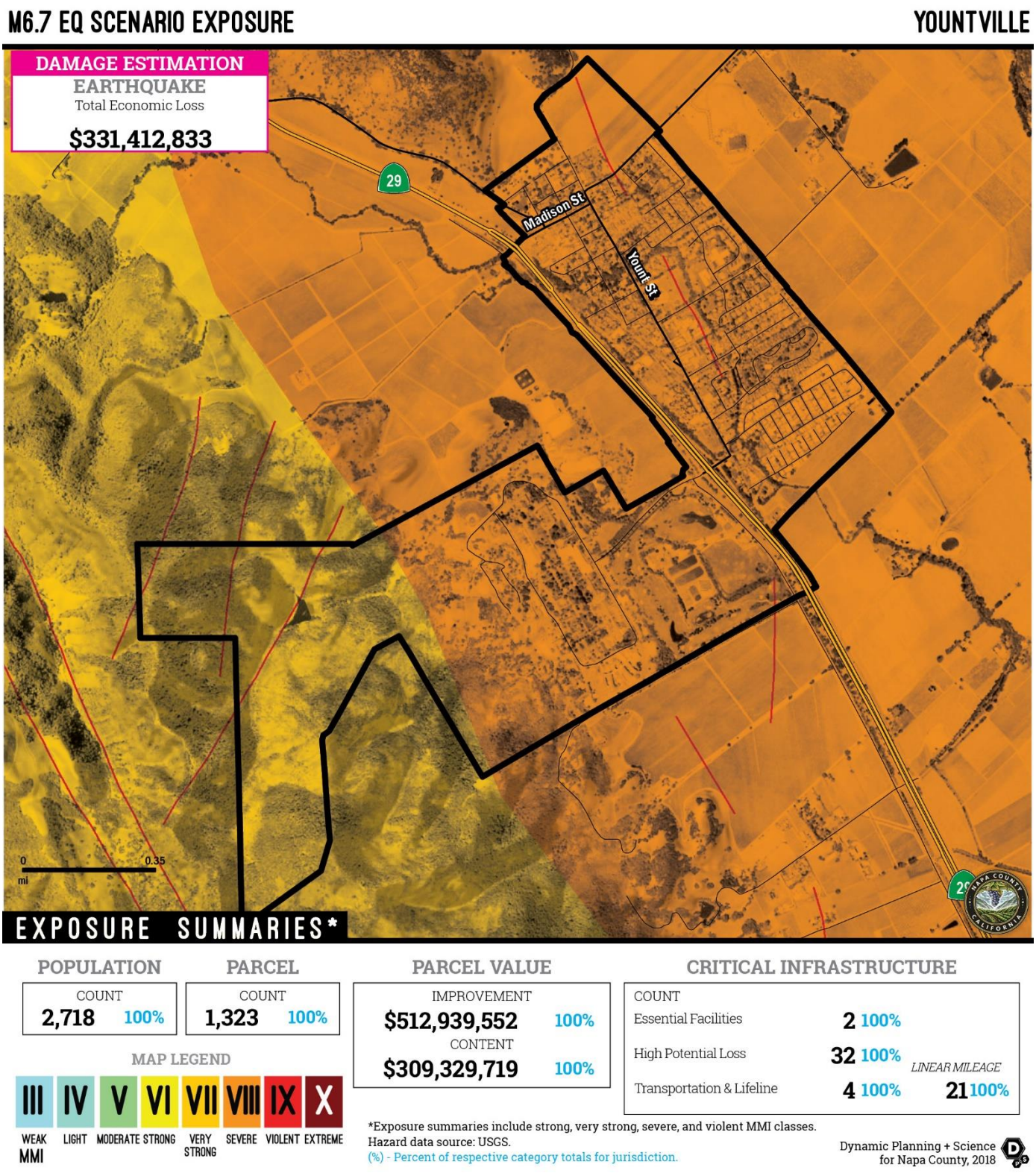

Figure 4-7 West Napa 6.7 Scenario Exposure Summary

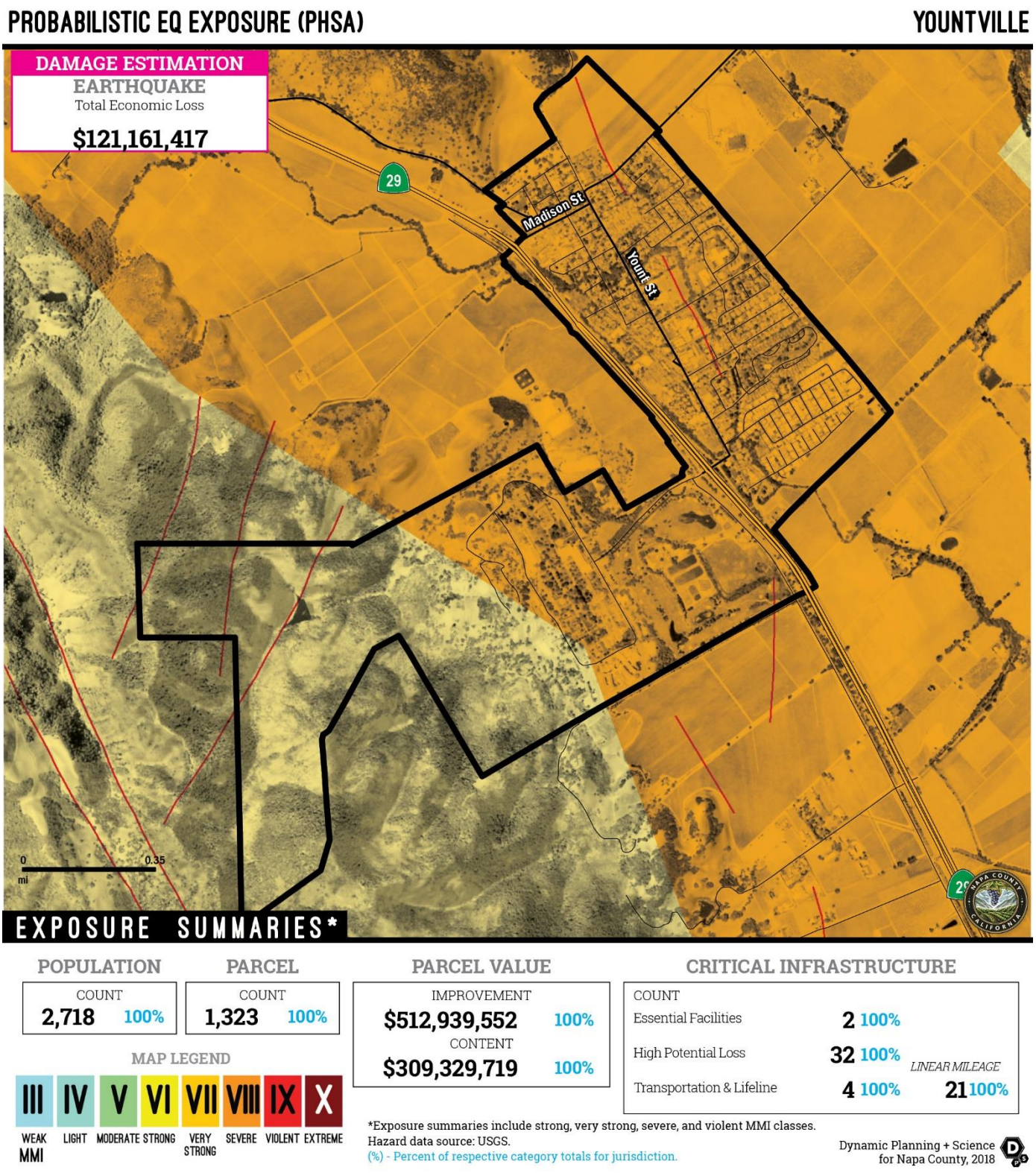

Figure 4-8 50-Yr. Probabilistic Scenario Exposure Summary

4.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the Yountville Planning Committee are listed in Table 4-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 4-10 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 4-4 and Table 4-10.

Table 4-4 Yountville Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
CC-12	Climate Change	Victim	PE&A - Public Education & Awareness	**Yountville**	Climate change is expected to bring changing and extreme weather and more frequent and intense extreme heat days and longer heat waves. In Yountville, where there is already a large senior population that is expected to grow by nearly 60% by 2040, heat-related illness is of significant concern.	**NC-25-2020, NC-26-2020**
DF-19	Dam Failure	Victim	PE&A - Public Education & Awareness , ES - Emergency Services , PPRO - Property Protection	**Yountville**	Approx. 1,000 people are living in a floodplain or dam inundation zone (Rector Creek Dam).	**NC-34-2020, NC-35-2020, NC-36-2020, YV-02-2020**
DF-20	Dam Failure	Victim	SP - Structural Projects	**Yountville**	16 critical facilities are in a dam inundation zone (Rector Creek Dam) and 3 are in the 100-YR floodplain.	**NC-34-2020, NC-35-2020, NC-36-2020, YV-02-2020**
DR-03	Drought	Impact	NRP - Natural Resource Protection , PE&A - Public Education & Awareness	**Yountville**	There may not be adequate water supplies for residents as wildfires become more frequent as a result of drought.	**YV-01-2020**
EQ-17	Earthquake	Victim	SP - Structural Projects , PRV - Prevention , PE&A - Public Education & Awareness	**Yountville**	Most of Town of Yountville critical infrastructure (38 of 39) is in a severe earthquake probability zone.	**NC-09-2013, YV-06-2020**
EQ-18	Earthquake	Threat	PPRO - Property Protection , PRV - Prevention , SP - Structural Projects	**Yountville**	Approximately all of the Town of Yountville's improved parcels (about $300 million in content value) are in a severe earthquake probability zone.	**YV-06-2020**
EQ-19	Earthquake	Victim	PE&A - Public Education & Awareness , PPRO - Property Protection , PRV - Prevention , SP - Structural Projects	**Yountville**	2,400 people live in a severe earthquake probability zone and 287 live in a very strong earthquake probability zone in the Town of Yountville.	**YV-06-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
FL-18	Flood	Victim	PPRO - Property Protection , SP - Structural Projects , PRV - Prevention	**Yountville**	There are 102 parcels in the 100-YR floodplain, 414 in the 500-YR floodplain and 921 in a dam inundation zone (Rector Creek Dam) equaling over $57 million in content value.	**NC-34-2020, NC-35-2020, NC-36-2020, YV-07-2020, YV-08-2020**
FL-21	Flood	Victim	PE&A - Public Education & Awareness	**Yountville**	During heavy rain, Yountville is subject to flooding problems along the natural creeks and drainage that traverse the area. Notes from PC Meeting #2- Improvements to Hopper Creek Drainage and Modifications to capacity at Beard Ditch needed. Coordinate improvements w/ County.	**YV-04-2020**
FL-22	Flood	Victim	PRV - Prevention , PPRO - Property Protection	**Yountville**	Yountville has one repetitive loss property near Forrester Park with two losses and total paid claims of $23,457.66.	**YV-03-2020**
WF-24	Wildfire	Victim	PE&A - Public Education & Awareness , PPRO - Property Protection , ES - Emergency Services	**Yountville**	There are 22 people living off of Imperial Rd (Veterans Home) that are in a high wildfire intensity zone.	**NC-02-2020, NC-03-2020, YV-05-2020**
WF-25	Wildfire	Impact	PE&A - Public Education & Awareness , ES - Emergency Services	**Yountville**	Heavy smoke from wildfires or prescribed burns may result in poor air quality in Yountville. Residents with respiratory concerns are particularly vulnerable.	**YV-05-2020**

4.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the Town's Planning Committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The Yountville Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 4-10 lists each priority mitigation action, identifies the

responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

4.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.

4.5.1.1 National Flood Insurance Program (NFIP)

The Town of Yountville has participated in the NFIP since 1980. See Table 4-5 for more information on the Town's policies and historic flood insurance claims. Yountville is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Volume 1 for general information on the NFIP.

Table 4-5: Yountville NFIP Status Table

NFIP Status	Participating since 3/28/1980
Policies in Force	55
Policies in SFHA	31
Policies in non-SFHA	24
Total Claims Paid	23
Paid Losses	$ 132,927
Repetitive Loss Properties	2
Severe Repetitive Loss Properties	N/A
Repetitive Loss Payment by NFIP on Building	$ 23,457.66
Repetitive Loss Payment by NFIP on Contents	$ 0

The Town of Yountville will maintain NFIP compliance by continuing to enforce Title 15 Division 2 (Floodplain Management Regulations) of the Yountville Municipal Code. Chapter 15.52 contains provisions for flood hazard reduction, including preventing new construction in Zones A1-30 and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one foot at any point within the Town of Yountville.

See Volume 1, Section 9.2.1 for more information on the NFIP.

4.5.1.2 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism adequate?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism?

Table 4-6: Yountville Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Construction and Future Development Regulations				
Building Codes				Updated in 2019, referenced in 2020 HMP
BCEGS Rating				Unknown
Public Protection (ISO Class)				
Site Plan Review Requirements				
Zoning Ordinance				Title 17 of Municipal Code
Hazard-Specific Ordinance				Floodplain Ordinance Chpt. 15.52
Growth Management Ordinance				
Hazard Reduction Prorams (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				
Erosion/Sediment Control Program				2015 Erosion
Hazard-Related Public Outreach Program				See Education and Outreach Resource Capabilities
Stormwater Management Program (Annual Inspections)				
Seismic Safety Program (Building Safety)				
Earthquake Modernization Plan (Non-structural)				

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Plans				
Community Wildfire Protection Plan (CWPP)				County-wide CWPP in development
Comprehensive, Master, or General Plan				Updated in 2019
Floodplain Management Plan				
Stormwater Management Plan				2015 Revision
Emergency Operations Plan				
Climate Action Plan				2016
Drought Management Plan				
Ground Water Management Planning / Plans				
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				
Flood Insurance Education and Technical Assist.				
Flood Hazard Mapping / Re-Mapping				
Community Rating System (CRS)				

4.5.1.3 Administrative and Technical Capabilities

Table 4-7: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Community Planning and Development Services:		
Community Planner		
Civil Engineer		
Building Code Official		Part-time
Floodplain Administrator		
Fire Marshal		
Resiliency Planner		
Transportation Planner		
Warning Systems/ Services		
General		
Flood		
Wildfire		
Geological Hazards		
Other		
GIS Specialist and Capability		
Emergency Manager		
Full-Time Building Official		Part-time
Grant Manager, Writer, or Specialist		Part-time

4.5.1.4 Financial Capabilities

Table 4-8: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Voter Approved Special Purpose Tax		
Utilities Fees		
Benefit assessments		
System Development Fee		
General Obligation Bonds to Incur Debt		
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

4.5.1.5 Education and Outreach

Table 4-9: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		
Dedicated Social Media		
Hazard Info. Avail. at Library/ Planning Desk		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		
Resource Conservation Districts		
Other		

4.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. The Town of Yountville has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.

NC-10-2020

Year Developed

Project No.

Jurisdiction Reference

Jurisdictions are identified by the following letters:

AC- American Canyon
CL- Calistoga
NC- Napa County (unincorporated)
HM- Howell Mountain MWC
NCOE- Napa COE
NFC- Napa Flood Control & Water District
NVC- Napa Valley College
SH- St. Helena
YV- Yountville

Table 4-10 lists each mitigation action for Yountville. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 4-10 meets the regulatory requirements of FEMA and DMA 2000

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Table 4-10 Yountville Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
YV-01-2020	Drought	PE&A - Public Education & Awareness	2020	**Yountville**	Increase engagement between the fire and drought communities.	Direct public to Emergency Preparedness website, hold Town emergency workshops	Town Staff and Public Safety	Ongoing	Unknown	Unknown	General Fund and grants if available	Medium	**DR-03**
YV-06-2020	Earthquake	PE&A - Public Education & Awareness	2020	**Yountville**	Earthquake month public education program	Variety of media and social media outreach	Town Staff and Public Safety	Annually	$25,000	$25,000	General Fund and grant funding if available	High	**EQ-17, EQ-18, EQ-19**
YV-02-2020	Flood	PE&A - Public Education & Awareness	2020	**Yountville**	Develop evacuation plans for communities and residents downstream from the Rector Creek Dam.	Conduct educational outreach and prepare evacuation routes	OES, Veterans Home/State, and Town Staff	Annually	$25,000	$25,000	General fund revenue and potential grant funding	High	**DF-19, DF-20**
YV-03-2020	Flood	PPRO - Property Protection	2020	**Yountville**	Identify properties that are potential candidates for elevation, relocation or buyout based on an evaluation of flood risks, project feasibility, and planned flood risk reduction capital projects.	Develop and execute flood protection project for at risk properties	Town Staff	Annually	TBD likely over $12 million	$25,000	General Fund and grant funding	High	**FL-22**
YV-04-2020	Flood	PPRO - Property Protection	2020	**Yountville**	Secure grant funding to develop and implement river restoration program that would reduce flood damages and increase environmental quality on the river, maintain fish habitat, decrease impediment to drainage by preventing silt build up and loss of stream bed capacity.	Prepare evaluation analysis	Town Staff and contracted consultants	5-10 Years	TBD	TBD	General fund and potential grant funding	Medium	**FL-21**
YV-07-2020	Flood	PRV - Prevention	2020	**Yountville**	Invest in flood prediction and forecast modeling to support all facets of the Napa County floodplain management program, including, but not limited to, flood hazard identification, flood threat recognition in support of flood notification programs, climate change adaptation, and risk assessment.	Analyze and install additional river flow monitors	Town Staff and contractors	5-10 Years	TBD	TBD	General Fund and grant funds	Low	**FL-18**
YV-08-2020	Flood	PE&A - Public Education & Awareness	2020	**Yountville**	Enhance the existing flood notification program to achieve real-time flood threat recognition capability.	Utilize variety of resources to achieve real-time flood threat recognition capability	Town Staff	3-5 Years	TBD	TBD	General Fund and grant funding	Medium	**FL-18**
YV-05-2020	Wildfire	PE&A - Public Education & Awareness	2020	**Yountville**	Work with local agencies to develop evacuation plans and provide education and outreach to populations vulnerable to wildfire.	Coordinate with public safety to develop evacuation plans and provide education and outreach to populations vulnerable to wildfire.	Town Staff, Public Safety, and Cal Veterans Home	Annually	$25,000	$25,000	Town General Fund and grant funding	High	**WF-24, WF-25**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorporated**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**
YV-203-2020	Climate Change	PE&A - Public Education & Awareness	2020	**Yountville**	Develop a public education campaign to spread awareness on the increasing effects of climate change and everyday actions citizens can take to conserve water and minimize their carbon footprint	1. develop outreach program 2. determine channels of communication for outreach 3. implement	Town of Yountville	1-3 years	Unknown	Unknown	HMGP/PDM	High	**CC-12**

JURISDICTIONAL ANNEX

Section 5. Napa County Flood Control and Water Conservation District

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

5.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

RESOLUTION 2020-06 (FC)

A RESOLUTION FOR THE NAPA COUNTY FLOOD AND WATER CONSERVATION DISTRICT TO ADOPT THE 2020 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR NAPA COUNTY AS ITS OFFICIAL PLAN

WHEREAS, the Napa County Flood and Water Conservation District, as a California Special District, is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

WHEREAS, the Napa County Flood and Water Conservation District recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

WHEREAS, the Napa County Flood and Water Conservation District, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

WHEREAS, the Napa County Flood and Water Conservation District Annex in MJHMP, Volume 2, Section 5, recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, the Napa County Flood and Water Conservation District has reviewed the MJHMP and affirms that the plan actions in the Napa County Flood and Water Conservation District's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

WHEREAS, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the District Council fully participated in the FEMA-prescribed mitigation planning process to prepare this MJHMP; and

WHEREAS, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

WHEREAS, the Napa County Flood and Water Conservation District, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, the California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

WHEREAS, the District Council desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

WHEREAS, adoption by the District Council for the Napa County Flood and Water Conservation District demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in the MJHMP; and

WHEREAS, adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP.

NOW, THEREFORE, BE IT RESOLVED by the District Council of the Napa County Flood and Water Conservation District that:

1. The Napa County Flood and Water Conservation District adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Volume 1 for Napa County and the 2020 Multi-Jurisdictional Hazard Mitigation Plan Volume 2, Napa County Flood and Water Conservation District Annex, as approved by FEMA and Cal OES, as the mitigation plan for the Napa County Flood and Water Conservation District.

2. The District Council orders the District Engineer to submit an approved and signed copy of this resolution to Cal OES and FEMA Region IX officials to enable the plan's final approval.

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THE FOREGOING RESOLUTION WAS PASSED AND ADOPTED by the Board of Directors of the Napa County Flood Control and Water Conservation District at a regular meeting thereof on June 9, 2020, by the following vote, the number following each Director's name indicating the number of votes cast by that Director:

AYES:	SUPERVISORS	WAGENKNECHT, GARCIA, ALESSIO, DILLON, DUNBAR, DUNSFORD, ELLSWORTH, GREGORY, PEDROZA, RAMOS, and TECHEL
NOES:	SUPERVISORS	NONE
ABSTAIN:	SUPERVISORS	NONE
ABSENT:	SUPERVISORS	NONE

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a special district of the State of California

By: Jill Techel

JILL TECHEL, Chairperson of the Board of Directors

APPROVED AS TO FORM Office of County Counsel	APPROVED BY THE BOARD OF DIRECTORS OF THE NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	ATTEST: JOSE LUIS VALDEZ Secretary of the District Board
By: *Shana A. Bagley (e-sign)* County Counsel	Date: June 9, 2020	By: Jose Luis Valdez
Date: May 20, 2020	Processed By: H Haskin	
	Deputy Secretary of the District Board	

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5.2 Purpose

This Annex details the hazard mitigation planning elements specific to the Napa County Flood Control and Water Conservation District (NCFCWCD). The District's mission is the conservation and management of flood and storm waters to protect life and property; the maintenance of the County watershed using the highest level of environmentally sound practices; and to provide coordinated planning for water supply needs for the community.

This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the NCFCWCD. This Annex provides additional information specific to the NCFCWCD, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Phillip Miller, Deputy Director
NCFCWCD
804 First Street
Napa, CA 94559
Telephone: 707-259-8620
e-mail: Phillip.Miller@countyofnapa.org

Alternate Point of Contact
Andrew Butler, Senior Engineer
NCFCWCD
804 First Street
Napa,CA94559
Telephone: 707-259-8671
e-mail: Andrew.Butler@countyofnapa.org

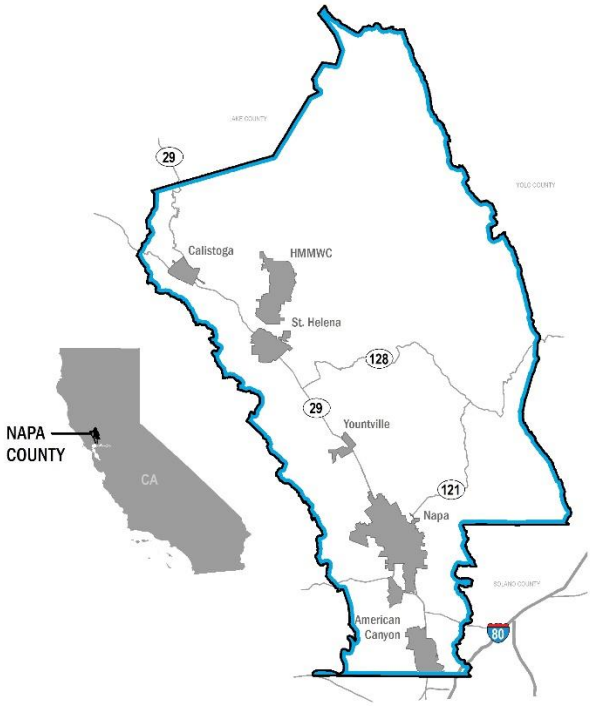

Figure 5-1 NCFCWCD Location

5.3 Planning Methodology

The NCFCWCD followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the NCFCWCD formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 5-1.

Table 5-1: NCFCWCD Planning Committee Members

Planning Committee Members	Department
Andrew Butler	NCFCWCD
Phillip Miller	NCFCWCD

5.3.1 What's New

The NCFCWCD has been making improvements toward reducing natural hazard risks to life and property within the District since the 2013 MJHMP was adopted. Mitigation actions develop from the 2013 MJHMP for the District have been edited, consolidated and developed to meet new priorities. See Vol. 1 for listing of historic mitigation actions. Listed below are success stories where the District successfully implemented mitigation actions that were defined in the 2013 MJHMP.

5.4 Risk Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to the District is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

5.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 5-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The NCFCWCD Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect the District. Table 5-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was

used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to the District and which ones were not. Section 5.4.2 below describes the hazard risk ranking process that was performed by the NCFCWCD Planning Team which prioritized hazards that are specifically relevant to the District.

Table 5-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 5-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■		■
Climate Change	■	■	■
Dam Failure	■	■	■
Drought	■	■	■
Earthquake	■	■	■
Flood	■	■	■
Landslide	■	■	■
Levee Failure	■	■	■
Manmade Hazards			■
Pandemic Disease			■
Sea Level Rise	■		■
Severe Weather	■		■
Terrorism & Tech Hazards			■
Tsunami		■	■
Volcano			■
Wildfire	■	■	■

5.4.2 Hazard Risk Ranking

The NCFCWCD's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 5-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess NCFCWCD's vulnerability to following hazards: flood and severe weather**. All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address NCFCWCD's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the NCFCWCD.

5.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within NCFCWCD are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

5.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the NCFCWCD. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

The NCFCWCD has contiguous boundaries with the County. A flood exposure map of the County region, including municipalities, is included in Figure 5-3.

5.4.3.2 Past and Future Development

The District is the local sponsor for the award-winning Napa River Flood Management Plan and administers water supply contracts, watershed management, and stormwater management programs throughout Napa County. This includes maintenance of the Napa River and its tributaries which includes specialized watershed programs and services funded by local assessments as well as State and federal grants. The District works with the County and municipalities within the County to implement its projects and programs, and as such they are mitigation flood risks for existing and future development throughout the County.

Note that NCFCWCD does not permit development. Development that takes place within the boundaries of the NCFCWCD will be subject to development regulations of the jurisdiction in which development occurs. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Napa County Flood Control and Water Conservation District Risk Matrix

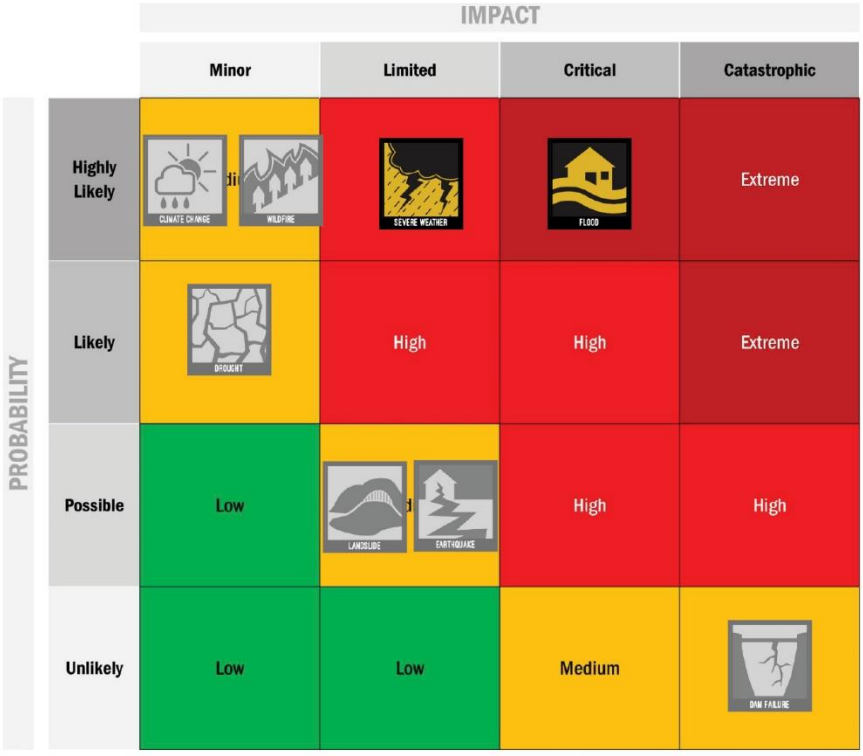

Figure 5-2 NCFCWCD Risk Assessment Matrix

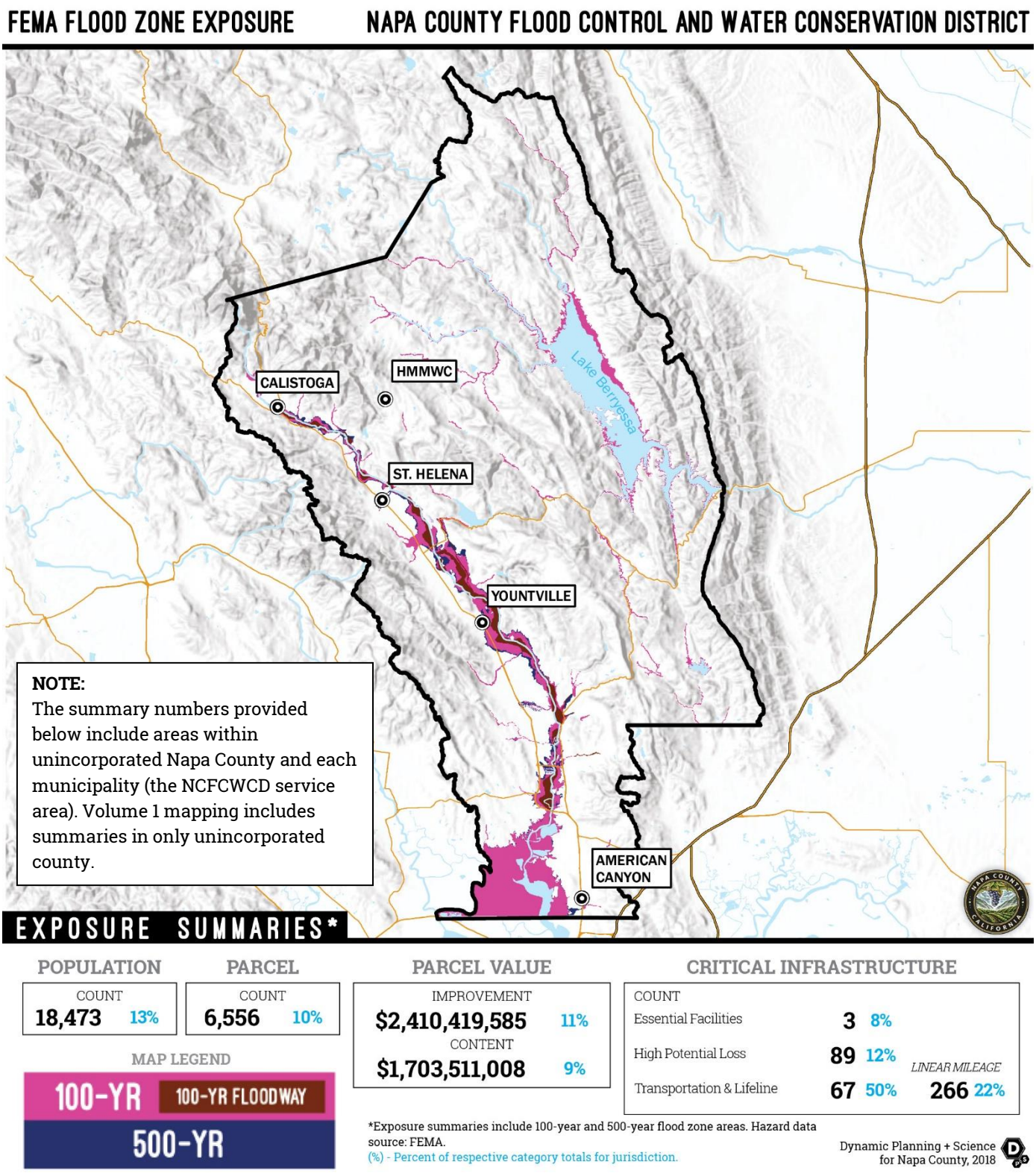

Figure 5-3. Flood Exposure Summary for NCFCWCD

5.4.3.3 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and the Planning Team's institutional knowledge. Problem statements developed by NCFCWCD Planning Committee are listed in Table 5-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-9 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 5-4 and Table 5-9.

Table 5-4 NCFCWCD Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
FL-02	Flood	Impact	SP - Structural Projects	**Napa Flood Control & Water District**	Storm water infrastructure capacity needs to be evaluated and improved for high intensity rainfall events.	**NC-01-2013, NFC-01-2013, NFC-02-2013, NFC-03-2013, NFC-04-2013, NFC-05-2020**
FL-03	Flood	Impact	PPRO - Property Protection	**Napa Flood Control & Water District**	Many flood prone residential structures do not receive direct protection from the Measure 'A' Flood Project.	**NC-31-2020, NFC-01-2013, NFC-02-2013, NFC-05-2020**
FL-04	Flood	Impact	NRP - Natural Resource Protection	**Napa Flood Control & Water District**	Annual restoration efforts are needed along the Napa River.	**NFC-04-2013, NFC-07-2020, NFC-08-2020**
FL-05	Flood	Impact	SP - Structural Projects	**Napa Flood Control & Water District**	Storm water channels need to be routinely inspected in order to reduce the possibility of localized flooding.	**NFC-05-2020**
FL-06	Flood	Threat	PRV - Prevention , NRP - Natural Resource Protection	**Napa Flood Control & Water District**	Invasive exotic weeds rapidly invade stream channels, often growing aggressively to the exclusion of other riparian species, and can significantly reduce channel capacity. Managing invasive vegetation is a continuous, routine, and on-going activity of the District's stream maintenance program.	**NFC-05-2020, NFC-06-2020**
SW-01	Severe Weather	Threat	SP - Structural Projects	**Napa Flood Control & Water District**	Heavy rains during winter months could cause flooding.	**NC-12-2020, NC-13-2020, NC-14-2020, NC-11-2020**

5.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction:

Based upon the District's Planning Committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The NCFCWCD Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 5-9 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

5.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well. As a special district, the District is not eligible for the National Flood Insurance Program (NFIP), nor does it have repetitive loss properties; no statistics on NFIP participation are included in this annex.

5.5.1.1 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 5-5: NCFCWCD Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Reduction Programs (Annual)				
Capital Improvements Program (CIP) or Plan				
Annual Fire Prevention Plan				Not applicable
Seismic Safety Program (Building Safety)				Not applicable
Earthquake Modernization Plan (Non-structural)				Not applicable
Stormwater Management Program (Annual Inspections)				Not applicable
Hazard Plans and Programs				
Floodplain Response Plan				Napa River Flood Management Plan
Emergency Operations Plan				
Community Wildfire Protection Plan (CWPP)				Not applicable
Ground Water Management Planning / Plans				Not applicable
Drought Mgmt/ Contingency Plan				Not applicable
FireWise Communities within District				Not applicable
Hazard-Related Public Outreach Program				See Education and Outreach Resource Capabilities

5.5.1.2 Administrative and Technical Capabilities

Table 5-6: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Staff Capacity:		
Emergency Manager		
Civil Engineer		
Resiliency Planner		Partnership opportunities with other jurisdictions
Transportation Planner		
GIS Specialist and Capability		
Grant Manager, Writer, or Specialist		
Warning Systems/ Services		
General		
Flood		
Wildfire		
Geological Hazards		

5.5.1.3 Financial Capabilities

Table 5-7: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Levy for Specific Purposes with Voter Approval		*Opportunity to increase financial capabilities to fund mitigation activities.*
Utilities Fees	Not applicable	
System Development Fee	Not applicable	
General Obligation Bonds to Incur Debt	Not applicable	
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees	Not applicable	
Capital Improvement Project Funding		

5.5.1.4 Education and Outreach

Table 5-8: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		Flood & Water Resources. https://www.countyofnapa.org/1074/Flood-Water-Resources
Dedicated Social Media		
Hazard Info. Avail. at Library		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		umbrella org: Napa Communities Firewise Foundation
Resource Conservation Districts		Coordination with Napa County RCD
Other		Local sponsor for NRCS watershed projects

5.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. NCFCWCD has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.

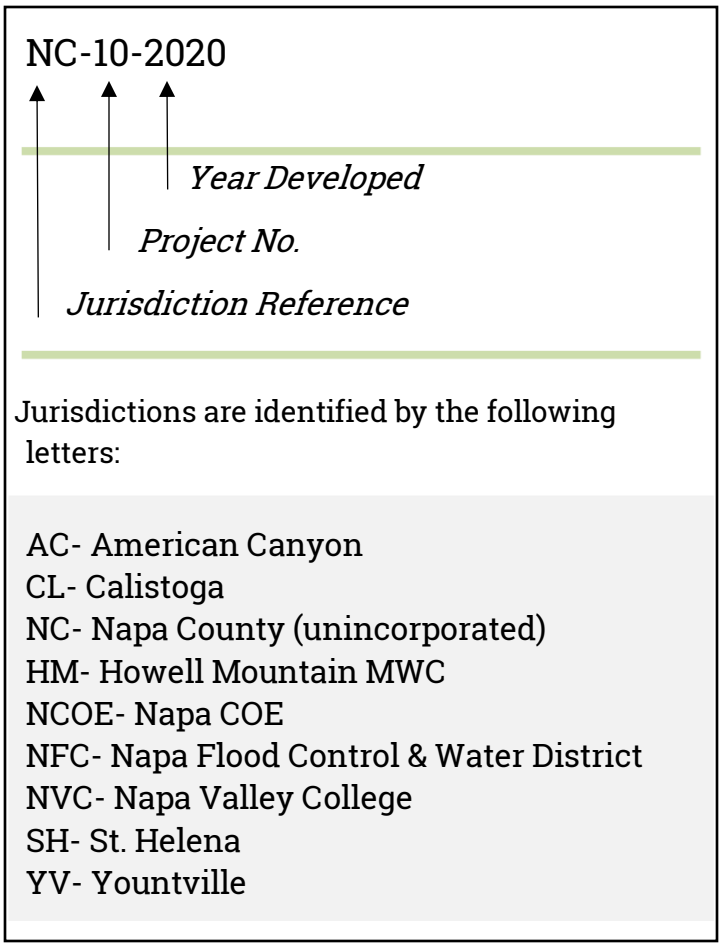

Table 5-9 lists each mitigation action for NCFCWCD. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 5-9 meets the regulatory requirements of FEMA and DMA 2000.

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Table 5-9 NCFCWCD Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NFC-01-2013	Flood	ES - Emergency Services	2013 (Changed/Edited)	**Napa Flood Control & Water District**	Maintain Countywide Storm Watch System	Maintain physical features of stream/precipitation gauges and associated software and website. Identify locations for new stations, coordinate and facilitate the meeting of local agencies interested in system.	Napa County Flood Control District	Annually	$80,000.00	30000	Napa County Watershed Assessment	High	**FL-02, FL-03**
NFC-02-2013	Flood	ES - Emergency Services	2013 (Changed/Edited)	**Napa Flood Control & Water District**	Completion of the Measure "A" Flood Control Project	Finish Contract 2 construction; Finish Contract 3 construction; Re-map the City of Napa's floodplain.	Napa County Flood Control District	5-10 Years	$100,000,000	$100,000 annually	County sales tax/federal funding	High	**FL-02, FL-03**
NFC-03-2013	Flood	PRV - Prevention	2013 (Ongoing)	**Napa Flood Control & Water District**	Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure and maintain said channels permitted by California Department of Fish and Wildlife.	Preliminary Identified Tasks for Napa County Flood: Attend Annual Flood Meetings; Report Public Works Department Progress on Clearing and Cleaning; Coordinate Effort between Flood Control, Cities and County.	Napa County Flood Control District	Annually	N/A	$200,000 local funding	Local watershed assessment/federal funding needed	High	**FL-02**
NFC-04-2013	Flood	NRP - Natural Resource Protection	2013 (Ongoing)	**Napa Flood Control & Water District**	Secure grant funding to develop and implement a river restoration program that would reduce flood damages and increase environmental quality on the river, maintain fish habitat, decrease impediment to drainage by preventing silt build-up and loss of stream bed capacity.	Refer to Napa River TMDL Plan	Napa County	5-10 Years	$23,000,000	$200,000 annually	State and Federal grants	High	**FL-02, FL-04**
NFC-204-2020	Severe Weather	NRP - Natural Resource Protection	2020	**Napa Flood Control & Water District**	Routinely inspect storm water channels for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure	1. Identify and prioritize channels for inspection 2. Delegate inspection assignments 3. Implement	Napa County Flood District	Ongoing	Unknown	Unknown	FMA	High	**SW-01**

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JURISDICTIONAL ANNEX

Section 6. Napa County Office of Education

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

6.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

Napa County Office of Education Adoption Record

RESOLUTION 2020-10
A RESOLUTION FOR THE NAPA COUNTY OFFICE OF EDUCATION TO ADOPT THE 2020 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR NAPA COUNTY AS ITS OFFICIAL PLAN

WHEREAS, the Napa County Office of Education is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

WHEREAS, the Napa County Office of Education recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

WHEREAS, the Napa County Office of Education, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

WHEREAS, the Napa County Office of Education Annex in Vol 2. of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, the Napa County Office of Education has reviewed the MJHMP and affirms that the plan actions in the Napa County Office of Education's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

WHEREAS, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the Napa County Office of Education Trustees (Trustees) fully participated in the FEMA-prescribed mitigation planning process to prepare this MJHMP; and

WHEREAS, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

WHEREAS, the Napa County Office of Education, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, the California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

WHEREAS, the Trustees desire to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

WHEREAS, adoption by the Trustees for the Napa County Office of Education demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

Napa County Office of Education Adoption Record

WHEREAS, adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP;

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Napa County Office of Education:

1. That the Napa County Office of Education adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Vol. 1 for Napa County and the Napa County Office of Education Annex in Vol. 2, as approved by FEMA and Cal OES, as the mitigation plan for the Napa County Office of Education.

2. That the Trustees orders the General Services Director to submit an approved and signed copy of this resolution to the Cal OES and FEMA Region IX officials to enable the plan's final approval.

PASSED AND ADOPTED at a meeting of the Napa County Board of Education on June 2, 2020.

AYES: Jennifer Kresge, Don Huffman, Ann Cash, Janna Waldinger, Sindy Biederman, Jim Haslip

NOES: None

ABSTAIN: None

ABSENT: Steve Orndorf

DocuSigned by:

Barbara Nemko

Secretary of the Napa County Board of Education

6.2 Purpose

This Annex details the hazard mitigation planning elements specific to the Napa County Office of Education (NCOE). This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the NCOE. This Annex provides additional information specific to the NCOE, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Allen Rossi, Director of Maintenance and Operations
NCOE
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Alternate Point of Contact
Josh Schultz, Deputy Superintendent
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e-mail Address: jschultz@napacoe.org

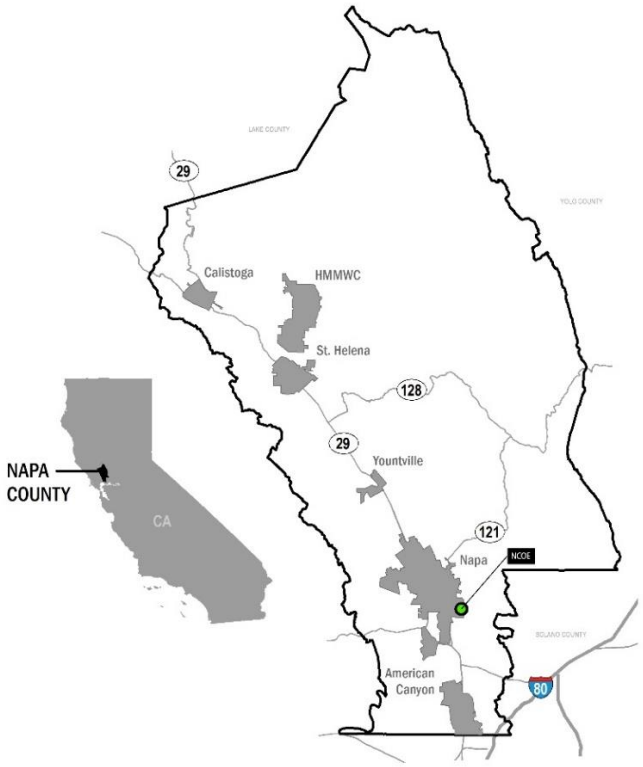


Figure 6-1 NCOE Location

6.3 Planning Methodology

The NCOE followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the NCOE formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 6-1.

Table 6-1: NCOE Planning Committee Members

Planning Committee Members	Department
Allen Rossi	NCOE
Amber Wade	NCOE
Chris Ochs	NCOE
Erin Smith-Hagberg	NCOE
Janet Tufts	NCOE
Josh Schultz	NCOE
Ken Burkhart	NCOE
Marylou Wilson	NCOE
Matt Christensen	NCOE
Rosanna Mucetti	NCOE
Seana Wagner	NCOE

6.3.1 What's New

The NCOE has been making improvements toward reducing natural hazard risks to life and property within the boundaries of the NCOE since the 2013 MJHMP was adopted. In the 2013 MJHMP, NCOE did not commit to any mitigation actions as a primary agency; instead, they committed to mitigation actions generally for all jurisdictions. See Volume 1, Section 2.3 for listing of historic mitigation actions.

NCOE has increased their capacity to mitigate hazard risks by identifying mitigation actions specific to the Town. All mitigation actions identified in this annex are new for 2020 as a result.

6.4 Risk Assessment

The intent of this section is to profile the NCOE's hazards and assess the NCOE's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to the NCOE is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

6.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 6-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The NCOE Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect the NCOE. Table 6-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to the NCOE and which ones were not. Section 6.4.2 below describes the hazard risk ranking process that was performed by the NCOE Planning Team which prioritized hazards that are specifically relevant to the NCOE.

Table 6-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**

Hazard Type	Explanation
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 6-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■		■
Climate Change	■	■	■
Dam Failure	■	■	■
Drought	■	■	■
Earthquake	■	■	■
Flood	■	■	■
Landslide	■	■	■
Levee Failure	■	■	■
Manmade Hazards			■
Pandemic Disease			■
Sea Level Rise	■		■
Severe Weather	■		■
Terrorism & Tech Hazards			■
Tsunami		■	■
Volcano			■
Wildfire	■	■	■

6.4.2 Hazard Risk Ranking

The NCOE Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 6-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess NCOE's vulnerability to following hazards: drought, earthquake, flood, wildfire, and dam failure.** All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address NCOE's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to the NCOE.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Napa County Office of Education Risk Matrix

PROBABILITY \ IMPACT	Minor	Limited	Critical	Catastrophic
Highly Likely	Medium	CLIMATE CHANGE, DROUGHT	Extreme	Extreme
Likely	Medium	FLOOD	WILDFIRE, EARTHQUAKE	Extreme
Possible	Low	SEVERE WEATHER, LANDSLIDE	High	High
Unlikely	Low	Low	DAM FAILURE	Medium

Figure 6-2 NCOE Risk Assessment Matrix

6.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within the NCOE are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

6.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to the NCOE. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

6.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display NCOE's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the NCOE Planning Team prioritized are displayed below in Figure 6-3 through Figure 6-6.

6.4.3.3 Future Development

The NCOE does not permit development. Development that takes place within the campuses of the NCOE will be subject to development regulations of the State of California. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

The Office of Education is currently constructing a $15 million. 20,000 sq. ft. facility for the alternative high school program within its campus. Construction is beginning in 2020. The facility will have improved seismic reinforcement and additional wildfire mitigation with the clearing of trees around the facility.

DAM INUNDATION EXPOSURE

NAPA COUNTY OFFICE OF EDUCATION

Figure 6-3 Dam Failure Exposure Summary

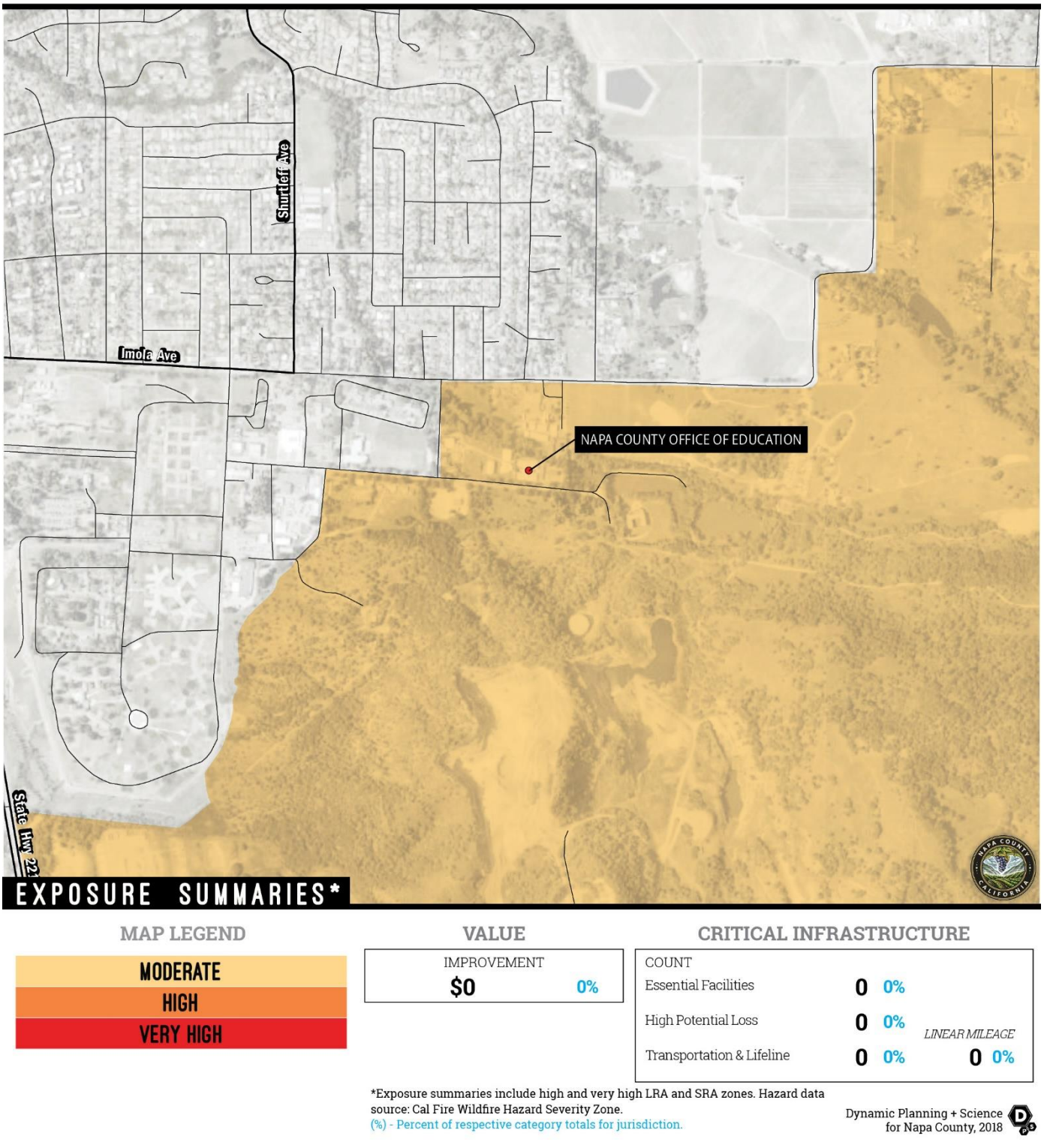


Figure 6-4 Wildfire Exposure Summary

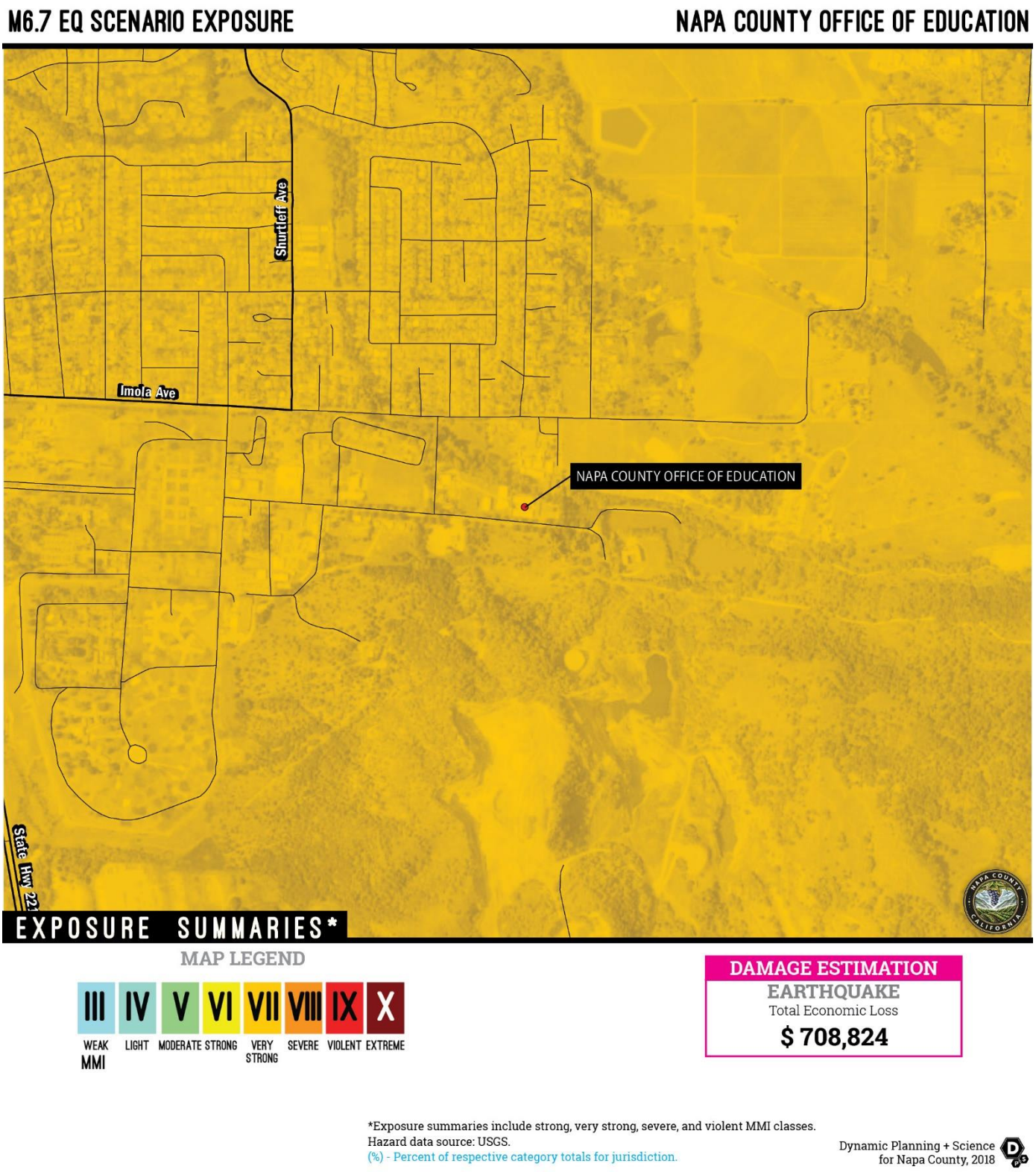


Figure 6-5 West Napa 6.7 Exposure Summary

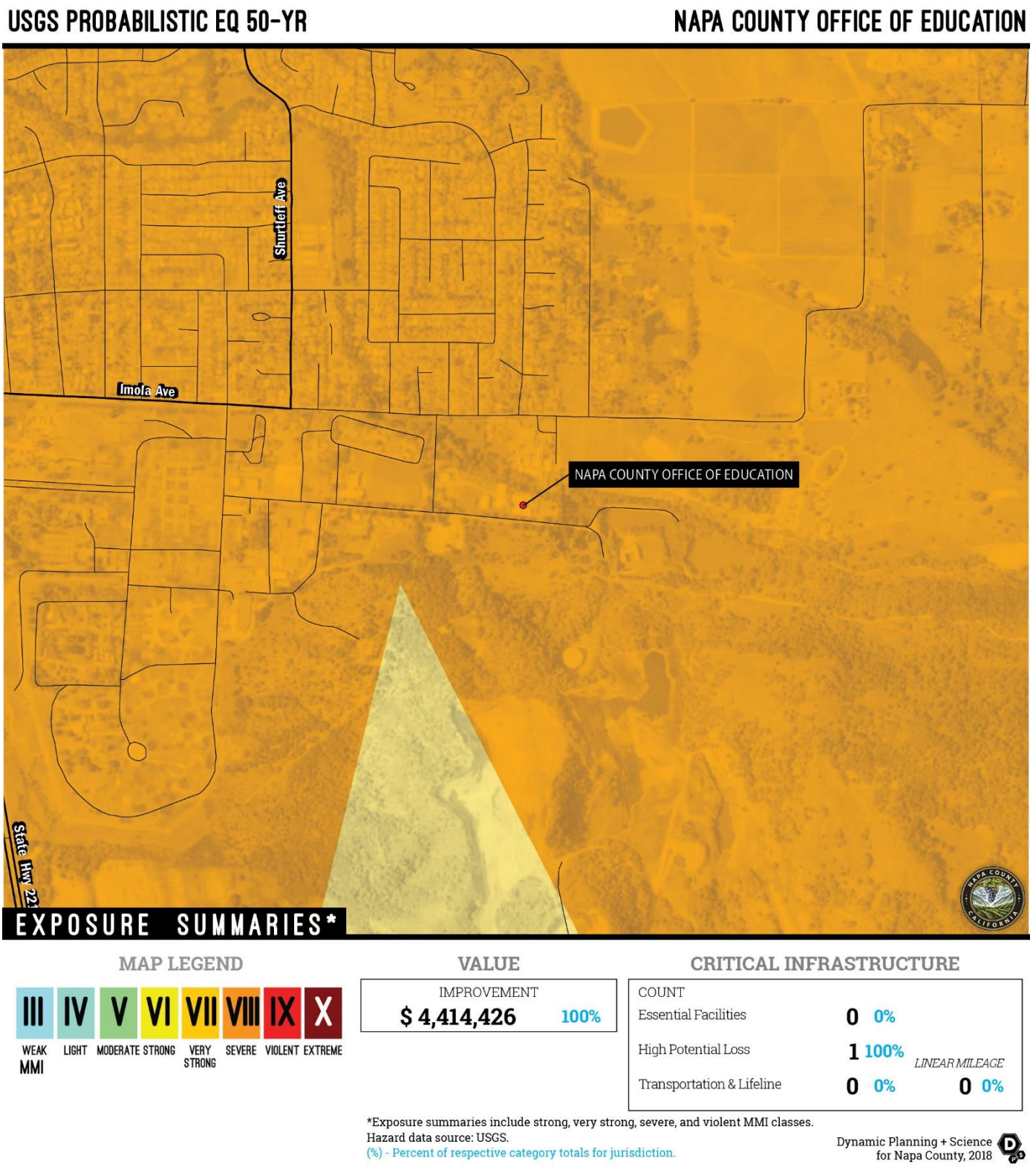


Figure 6-6 50-Yr. Probabilistic Scenario Exposure Summary

6.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the NCOE Planning Committee are listed in Table 6-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 6-9 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 6-4 and Table 6-9.

Table 6-4 NCOE Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
DF-23	Dam Failure	Victim	PE&A - Public Education & Awareness SP - Structural Projects	**Napa COE**	The County Office Main Building is in a dam inundation zone.	**NC-34-2020, NC-35-2020, NC-36-2020**
DR-04	Drought	Impact	PRV - Prevention , NRP - Natural Resource Protection	**Napa COE**	Water for restrooms and drinking water in Napa County Office of Education facilities could become an issue if water needs to be rationed.	**NC-17-2020, NCOE-01-2020**
EQ-20	Earthquake	Threat	SP - Structural Projects , PE&A - Public Education & Awareness	**Napa COE**	The County Office Main Building is in a severe earthquake hazard zone.	**NCOE-02-2020**
WF-26	Wildfire	Victim	PE&A - Public Education & Awareness , SP - Structural Projects	**Napa COE**	The County Office Main Building is in a moderate wildfire intensity zone.	**NC-07-2013**

6.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the Office's planning committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The NCOE Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 6-9 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

6.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well. The Office of Education is not eligible for the National Flood Insurance Program (NFIP), nor does it have repetitive loss properties; no statistics on NFIP participation are included in this annex.

6.5.1.1 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 6-5: Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Reduction Programs (Annual)				
Capital Improvements Program (CIP) or Plan				
Annual Fire Prevention Plan				
Seismic Safety Program (Building Safety)				All buildings for NCOE are certified already.
Earthquake Modernization Plan (Non-structural)				All equipment is strapped upon installation.
Stormwater Management Program (Annual Inspections)				
Hazard Plans and Programs				
Floodplain Response Plan				
Emergency Operations Plan				
Community Wildfire Protection Plan (CWPP)				
Ground Water Management Planning / Plans				
Drought Mgmt/ Contingency Plan				
FireWise Communities within District				
Hazard-Related Public Outreach Program				

6.5.1.2 Administrative and Technical Capabilities

Table 6-6: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Staff Capacity:		
Emergency Manager		
Civil Engineer		
Resiliency Planner		
Transportation Planner		
GIS Specialist and Capability		
Grant Manager, Writer, or Specialist		
Warning Systems/ Services		
General		Nixle
Flood		
Wildfire		
Geological Hazards		

6.5.1.3 Financial Capabilities

Table 6-7: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Levy for Specific Purposes with Voter Approval		
Utilities Fees		
System Development Fee	Not applicable	
General Obligation Bonds to Incur Debt	Not applicable	
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

6.5.1.4 Education and Outreach

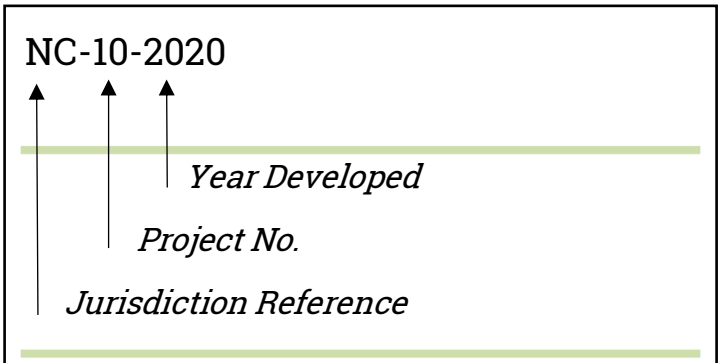
Table 6-8: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		Ability to use website for hazard related outreach
Dedicated Social Media		
Hazard Info. Avail. at Library		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests	Not applicable	
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		
Resource Conservation Districts		
Other		Outreach through PIO for hazard response. Napa COE and school districts have various committees that communicate with parents and other community groups Napa County Water Information & Conservation Council (WICC)

6.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. NCOE has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.



Jurisdictions are identified by the following letters:

AC- American Canyon
CL- Calistoga
NC- Napa County (unincorporated)
HM- Howell Mountain MWC
NCOE- Napa COE
NFC- Napa Flood Control & Water District
NVC- Napa Valley College
SH- St. Helena
YV- Yountville

Table 6-9 lists each mitigation action for the NOCE. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 6-9 meets the regulatory requirements of FEMA and DMA 2000.

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Table 6-9 NCOE Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NCOE-01-2020	Drought	PRV - Prevention	2020	**Napa COE**	Retrofit water supply systems in order to improve water supply and delivery and conserve water.	Retrofit water supply systems in order to improve water supply and delivery and conserve water.	Napa COE	5-10 Years	Unknown	Unknown	Bonds, grants, fee increases	High	**DR-04**
NCOE-02-2020	Earthquake	PRV - Prevention	2020	**Napa COE**	Retrofit / Harden Main Office to withstand extreme and violent earthquakes.	Retrofit / Harden Main Office to withstand extreme and violent earthquakes.	Napa COE	5-10 Years	Unknown	Unknown	Bonds, grants, fee increases	High	**EQ-20**
NCOE-205-2020	Wildfire	NRP- Natural Resource Protection	2020	**Napa COE**	Coordinate with the Napa State Hospital, as landowner, to remove vegetative fuels and add/create defensible space around the Office of Education	1. Identify areas of priority for tree trimming and fire-safe vegetation 2. secure resources and staff 3. Implement	Napa COE	Ongoing	Unknown	Unknown	HMGP/PDM	High	**WF-26**
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorp.**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**

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JURISDICTIONAL ANNEX

Section 7. Napa Valley College

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

7.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

Napa Valley Community College District Adoption Record

Napa Valley Community College District

Resolution No. 20-11

A RESOLUTION FOR THE NAPA VALLEY COMMUNITY COLLEGE DISTRICT TO ADOPT THE 2020 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR NAPA COUNTY AS ITS OFFICIAL PLAN

WHEREAS, Napa Valley College is a political subdivision of the State of California and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

WHEREAS, Napa Valley College recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

WHEREAS, Napa Valley College, with assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

WHEREAS, Napa Valley College Annex in Vol 2. of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, Napa Valley College has reviewed the MJHMP and affirms that the plan actions in the Napa Valley College's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

WHEREAS, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the plan; and

WHEREAS, the Trustees, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, California Office of Emergency Services (Cal OES) and FEMA Region IX officials have reviewed the MJHMP and approved it contingent upon this official adoption by the participating governing body; and

WHEREAS, the Trustees desire to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

WHEREAS, adoption by the Trustees for Napa Valley College demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

WHEREAS, adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP;

Napa Valley Community College District Adoption Record

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of Napa Valley College:

1. That Napa Valley College adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Volumes 1 for Napa County and Napa Valley College Annex in Volume 2, as approved by FEMA and Cal OES, as the mitigation plan for the Napa Valley College.

2. That the Trustees direct staff to submit an approved and signed copy of this resolution to the Cal OES and FEMA Agency Region IX officials to enable the plan's final approval.

AYES: 8

NOES: 0

ABSENT: 0

ABSTAINED: 0

DocuSigned by:

Ms. Rosaura Segura, President
Napa Valley Community College District
Board of Trustees

DocuSigned by:

Ronald D. Kraft, Ph.D., Secretary
Napa Valley Community College District
Board of Trustees

7.2 Purpose

This Annex details the hazard mitigation planning elements specific to Napa Valley College (NVC). This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by NVC. This Annex provides additional information specific to NVC, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Amber Wade, Chief of Police
Napa Valley College
2277 Napa Vallejo Highway
Napa, CA 94558
Telephone: 707-256-7771
e-mail: awade@napavalley.edu

Alternate Point of Contact
Matt Christensen, Facilities Director
Napa Valley College
2277 Napa Vallejo Highway
Napa, CA 94558
Telephone: 707-353-3340
e-mail: mchristensen@napavalley.edu

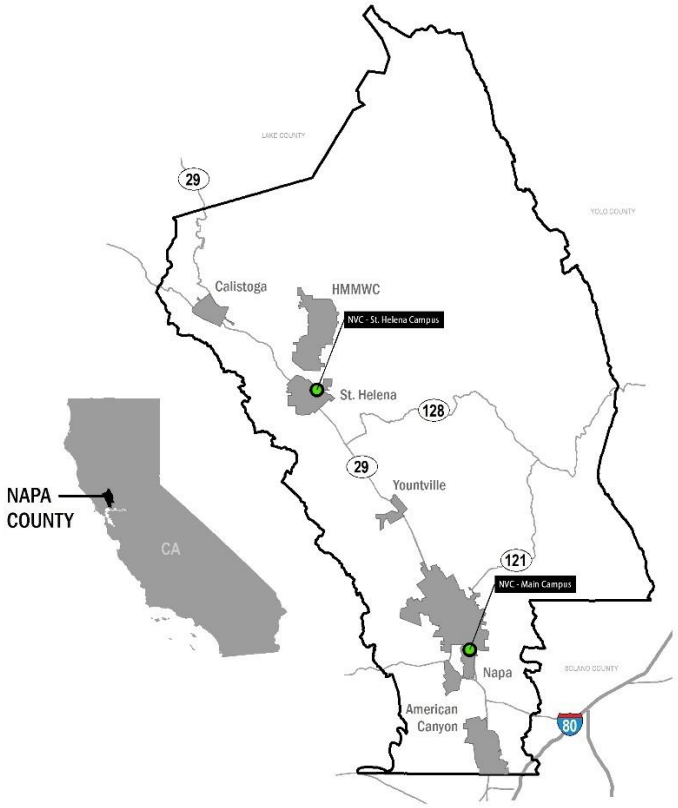


Figure 7-1 Napa Valley College Location

7.3 Planning Methodology

Napa Valley College followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, the College formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 4-1

Table 7-1: NVC Planning Committee Members

Planning Committee Members	Department
Amber Wade	Police Department
Matt Christensen	Facilities Department

7.3.1 What's New

NVC has been making improvements toward reducing natural hazard risks to life and property within NVC campuses since the 2013 MJHMP was adopted. Mitigation actions develop from the 2013 MJHMP for NVC have been edited, consolidated and developed to meet new priorities. See Vol. 1 for listing of historic mitigation actions. Listed below are success stories where NVC successfully implemented mitigation actions that were defined in the 2013 MJHMP.

7.4 Risk Assessment

The intent of this section is to profile the NVC's hazards and assess the NVC's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to NVC is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

7.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found inTable 7-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The NVC Planning Team reviewed previously prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect NVC. Table 7-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to

evaluate which hazards were truly relevant to NVC and which ones were not. Section 7.4.2 below describes the hazard risk ranking process that was performed by the NVC planning team which prioritized hazards that are specifically relevant to NVC.

Table 7-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 7-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■		■
Climate Change	■	■	■
Dam Failure	■	■	■
Drought	■	■	■
Earthquake	■	■	■
Flood	■	■	■
Landslide	■	■	■
Levee Failure	■	■	■
Manmade Hazards			■
Pandemic Disease			■
Sea Level Rise	■		■
Severe Weather	■		■
Terrorism & Tech Hazards			■
Tsunami		■	■
Volcano			■
Wildfire	■	■	■

7.4.2 Hazard Risk Ranking

The NVC Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 7-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team**. The Planning Team chose to assess NVC's vulnerability to following hazards: earthquake, flood, severe weather, wildfire, and dam failure.** All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address NVC's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to NVC.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

Highly Likely	**Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
Likely	**Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
Possible	**Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
Unlikely	**Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Napa Valley College Risk Matrix

IMPACT

PROBABILITY	Minor	Limited	Critical	Catastrophic
Highly Likely	Medium	High	EARTHQUAKE	Extreme
Likely	Medium	FLOOD, WILDFIRE, DROUGHT, SEVERE WEATHER	High	Extreme
Possible	CLIMATE CHANGE, LANDSLIDE	DAM FAILURE	High	High
Unlikely	Low	Low	Medium	Medium

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Figure 7-2 Napa Valley College Risk Assessment Matrix

7.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within NVC are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

7.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to NVC. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

7.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display NVC's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the NVC Planning Team prioritized are displayed below in Figure 7-3 through Figure 7-7.

7.4.3.3 Past & Future Development

NVC does not permit development. Development that takes place within the campuses of NVC will be subject to development regulations of the State of California. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

Napa Valley College Campus has experienced a number of facility upgrades and additions since the 2004 Napa County HMP. Development that has occurred since the previously approved HMP has occurred outside the identified flood plain and has adhered to State Seismic Standards.

DAM INUNDATION EXPOSURE

NAPA VALLEY COLLEGE

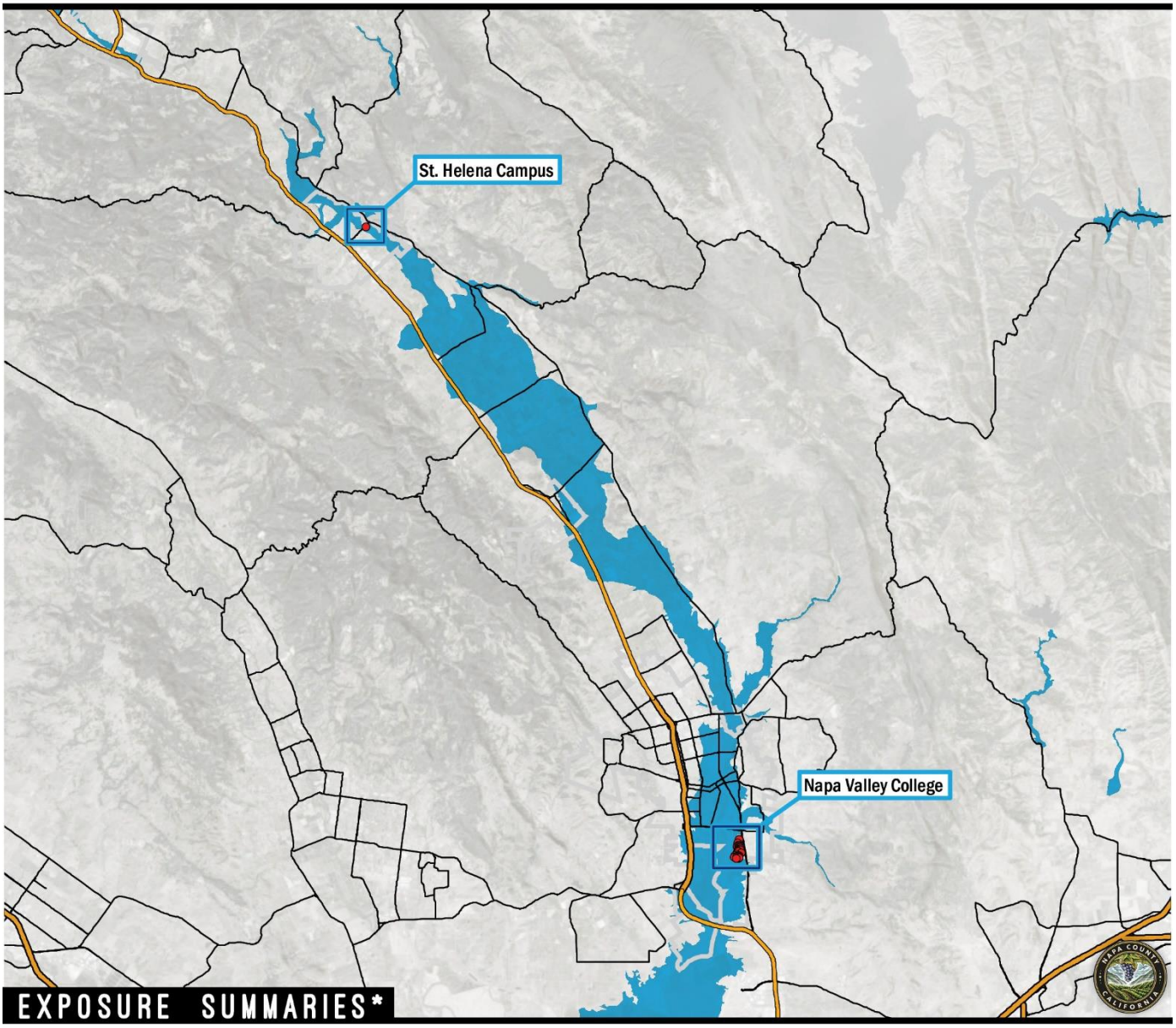


Figure 7-3 Dam Exposure Summary

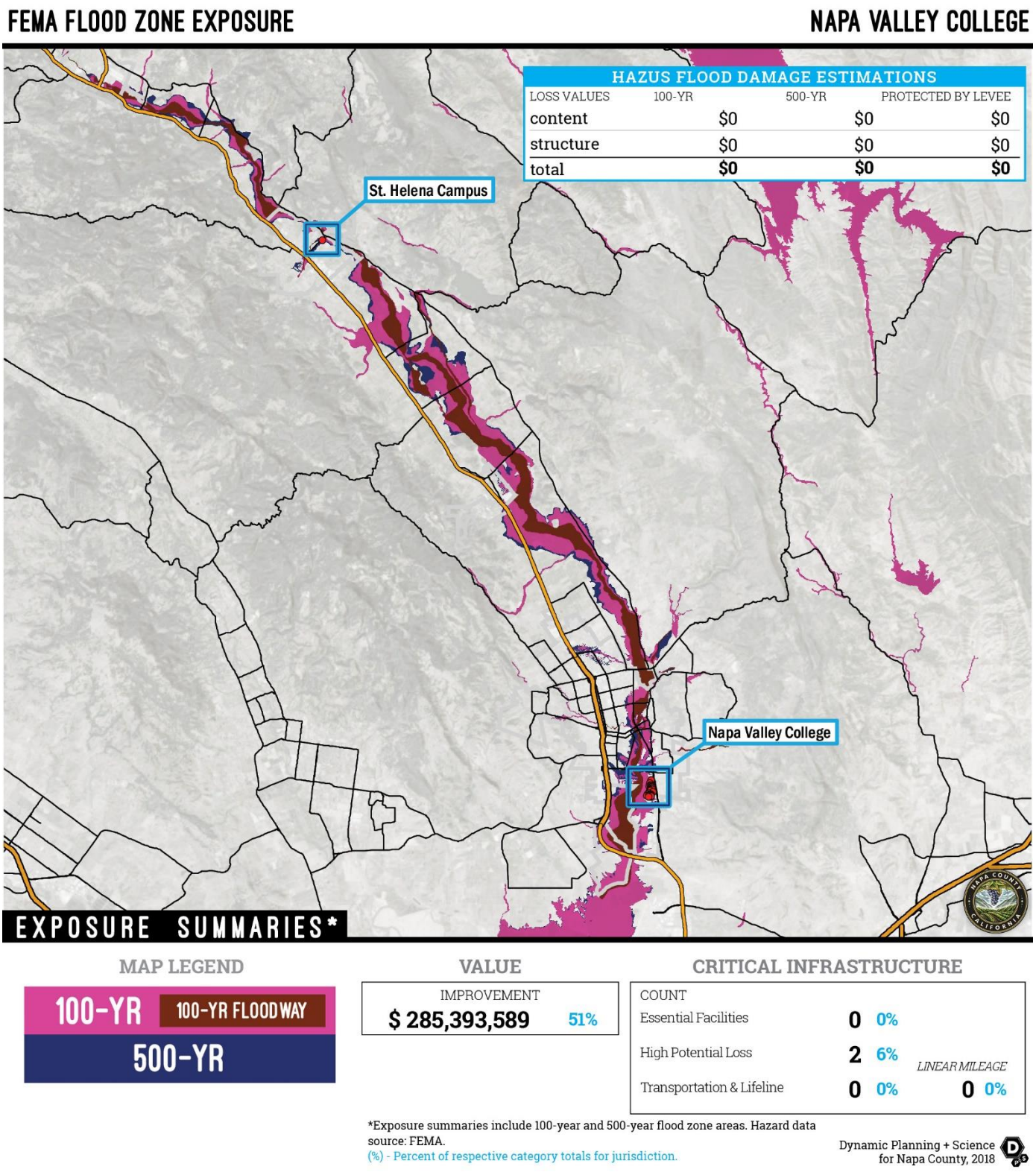


Figure 7-4 Flood Exposure Summary

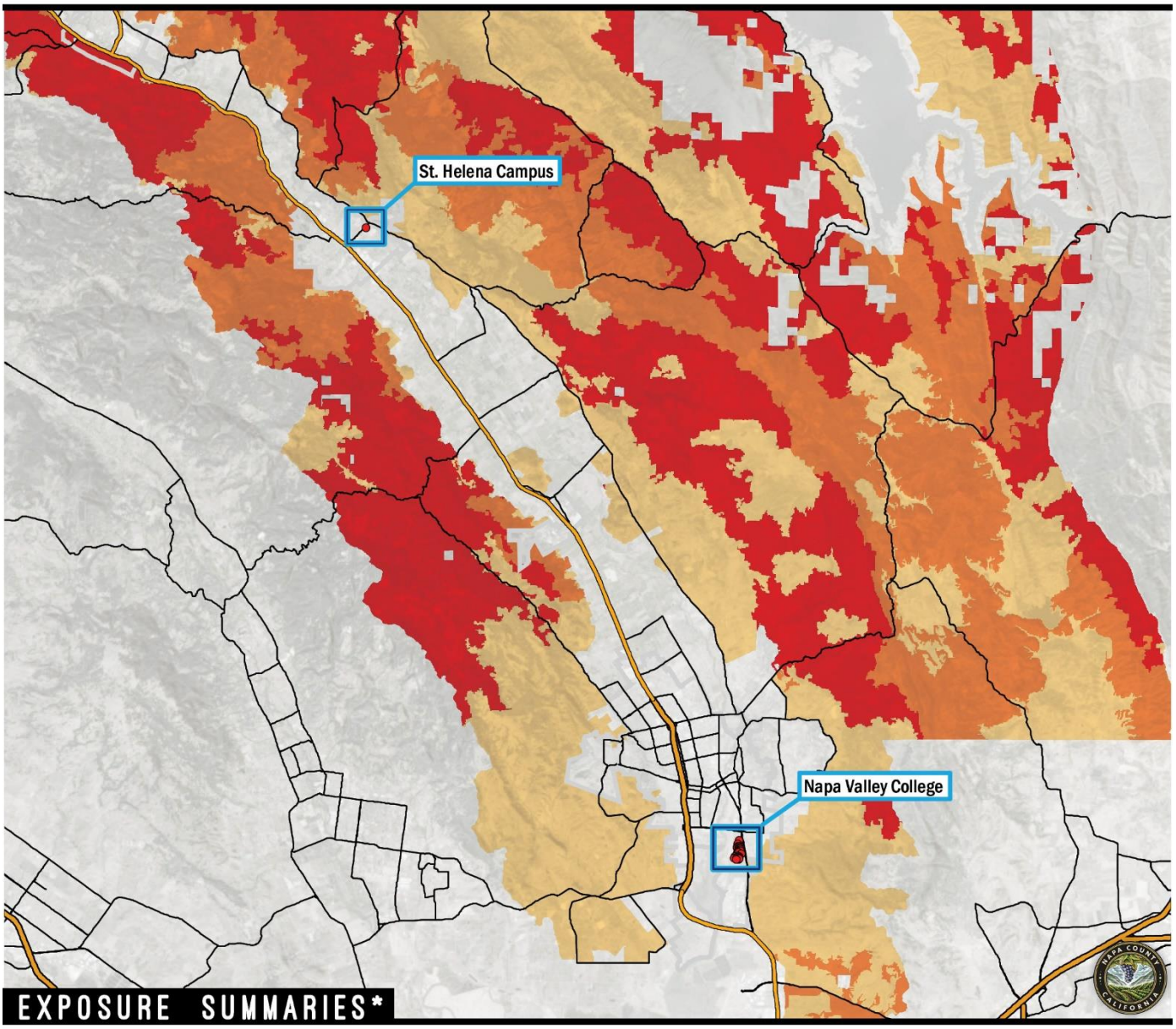


Figure 7-5 Wildfire Exposure Summary

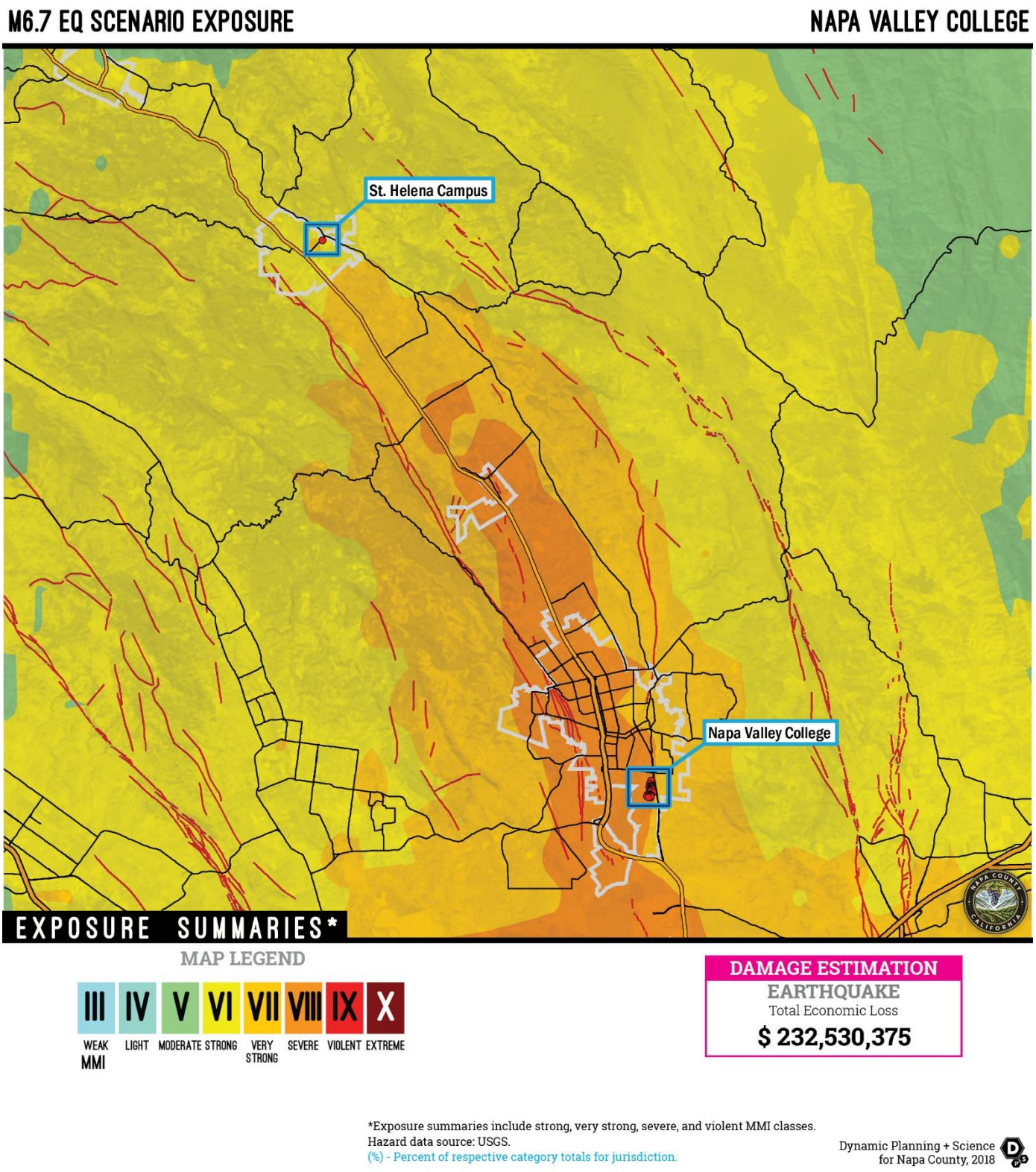


Figure 7-6 West Napa 6.7 Scenario Exposure Summary

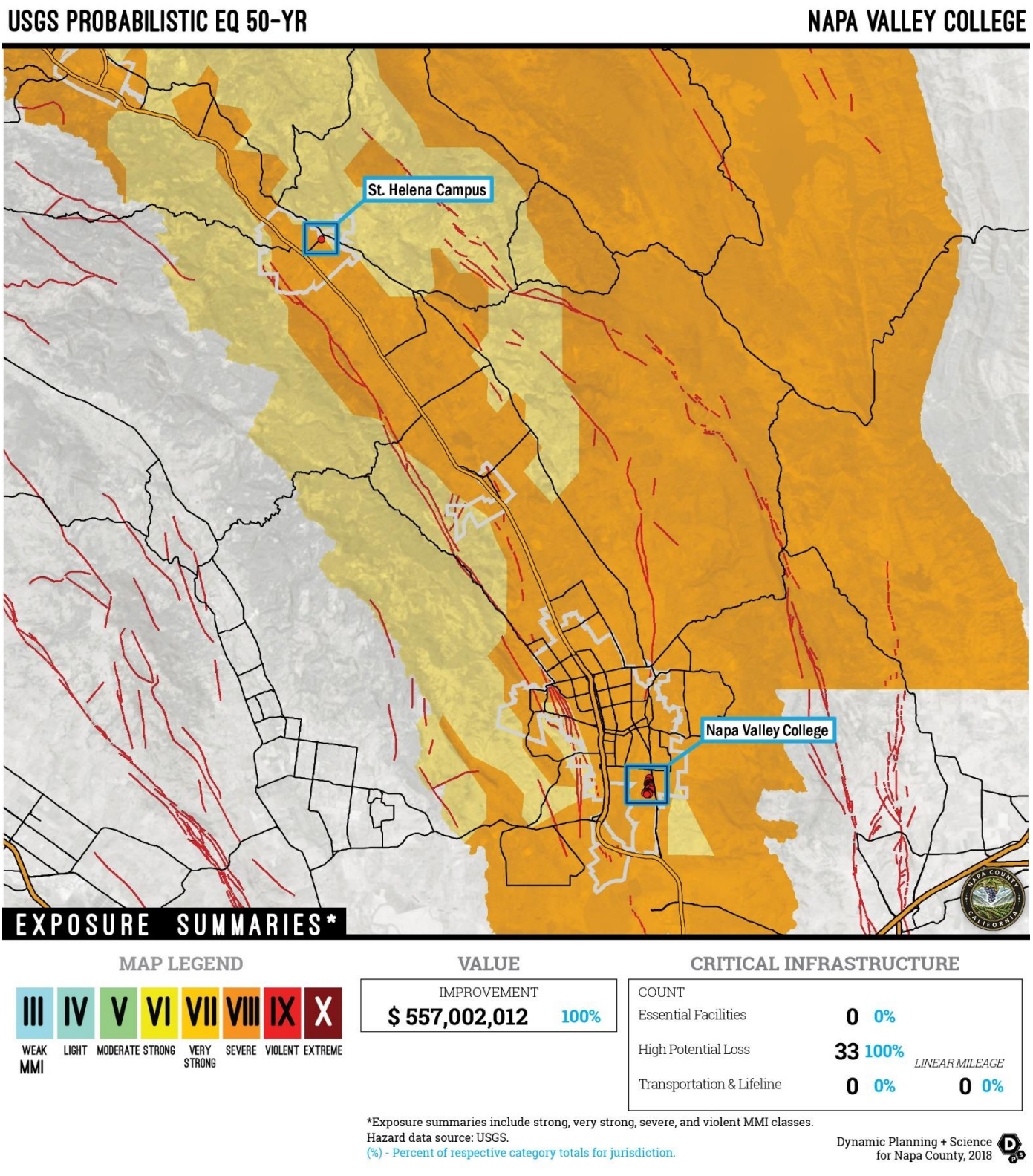


Figure 7-7 50-Yr. Probabilistic Scenario Exposure Summary

7.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the NVC Planning Committee are listed in Table 7-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 7-9 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 7-4 and Table 7-9.

Table 7-4 Napa Valley College Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
DF-17	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services , PE&A - Public Education & Awareness	**Napa Valley College**	Napa Valley College is in a Dam Inundation Zone.	**NC-34-2020, NC-35-2020, NC-36-2020, NVC-07-2020**
EQ-21	Earthquake	Threat	PE&A - Public Education & Awareness	**Napa Valley College**	Some buildings were constructed in the 1960s. Lower tier of campus has potentially different soil.	**NVC-05-2013, NVC-02-2020**
EQ-28	Earthquake	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Napa Valley College**	Napa Valley College could potentially be impacted by casualties, property damage, business interruption, financial Loss, and environmental contamination by a major earthquake.	**NVC-05-2013, NVC-02-2020**
EQ-29	Earthquake	Victim	PE&A - Public Education & Awareness , ES - Emergency Services	**Napa Valley College**	Napa Valley College has a population that is vulnerable to earthquakes (Students and Staff, Community Visitors). Current staff is 186 and current enrollment is 6,348 (https://www.communitycollegereview.com/napa-valley-college-profile).	**NVC-02-2020, NVC-05-2013**
EQ-30	Earthquake	Threat	SP - Structural Projects , PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**Napa Valley College**	Building codes related to earthquake risk might be outdated or need updating.	**NC-54-2020, NVC-04-2020**
FL-35	Flood	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	**Napa Valley College**	Napa Valley College could be impacted by casualties, property damage, business interruption, financial loss, environmental contamination during a flood event.	**NC-32-2020, NVC-01-2013, NVC-03-2013, NVC-07-2020**
FL-36	Flood	Threat	PRV - Prevention , PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects	**Napa Valley College**	Half of campus (buildings and property) could be under water during a flood event at either Napa Valley College Campus (City of Napa or St. Helena).	**NC-32-2020, NVC-01-2013, NVC-03-2013, NVC-07-2020**
SW-05	Severe Weather	Threat	SP - Structural Projects , PE&A - Public Education & Awareness	**Napa Valley College**	Heavy rains during winter months could become localized flooding (but would be minimal).	**NC-12-2020, NC-13-2020, NC-14-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
SW-08	Severe Weather	Impact	PRV - Prevention , NRP - Natural Resource Protection , PPRO - Property Protection , PE&A - Public Education & Awareness	**Napa Valley College**	Napa Valley College could be impacted by property damage, financial loss, and environmental contamination during severe rain events.	**NC-11-2020**
SW-09	Severe Weather	Victim	PRV - Prevention , ES - Emergency Services , PPRO - Property Protection , PE&A - Public Education & Awareness	**Napa Valley College**	Napa Valley College has a population that is vulnerable to severe rain events.	**NC-12-2020, NC-13-2020, NC-14-2020, NC-11-2020**
WF-29	Wildfire	Threat	PE&A - Public Education & Awareness , SP - Structural Projects	**Napa Valley College**	Portions of Napa Valley College are within the Wildland Urban Interface (WUI)	**NC-07-2013**

7.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the College's planning committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The NVC Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 1-10 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

7.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the College's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well. Napa Valley College is not eligible for the National Flood Insurance Program (NFIP), nor does it have repetitive loss properties; no statistics on NFIP participation are included in this annex.

7.5.1.1 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard

mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 7-5: Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Reduction Programs (Annual)				
Capital Improvements Program (CIP) or Plan				
Annual Fire Prevention Plan				
Seismic Safety Program (Building Safety)				Following DSA guidelines the facilities masterplan has identified the structures that need to be modified or replaced
Earthquake Modernization Plan (Non-structural)				Following DSA guidelines the facilities masterplan has identified the structures that need to be modified or replaced
Stormwater Management Program (Annual Inspections)				Facilities masterplan has identified general guidelines for new development
Hazard Plans and Programs				
Floodplain Response Plan				
Emergency Operations Plan				
Community Wildfire Protection Plan (CWPP)				County-wide CWPP in development
Ground Water Management Planning / Plans	Not applicable			
Drought Mgmt/ Contingency Plan				
FireWise Communities within District	Not applicable			
Hazard-Related Public Outreach Program				

7.5.1.2 Administrative and Technical Capabilities

Table 7-6: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Staff Capacity:		
Emergency Manager		Chief of Police
Civil Engineer		
Resiliency Planner		
Transportation Planner		
GIS Specialist and Capability		
Grant Manager, Writer, or Specialist		
Warning Systems/ Services		
General		
Flood		NVC Safe application and alert system. Napa Valley College department phone trees. Dedicated emergency website.
Wildfire		
Geological Hazards		

7.5.1.3 Financial Capabilities

Table 7-7: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Levy for Specific Purposes with Voter Approval		
Utilities Fees		
System Development Fee	Not applicable	
General Obligation Bonds to Incur Debt	Not applicable	
Special Tax Bonds to Incur Debt	Not applicable	
Withheld Spending in Hazard-Prone Areas	Not applicable	
Stormwater Service Fees	Not applicable	
Capital Improvement Project Funding	Not applicable	

7.5.1.4 Education and Outreach

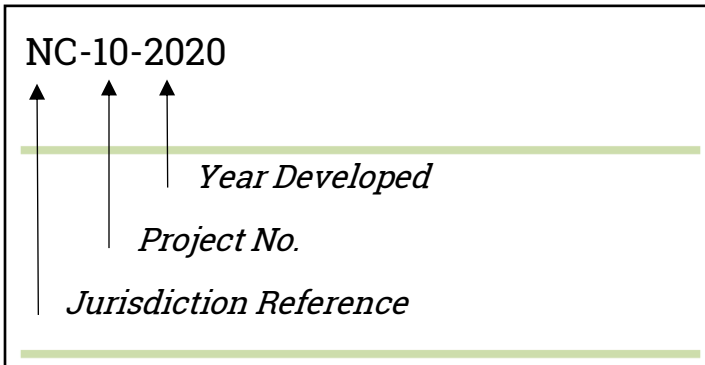
Table 7-8: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		http://www.napavalley.edu/studentaffairs/Police/Pages/EmergencyProcedures.aspx
Dedicated Social Media		NVC Safe application
Hazard Info. Avail. at Library		
Annual Public Safety Events		Classroom and Public Presentations
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		Emergency Posters/Pamphlets/Notices
Fire Safe Councils		County-wide, yes
Resource Conservation Districts	Not applicable	
Other		

7.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. NVC has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.



Jurisdictions are identified by the following letters:

AC- American Canyon
CL- Calistoga
NC- Napa County (unincorporated)
HM- Howell Mountain MWC
NCOE- Napa COE
NFC- Napa Flood Control & Water District
NVC- Napa Valley College
SH- St. Helena
YV- Yountville

Table 7-9 lists each mitigation action for NVC. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 7-9 meets the regulatory requirements of FEMA and DMA 2000.

Table 7-9 NVC Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NVC-02-2020	Earthquake	PE&A - Public Education & Awareness	2020	**Napa Valley College**	Encourage communities and constituents to participate in the Great California ShakeOut. Continue staff EOC and emergency messaging training.	Register and participate yearly in the Great California Shakeout. Re-establish Area Coordinators and necessary associated training. Annual staff EOC training and exercises.	NVC Emergency Response Committee	Ongoing	Undetermined	Undetermined	General Funds/Grants	Medium	**EQ-29, EQ-21, EQ-28**
NVC-04-2020	Earthquake	PRV - Prevention	2020	**Napa Valley College**	Design and construct new critical facilities to higher than the minimum seismic standards required by building codes, especially for facilities that may serve as emergency shelters or their public infrastructure.	Follow state DSA guidelines	CA Community College Chancellor's Office	5-10 Years	Unknown	Unknown	Bonds/Grants	Medium	**EQ-30**
NVC-05-2013	Earthquake	PPRO - Property Protection	2020	**Napa Valley College**	Research geological soil makeup of lower tier of campus to determine if additional structural mitigation steps are necessary.	Research geological soil makeup of lower tier of campus to determine if additional structural mitigation steps are necessary.	Napa Valley College	1-3 Years	N/A	N/A	N/A or General Fund	Medium	**EQ-21, EQ-28, EQ-29**
NVC-01-2013	Flood	PPRO - Property Protection	2013 (Ongoing)	**Napa Valley College**	Routinely inspect storm water channels an inlets for vegetation build up or encroachment, trash and debris, silt and gravel build up, and erosion or bank failure and maintain said channels permitted by California Department of Fish and Game.	Preliminary Identified Tasks for Napa Valley Community College: Quarterly Inspection of Tulocay Creek; Repair Corridor and College Pond and Drainage Pathway; Maintain drainage pathway through College Property focusing on Pond and Corridor. Routine inspection of campus wide storm water inlets.	Napa Valley College	Ongoing	Unknown	Undetermined	Local watershed assessment/federal funding needed/mosquito abatement district	Medium	**FL-35, FL-36**
NVC-07-2020	Flood	PPRO - Property Protection	2020	**Napa Valley College**	Storm water collection location check valves	Analyze building drawings and piping systems to determine appropriate locations of check valves. Purchase and install.	Napa Valley College	3-5 Years	Unknown	Unknown	Grants/Bonds	Medium	**DF-17, FL-35, FL-36**
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorp.**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NVC-206-2020	Severe Weather	SP - Structural Projects	2020	**Napa Valley College**	Perform a feasibility study for severe rain- proofing options and analyze the drainage systems on campus.	1. Study current state of of infrastructure below ground and above ground 2. Survey corridor, upstream and downstream 3. Complete prerequisite studies 4. Identify upgrades needed	Napa Valley College	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**SW-05, SW-08, SW-09**
NVC-207-2020	Wildfire	NRP - Natural Resource Protection	2020	**Napa Valley College**	Remove vegetative fuels and add create defensible space around school sites.	1. Identify areas of priority for tree trimming and fire-safe vegetation 2. secure resources and staff 3. Implement	Napa Valley College	`1-3 Years	Unknown	Unknown	HMGP/PDM	High	**WF-29**

JURISDICTIONAL ANNEX

Section 8. Howell Mountain Mutual Water Company

NAPA COUNTY
OPERATIONAL AREA
HAZARD MITIGATION PLAN

NAPA COUNTY OFFICE OF EMERGENCY SERVICES
1195 THIRD STREET B-20
NAPA, CA 94559

8.1 Adoption Records

To comply with DMA 2000, the County Board of Supervisors and participating jurisdictions have officially adopted this Napa County Multi-Jurisdictional Hazard Mitigation Plan Volume 1 and Volume 2. The adoption of the MJHMP in its entirety recognizes the jurisdictions' commitment to reducing the impacts of natural hazards within the Cities and County. See below record of Adoption.

Howell Mountain Mutual
Water Company

RESOLUTION 06-2020-23
A RESOLUTION FOR THE HOWELL MOUNTAIN MUTUAL WATER COMPANY TO ADOPT THE 2020 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR NAPA COUNTY AS ITS OFFICIAL PLAN

WHEREAS, the Howell Mountain Mutual Water Company is a 501(c)(12) mutual benefit corporation and an official participating jurisdiction of the "2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan" (MJHMP); and

WHEREAS, the Howell Mountain Mutual Water Company recognizes the MJHMP as the official hazard mitigation plan for the County and participating jurisdictions; and

WHEREAS, the Howell Mountain Mutual Water Company, with the assistance from Napa County, has gathered information and prepared the MJHMP in accordance with Federal Emergency Management Agency (FEMA) requirements at 44 C.F.R. § 201.6; and

WHEREAS, the Howell Mountain Mutual Water Company Annex in Vol 2. of the MJHMP recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, the Howell Mountain Mutual Water Company has reviewed the MJHMP and affirms that the plan actions in the Howell Mountain Mutual Water Company's Annex will reduce the potential for harm to people and property from future hazard occurrences with our community; and

WHEREAS, Congress passed the Disaster Mitigation Act of 2000 (Disaster Mitigation Act) emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available mitigation grants to state and local governments; and

WHEREAS, an adopted multi-hazard plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the Board of Directors fully participated in the FEMA-prescribed mitigation planning process to prepare this MJHMP; and

WHEREAS, the citizens were afforded opportunities to comment and provide input in the MJHMP and the actions in the Plan; and

WHEREAS, the Howell Mountain Mutual Water Company, as a fully participating jurisdiction of the MJHMP is an eligible sub-applicant to the State of California under FEMA's hazard mitigation grant program guidance; and

WHEREAS, the California Office of Emergency Services (Cal OES), and the FEMA Region IX officials have reviewed the MJHMP, and approved it contingent upon this official adoption by the participating governing body; and

Phone (707) 965-2205 **P.O. Box 9, Angwin CA 94508** **Fax (707) 965-2655**
hmmwco@napanet.net

WHEREAS, the Board of Directors desire to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the MJHMP; and

WHEREAS, adoption by the Board of Directors for the Howell Mountain Mutual Water Company demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this MJHMP; and

WHEREAS, adoption of this plan helps to coordinate the responsible agencies to carry out their responsibilities under the MJHMP;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Howell Mountain Mutual Water Company:

1. That the Board of Directors of the Howell Mountain Mutual Water Company adopts the 2020 Multi-Jurisdictional Hazard Mitigation Plan Vol. 1 for Napa County and the Howell Mountain Mutual Water Company Annex in Vol. 2, as approved by FEMA and Cal OES, as the mitigation plan for the Howell Mountain Mutual Water Company.

2. That the Board of Directors orders Shannon Damonte, the Office Manager, to submit an approved and signed copy of this resolution to the Cal OES and FEMA Region IX officials to enable the plan's final approval.

THE FOREGOING RESOLUTION WAS DULY AND REGULARLY adopted by the Howell Mountain Mutual Water Company Board of Director's, in Angwin California, County of Napa in a regular meeting of the Board held on the 23th day of June, 2020 by the following vote:

AYES: 6

NOES: 0

ABSENT: 1

FRANK DOTZLER, President
Howell Mountain Mutual Water Company

ATTEST:

SHANNON DAMONTE, Office Manager

Phone (707) 965-2205 P.O. Box 9, Angwin CA 94508 Fax (707) 965-2655
hmmwco@napanet.net

8.2 Purpose

This Annex details the hazard mitigation planning elements specific to the Howell Mountain Mutual Water Company (HMMWC). This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the HMMWC. This Annex provides additional information specific to the HMMWC, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact
Shannon Damonte
Howell Mountain Mutual Water Company, Inc.
P.O. Box 9
Angwin, CA 94508
Telephone: 707-965-2205
e-mail Address: HMMWCO@napanet.net

Alternate Point of Contact
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e-mail Address: Hmmwco1@napanet.net

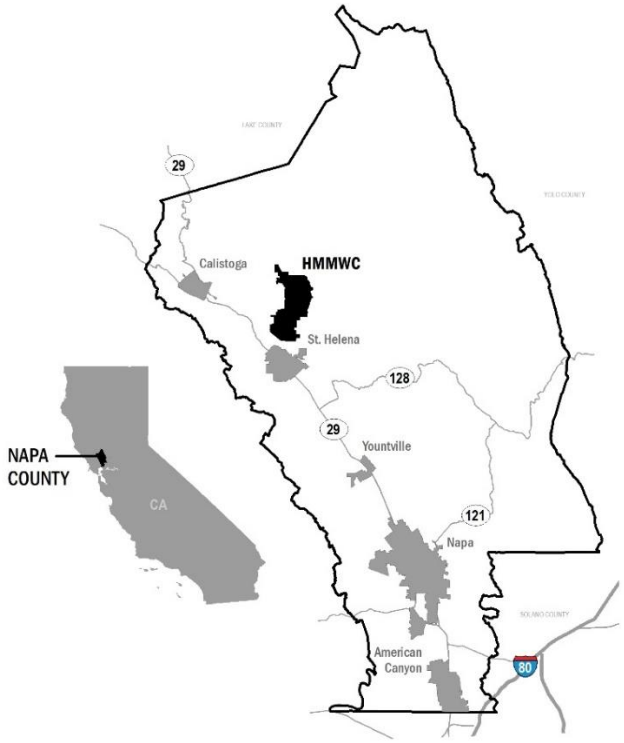


Figure 8-1 HMMWC Location

8.3 Planning Methodology

HMMWC followed the planning process detailed in Volume 1, Section 3 of the base plan. In addition to providing representation on the Napa County Hazard Mitigation Planning Committee (HMPC) and Steering Committee, HMMWC formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 8-1.

Table 8-1: HMMWC Planning Committee Members

Planning Committee Members	Department
Shannon Damonte	HMMWC
Karl Fernandez	HMMWC

8.3.1 What's New

HMWCC is a new participant in the MJHMP planning process. Listed below are prioritized hazard types, risk rankings, vulnerability assessment and mitigation strategy. HMWCC jointly developed mitigation priorities, rankings and the strategy listed herein.

8.4 Risk Assessment

The intent of this section is to profile HMMWC's hazards and assess HMMWC's vulnerability distinct from that of the County wide planning area, which has already been assessed in Vol. 1, Section 4 (Risk Assessment). The hazard profiles in Vol. 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard vulnerability specific to HMMWC is included in this Annex. For more information on Risk Assessment Methodologies see Vol. 1 and Appendix A.

8.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the plan and which should not. The results of that discussion can be found in Table 8-2. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Vol. 1. The HMMWC Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect HMMWC. Table 8-3 provides a crosswalk of hazards identified in Vol. 1 of this plan, 2010 San Francisco Bay Area Hazard Mitigation Plan, and 2018 California State Hazard Mitigation Plan. Sixteen different hazards were identified based on a thorough document review. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to HMMWC and which ones were not. Section 8.4.2 below

describes the hazard risk ranking process that was performed by the HMMWC Planning Team which prioritized hazards that are specifically relevant to HMMWC.

Table 8-2 Hazard Prioritization

Hazard Type	Explanation
Climate Change	**High priority county-wide, profiled hazard.**
Dam failure	**High priority county-wide, profiled with flood hazard.**
Drought	**High priority county-wide, profiled hazard**
Earthquake/ Geologic Hazards	**High priority county-wide, profiled hazard**
Extreme Heat	**Profiled as part of Severe Weather hazard**
Extreme Cold	**Profiled as part of Severe Weather hazard**
Flood	**High priority county-wide, profiled hazard**
Hail	**Profiled as part of Severe Weather hazard**
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this Plan.
High Winds/ Straight Line Winds	**High priority county-wide, profiled as part of Wildfire and Severe Weather hazards**
Infestation	**High priority county-wide, profiled as part of Ag Disaster hazard**
Lightning	**Profiled as part of Severe Weather hazard**
Pandemic Disease	**High priority county-wide, profiled hazard.**
Severe Thunderstorm	**Profiled as part of Severe Weather hazard.**
Slope Failure	**High priority county-wide, profiled hazard**
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	**High priority county-wide, profiled hazard**
Winter Storm	**Profiled as part of Severe Weather hazard**

Table 8-3 Document Review Crosswalk

Hazards	Napa County Operational Area HMP (Vol. 1)	2010 San Francisco Bay Area HMP	2018 California State HMP
Agricultural Pests	■		■
Climate Change	■	■	■
Dam Failure	■	■	■
Drought	■	■	■
Earthquake	■	■	■
Flood	■	■	■
Landslide	■	■	■
Levee Failure	■	■	■
Manmade Hazards			■
Pandemic Disease			■
Sea Level Rise	■		■
Severe Weather	■		■
Terrorism & Tech Hazards			■
Tsunami		■	■
Volcano			■
Wildfire	■	■	■

8.4.2 Hazard Risk Ranking

HMMWC's Planning Team used the same hazard prioritization process as the Napa County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 8-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. **The Planning Team chose to assess HMMWC's vulnerability to following hazards: climate change, drought, earthquake, flood, wildfire, and dam failure**. All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address HMMWC's vulnerability to the previously mentioned hazards, which the Planning Team identified as presenting the most significant threat to HMMWC.

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY

- **Highly Likely** - **Highly likely** - 100% annual probability. Or Likely to occur every year in your lifetime.
- **Likely** - **Likely** - between 10 & 100% annual probability. Or will occur several times in your lifetime.
- **Possible** - **Possible** - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
- **Unlikely** - **Unlikely** - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT

Minor	Limited	Critical	Catastrophic

Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.

Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.

Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.

Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.

To concentrate resources, the jurisdictional planning team primarily focus on "High" and "Extreme" risk hazards, but may also focus on other hazards with medium impact. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in Vol. 1 of this plan. Some hazards are discussed as subset hazards— e.g., "Sea Level Rise" within the "Climate Change" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:

Climate change may change the frequency, duration and intensity of hazards within each planning area. If applicable Climate Change impacts are described at the end of each section.

If hazard symbol is grey or not present, the jurisdictional planning team did not develop hazard vulnerability information related to the planning areas due to perceived probability and impact described above.

Howell Mountain Mutual Water Company Risk Matrix

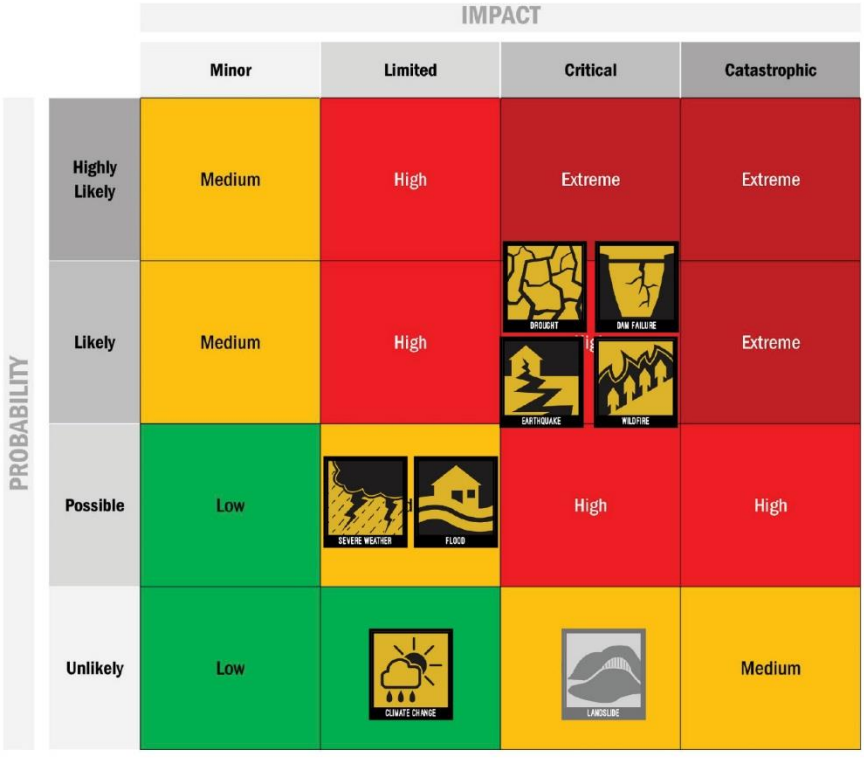


Figure 8-2 HMMWC Risk Assessment Matrix

8.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within HMMWC are vulnerable to specific hazard events. The vulnerability assessment included field visits and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

8.4.3.1 Web Based Risk Assessment Mapping and Analysis

The web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com, allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Napa County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP.

The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to HMMWC. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

8.4.3.2 Snapshot Exposure Maps

Static snapshot maps were developed to display HMMWC's vulnerability to specific hazards. These maps were available on the project website and helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard. The snapshot maps for the hazards that the HMMWC Planning Team prioritized are displayed below in Figure 8-3 through Figure 8-8.

8.4.3.3 Past & Future Development

The HMMWC does not permit development. Development that takes place within the boundaries of the HMMWC will be subject to development regulations of Napa County. See Section 4.3.5 of Volume 1 for more information about past and future development in Napa County.

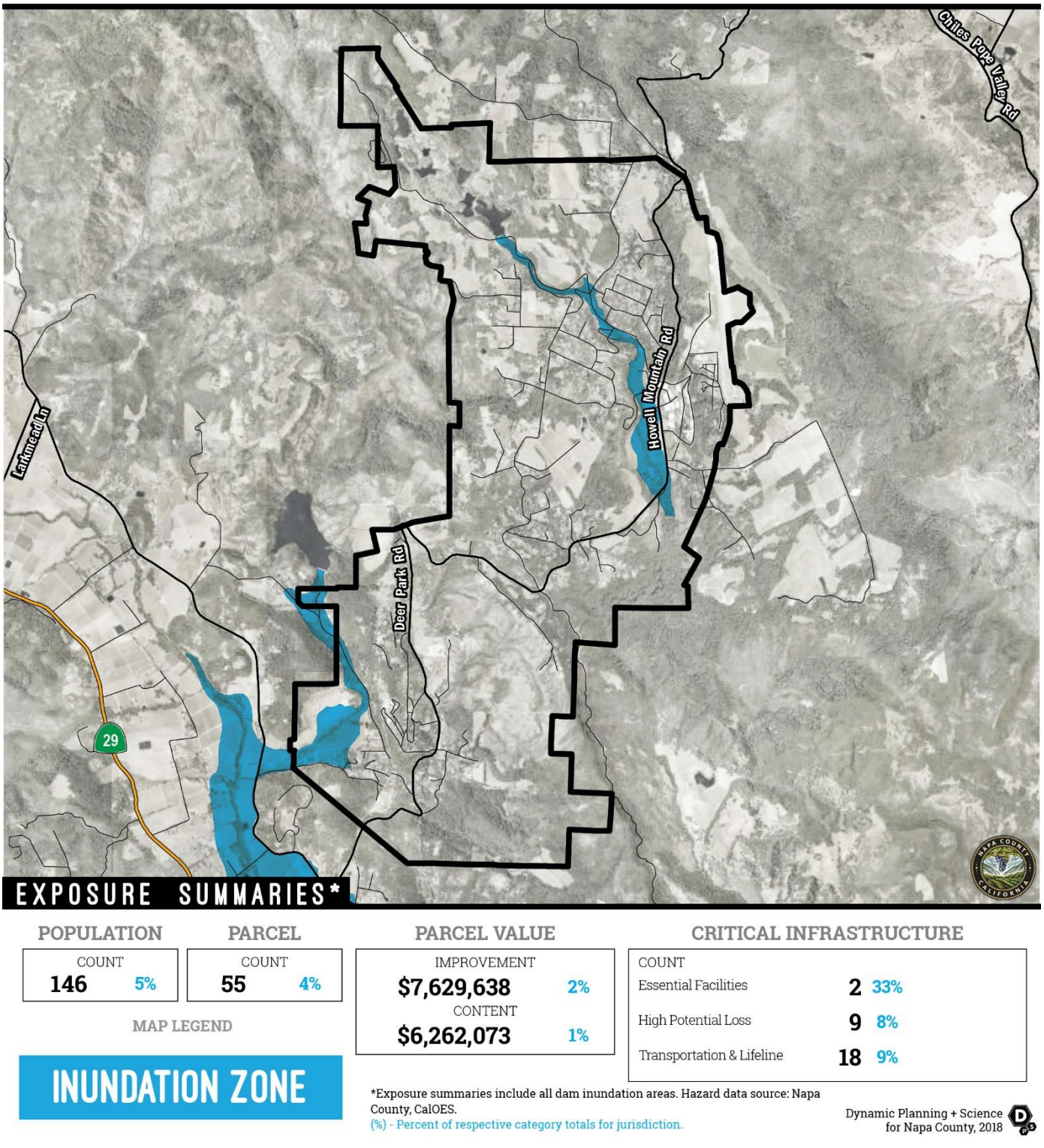


Figure 8-3 Dam Failure Exposure Summary

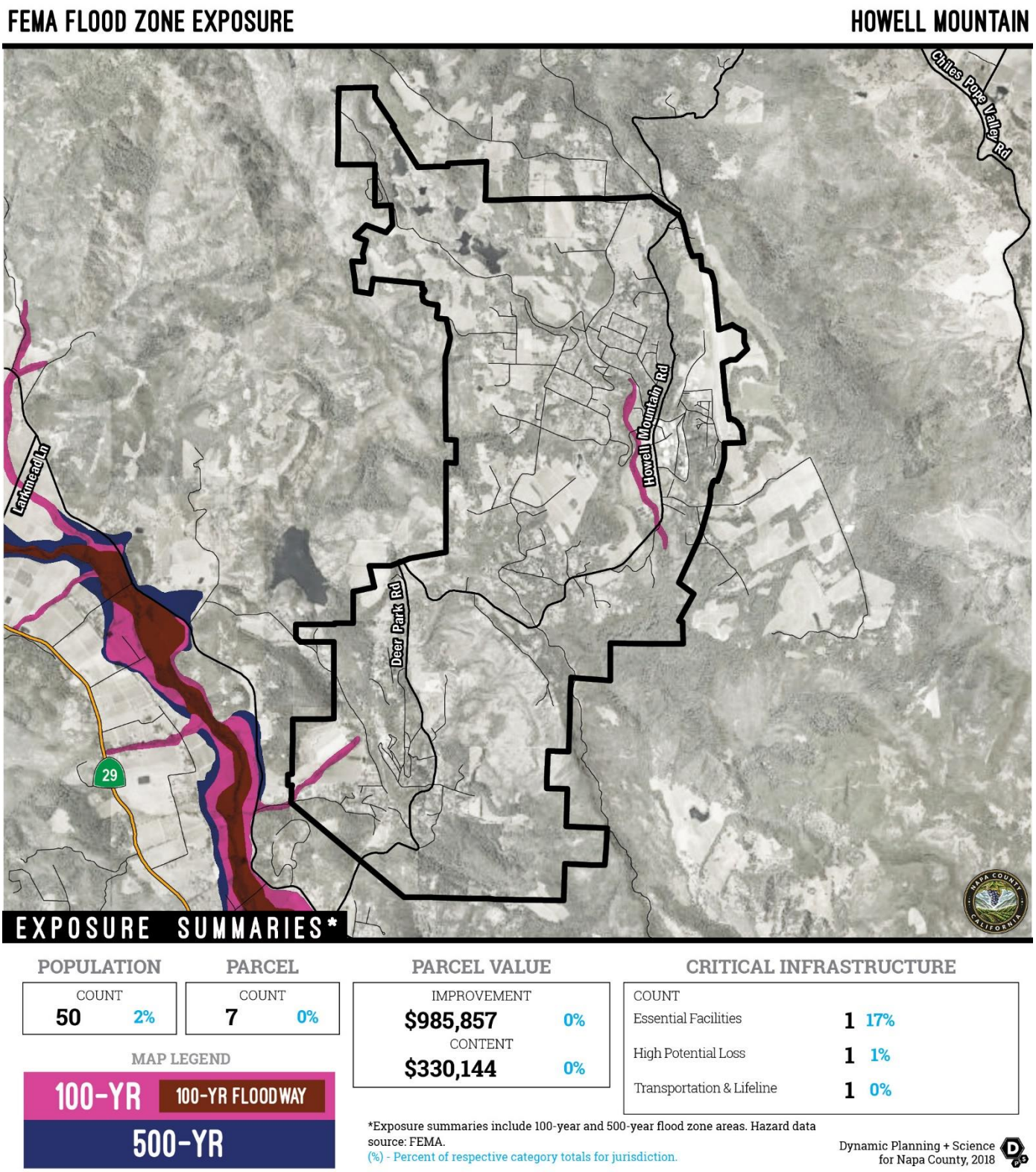


Figure 8-4 Flood Exposure Summary

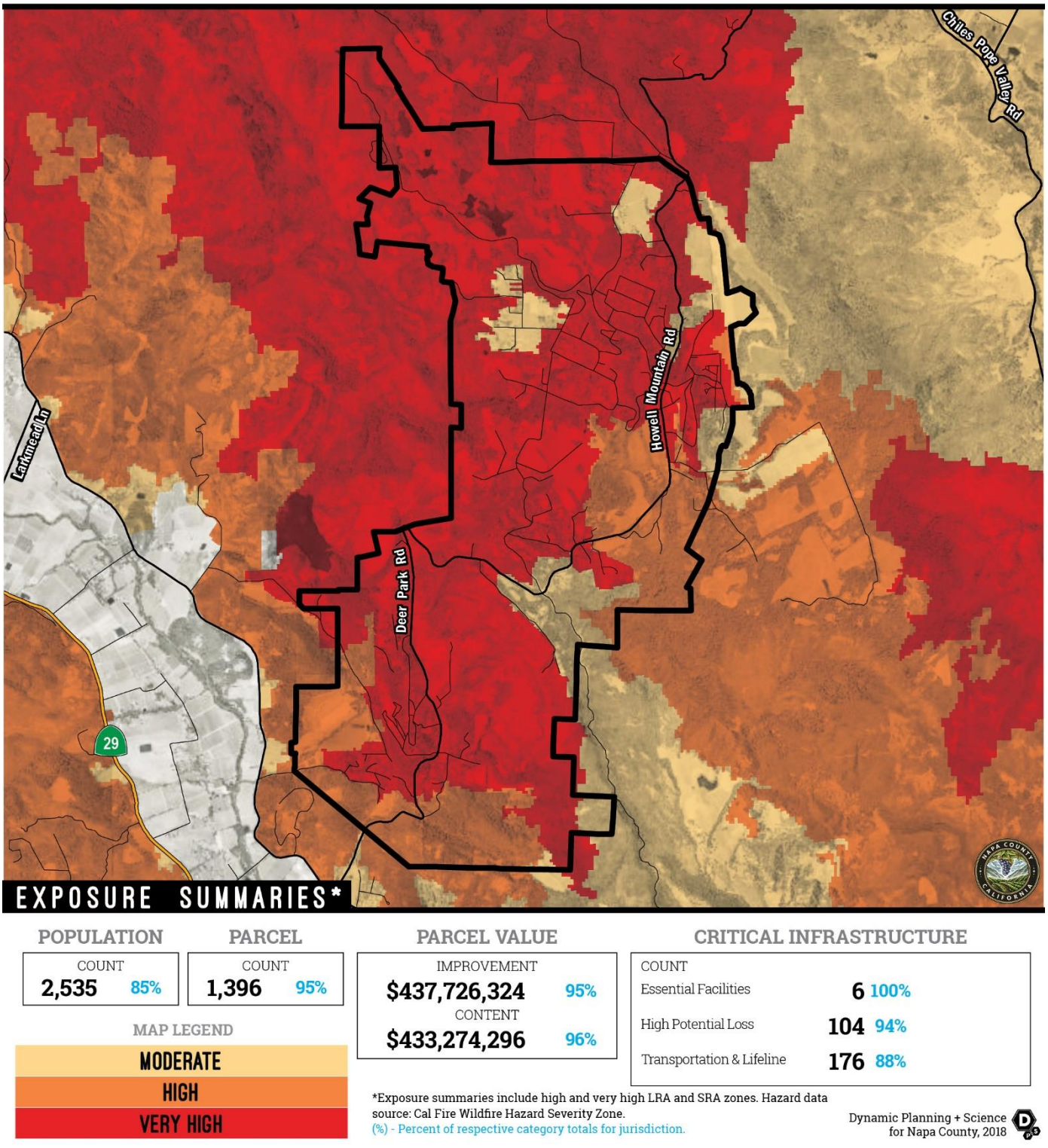


Figure 8-5 Wildfire Exposure Summary

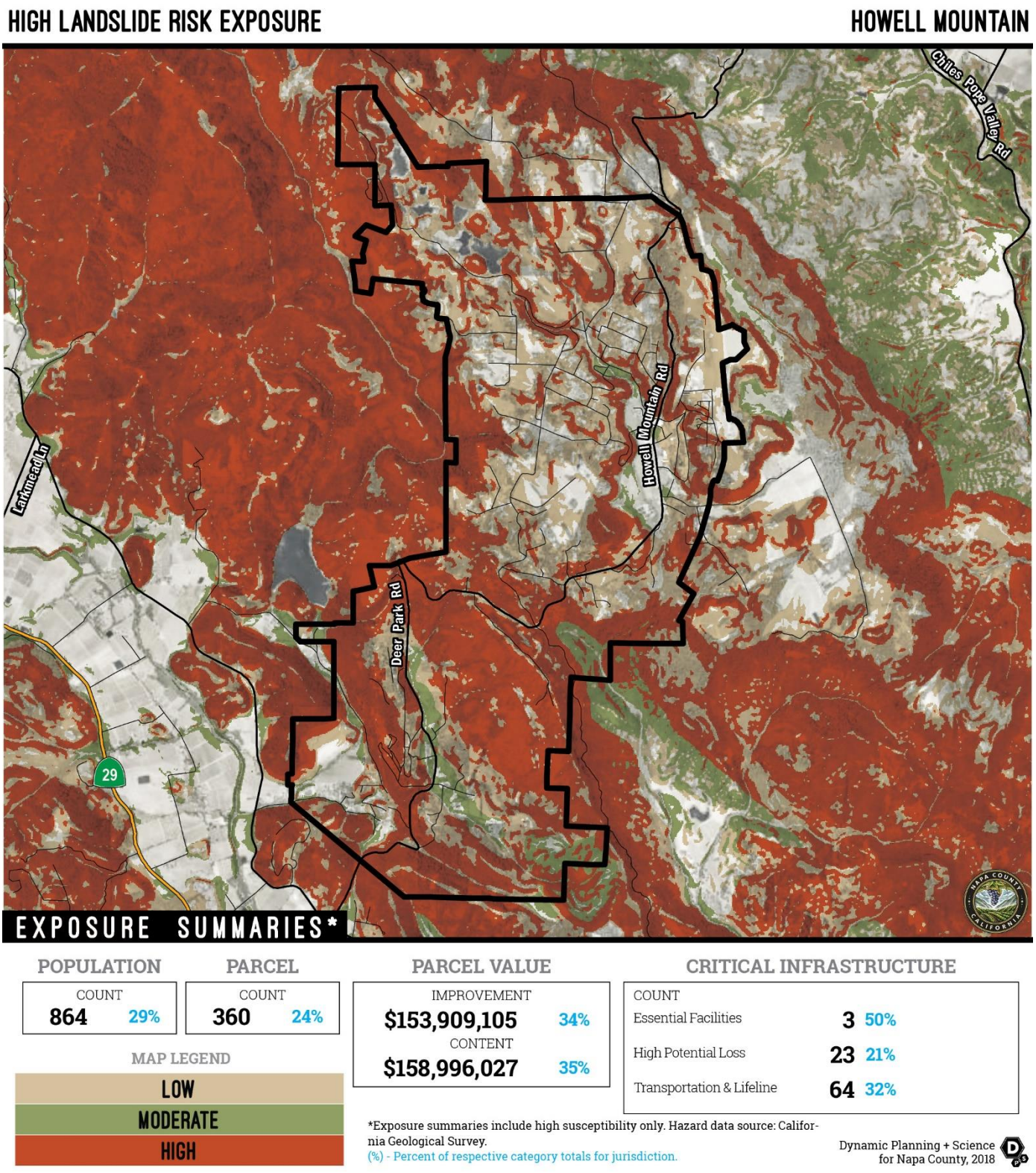


Figure 8-6 Landslide Exposure Summary

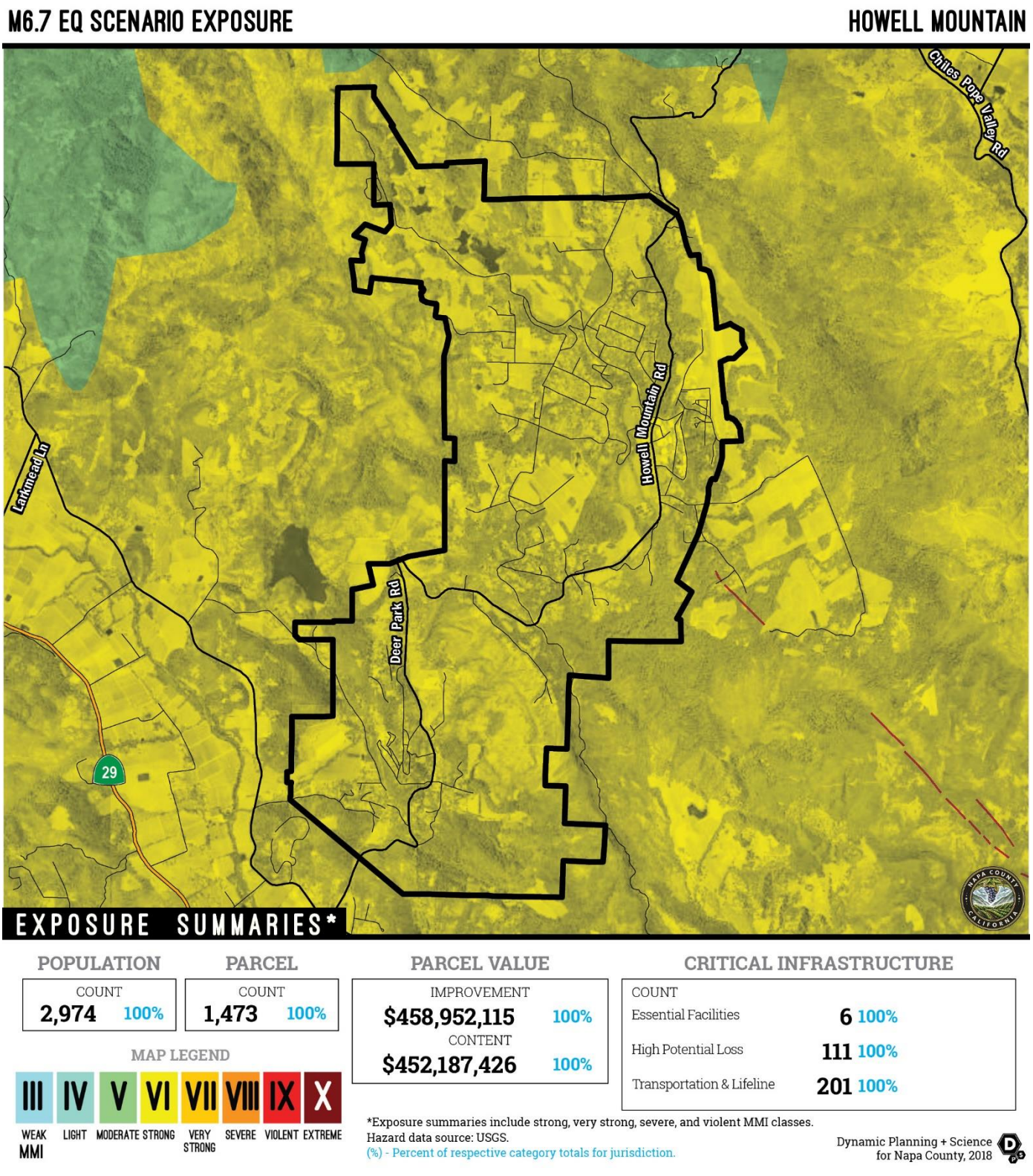


Figure 8-7 West Napa 6.7 Scenario Exposure Summary

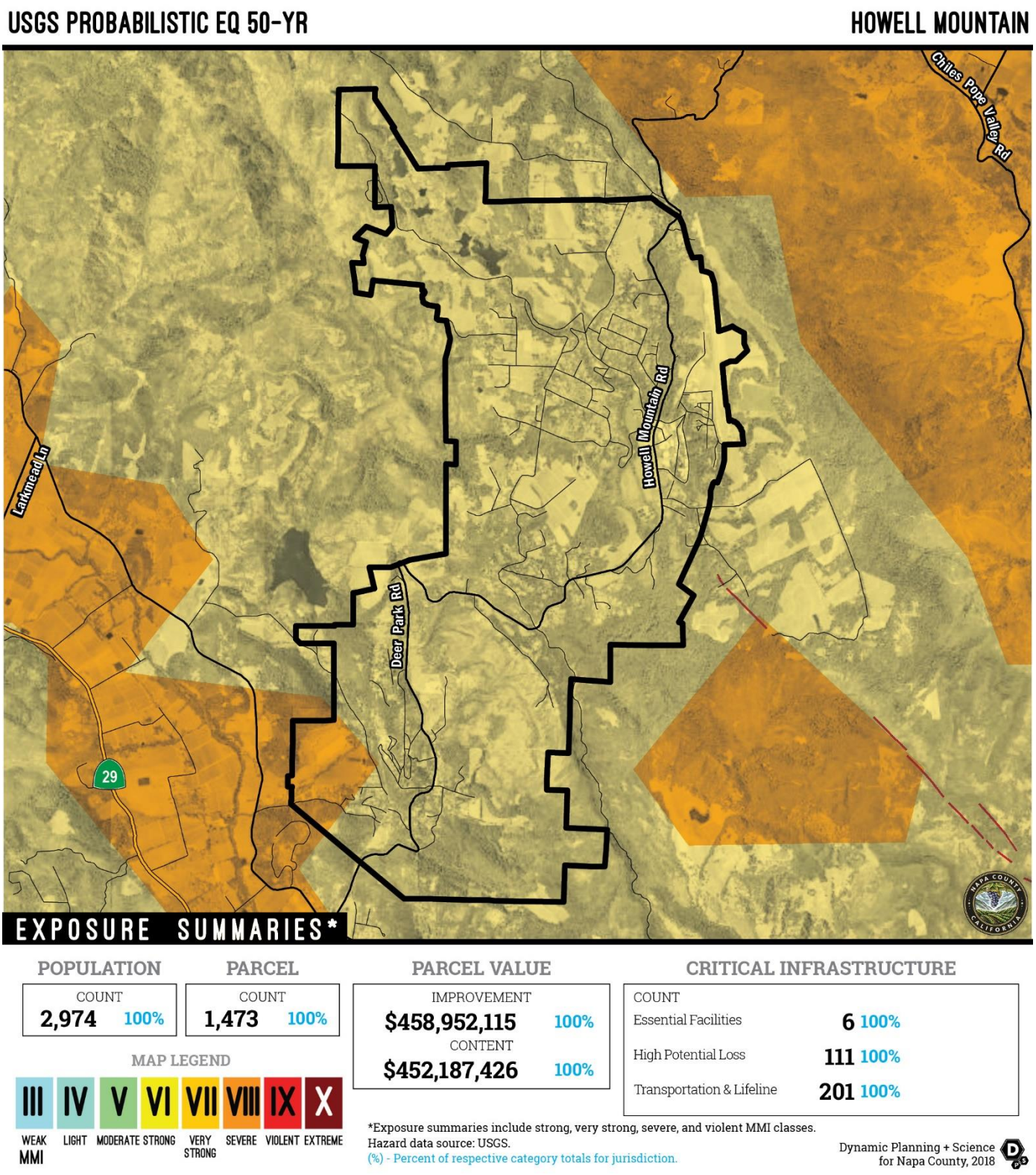


Figure 8-8 50-Yr. Probabilistic Scenario Exposure Summary

8.4.3.4 Identify Hazard Problem Statements

The Planning Committee developed mitigation actions, as both planning activities and projects, to address problems that could originate from hazards identified in the risk assessment, in line with identified capability of each jurisdiction. Mitigation actions were created by identifying hazard problem statements. As a rule of thumb, each hazard problem statement should be mitigated with a combination of short-term and long-range planning activities, either through operational and or physical projects. Hazard Problem Statements are located at the conclusion of each hazard profile in table format and are also uploaded in an interactive web-based Mitigation Action Support Tool (MAST), described below. Hazard problem statements for the County and other participating jurisdictions are categorized as impact-related, victim-related, or threat-related.

IMPACT

Casualties

Property Damage

Business Interruption

Financial Loss

Environmental Contamination

VICTIM

School Children in Hazard High Hazard Areas

Care Facilities in High Hazard Area

Vulnerable Population Exposed to hazards

THREAT

Increased Fuels due to drought

Hotter, drier climates

More Intense Storms

Impervious surfaces = greater runoff

Increases of Invasive Species

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified issues and weaknesses (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements developed by the HMMWC Planning Committee are listed in Table 8-4.

Identifying these common issues and weaknesses assists the Planning Committee in understand the realm of resources needed for mitigation. The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 8-9 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 8-4 and Table 8-9.

Table 8-4 HMMWC Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
CC-50	Climate Change	Impact	PRV - Prevention , NRP - Natural Resource Protection	**Howell Mountain MWC**	Increased sediment in lakes (which would require dredging/meaning less volume in lakes).	**HM-08-2020**
CC-51	Climate Change	Impact	PRV - Prevention , NRP - Natural Resource Protection	**Howell Mountain MWC**	Potential for Flooding in Inundation Zone and Watershed Damage	**HM-08-2020**
CC-52	Climate Change	Impact	PRV - Prevention , PPRO - Property Protection	**Howell Mountain MWC**	Damages to Infrastructure/Pipelines/Treatment Plant	**HM-06-2020**
CC-53	Climate Change	Victim	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	HMMWC has 400 customers plus the entire community of Angwin that will be affected by Climate Change.	**HM-08-2020**
CC-54	Climate Change	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Water Supplies/Quality (Increased Drought Probability) (See Drought Areas of Concern)	**HM-06-2020**
CC-55	Climate Change	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Increased heavy rain events (extreme weather)/100 Yr Flood Event (See Flooding Areas of Concern)	**HM-08-2020**
CC-56	Climate Change	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Increased fuels for WF and increased wildfire probability. (See Wild Fire Areas of Concern)	**HM-07-2020**
DF-50	Dam Failure	Impact	PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Cascading effect of Dam failure in the HMMWC.	**HM-07-2020**
DF-51	Dam Failure	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	**Howell Mountain MWC**	Major Flooding in Inundation Zone (Loss of Life and Property)	**HM-08-2020**
DF-52	Dam Failure	Impact	PRV - Prevention , PPRO - Property Protection , NRP - Natural Resource Protection	**Howell Mountain MWC**	Treatment Plant in Inundation Zone (Loss of ability to provide water.)	**HM-07-2020**
DF-53	Dam Failure	Impact	PRV - Prevention , PE&A - Public Education & Awareness , ES - Emergency Services	**Howell Mountain MWC**	Evacuation Route in Inundation Zone.	**HM-05-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
DF-54	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	**Howell Mountain MWC**	Residents; Employees, Winery Visitors, Neighbors in Inundation Zone.	**HM-05-2020**
DF-55	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection	**Howell Mountain MWC**	Volunteer Fire Department in Inudunation Zone; Market/Store in Inundation Zone; Pacific Union College in Inundation Zone.	**HM-08-2020**
DF-56	Dam Failure	Victim	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	**Howell Mountain MWC**	400 Customers in Inundation Zone.	**HM-06-2020**
DR-50	Drought	Impact	PRV - Prevention , PE&A - Public Education & Awareness , SP - Structural Projects	**Howell Mountain MWC**	Severe drought could lead to water supply and delivery issues.	**HM-03-2020**
DR-51	Drought	Impact	PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection , SP - Structural Projects	**Howell Mountain MWC**	Severe drought could affect water quality.	**HM-06-2020**
DR-52	Drought	Impact	PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	A severe drought would result in drier fuels which could create increased wildfire risk.	**HM-04-2020**
DR-53	Drought	Victim	PRV - Prevention , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	The water supply for the entire community of Angwin would be impacted by severe drought.	**HM-03-2020, HM-04-2020**
DR-54	Drought	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Lack of water due to drought could impede fire fighting capabilities in the community of Angwin.	**HM-04-2020**
DR-55	Drought	Victim	PRV - Prevention , PE&A - Public Education & Awareness	**Howell Mountain MWC**	Severe drought would affect the HMMWC company customers.	**HM-03-2020**
EQ-50	Earthquake	Impact	PPRO - Property Protection	**Howell Mountain MWC**	Infrastructure failure due to significant earthquake damage such as damage to pipelines, treatment plants, and storage tanks.	**HM-01-2020**
EQ-51	Earthquake	Impact	PRV - Prevention , PE&A - Public Education & Awareness , SP - Structural Projects	**Howell Mountain MWC**	Dam stability could be impacted by a severe earthquake.	**HM-01-2020, HM-07-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
EQ-52	Earthquake	Impact	PRV - Prevention , ES - Emergency Services	**Howell Mountain MWC**	Access roads to water treatment plant facility could be impacted by a severe earthquake.	**HM-05-2020**
EQ-53	Earthquake	Impact	PRV - Prevention , ES - Emergency Services	**Howell Mountain MWC**	Cell phone towers could be damaged or knocked out completely due to a severe earthquake.	**HM-02-2020**
EQ-54	Earthquake	Victim	PE&A - Public Education & Awareness	**Howell Mountain MWC**	There are 400 HMMWC customers who could be impacted by a severe earthquake.	**HM-01-2020**
EQ-55	Earthquake	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	**Howell Mountain MWC**	HMMWC customers could be cut off from water supplies or not have access to properly treated water.	**HM-06-2020**
EQ-56	Earthquake	Threat	PRV - Prevention , PE&A - Public Education & Awareness	**Howell Mountain MWC**	A severe earthquake could cause dam failure which may result in loss of life and property.	**HM-06-2020**
EQ-57	Earthquake	Threat	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	**Howell Mountain MWC**	Facility operators may not have access to operate facilities due to potential access issues caused by a severe earthquake.	**HM-07-2020**
EQ-58	Earthquake	Threat	PRV - Prevention , PE&A - Public Education & Awareness , ES - Emergency Services	**Howell Mountain MWC**	Warning signals/alarms from the treatment plant will not function if there is no cell phone service due to a severe earthquake.	**HM-02-2020, HM-05-2020**
FL-57	Flood	Threat	PRV - Prevention , NRP - Natural Resource Protection	**Howell Mountain MWC**	Chemical Contamination	**HM-06-2020**
FL-58	Flood	Threat	PRV - Prevention , NRP - Natural Resource Protection	**Howell Mountain MWC**	Environmental Stability/Wildlife Habitat Destroyed.	**HM-06-2020**
WF-50	Wildfire	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , ES - Emergency Services	**Howell Mountain MWC**	Wildfires could cause damages to Treatment Plant, Infrastructure and other facilities needed to provide water to residents and for fire-fighting purposes.	**HM-04-2020**
WF-51	Wildfire	Impact	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness , NRP - Natural Resource Protection	**Howell Mountain MWC**	Wildfires can affect water quality.	**HM-06-2020**
WF-52	Wildfire	Impact	PRV - Prevention , PE&A - Public Education & Awareness , ES - Emergency Services	**Howell Mountain MWC**	Wildfires could impact evacuation routes from HMMWC facilities.	**HM-05-2020**

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary	Problem Description	Related MA
WF-53	Wildfire	Impact	PRV - Prevention , PE&A - Public Education & Awareness , ES - Emergency Services	**Howell Mountain MWC**	Wildfires could impact communications systems such as knocking out cell towers.	**HM-05-2020**
WF-54	Wildfire	Impact	PRV - Prevention , PPRO - Property Protection , ES - Emergency Services	**Howell Mountain MWC**	Wildfires could impact access to the HMMWC water treatment plant.	**HM-02-2020**
WF-55	Wildfire	Vicitm	PRV - Prevention , PE&A - Public Education & Awareness	**Howell Mountain MWC**	Wildfire could impact water supplies for 400 HMMWC customers by limiting or disrupting service and also lack of water resources to fight the fires.	**HM-04-2020**

8.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration for the County and all other participating jurisdictions, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success. The Planning Committee conducted the hazard mitigation planning process through a typical problem-solving methodology, as did the Steering Committees for each participating jurisdiction :

Based upon the HMMWC's planning committee priorities, risk assessment results, and mitigation alternatives, mitigation actions were developed. The HMMWC Planning Team used the same mitigation action prioritization method as described in Section 5.5.1 of Volume 1. Based upon the Planning Committee consensus, Table 8-9 lists each priority mitigation action, identifies the responsible party, time frame, potential funding source, implementation steps and resources need to implementation, which meet the requirements of FEMA and DMA 2000.

8.5.1 Capabilities Assessment

The mitigation strategy includes an assessment of the City's planning and regulatory, administrative and technical, financial, and education and outreach capabilities to augment known issues and weaknesses from identified natural hazards. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well. As a special district, HMMWC is not eligible for the National Flood Insurance Program (NFIP), nor does it have repetitive loss properties; no statistics on NFIP participation are included in this annex.

8.5.1.1 Planning and Regulatory Mitigation Capabilities

The information in this section is used to align mitigation actions with existing planning and regulatory capabilities and existing opportunities to improve or expand upon those existing capabilities, and where opportunities exist to integrate this HMP into future planning policies or processes. Planning and regulatory tools typically used by local jurisdictions to implement hazard mitigation activities are building codes, zoning regulations, floodplain management policies, and other municipal planning documents.

The initial planning and regulatory mitigation capabilities table explores various local planning mechanisms, and includes a deeper dive into the following questions:

- Is the existing planning or regulatory mechanism present?
- Is there an opportunity to incorporate this 2020 HMP Update into the planning or regulatory mechanism? Has the previous HMP been integrated?
- Is there an opportunity to expand or improve upon the existing planning or regulatory mechanism?

Table 8-5: HMMWC Planning and Regulatory Mitigation Capabilities

LEGEND

Green	(Yes) Currently in use or present. Used widely for mitigation. Resources present to expand.
Yellow	(Sort of) Seldomly used or limited presence. Limited use in mitigation planning. Limited resources.
Orange	(No) Not present or available. Not used in mitigation planning. No ability to expand.

Plans / Programs / Regulation	Status	HMP Integration	Resources to Expand	Notes
Hazard Reduction Programs (Annual)				
Capital Improvements Program (CIP) or Plan				
Annual Fire Prevention Plan				
Seismic Safety Program (Building Safety)				
Earthquake Modernization Plan (Non-structural)				
Stormwater Management Program (Annual Inspections)				
Hazard Plans and Programs				
Floodplain Response Plan				
Emergency Operations Plan				
Community Wildfire Protection Plan (CWPP)				
Ground Water Management Planning / Plans				
Drought Mgmt/ Contingency Plan				
FireWise Communities within District				
Hazard-Related Public Outreach Program				

8.5.1.2 Administrative and Technical Capabilities

Table 8-6: Administrative and Technical Capabilities

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) limited opportunity or resources to expanded position.

Administrative and Technical	Status	Notes or opportunities to expand?
Staff Capacity:		
Emergency Manager		
Civil Engineer		
Resiliency Planner		
Transportation Planner		
GIS Specialist and Capability		
Grant Manager, Writer, or Specialist		
Warning Systems/ Services		
General		
Flood		
Wildfire		
Geological Hazards		

8.5.1.3 Financial Capabilities

Table 8-7: Fiscal Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Financial Resource	Status	Notes or opportunities to expand
Levy for Specific Purposes with Voter Approval		
Utilities Fees		
System Development Fee	Not applicable	
General Obligation Bonds to Incur Debt	Not applicable	
Special Tax Bonds to Incur Debt		
Withheld Spending in Hazard-Prone Areas		
Stormwater Service Fees		
Capital Improvement Project Funding		

8.5.1.4 Education and Outreach

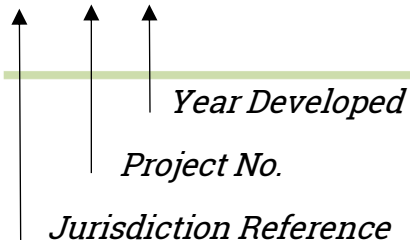
Table 8-8: Education / Outreach Capabilities Summary

LEGEND	
Green	(Yes), good, strong, good opportunity or ability or is completed.
Yellow	(Somewhat) Needs improvement or moderate opportunity or ability.
Orange	(No) or not functioning as envisioned; limited opportunity or ability.

Education/ Outreach Resources	Status	Notes and opportunities to expand
Website Dedicated to Hazard Topics		
Dedicated Social Media		
Hazard Info. Avail. at Library		
Annual Public Safety Events		
Ability to Field Public Tech. Assistance Requests		
Public Safety Newsletters or Printed Outreach		
Fire Safe Councils		
Resource Conservation Districts		
Other		

8.5.2 Mitigation Actions

During this MJHMP update process, each of the 2013 County-wide mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the 2013 HMP effort are an inherent part of the HMP update process or were not detailed enough for implementation at a local jurisdictional level, and thus were not included in this update. HMMWC has made significant changes to other 2013 Mitigation Actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Vol. 1 provides a record of 2013 County-wide Mitigation Actions, the status, and additional notes for each action.



Jurisdictions are identified by the following letters:

AC- American Canyon
CL- Calistoga
NC- Napa County (unincorporated)
HM- Howell Mountain MWC
NCOE- Napa COE
NFC- Napa Flood Control & Water District
NVC- Napa Valley College
SH- St. Helena
YV- Yountville

Table 8-9 lists each mitigation action for HMMWC. Each participating jurisdiction developed unique mitigation actions as well, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 8-9 meets the regulatory requirements of FEMA and DMA 2000

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Table 8-9 HMMWC Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
HM-01-2020	Earthquake	PPRO - Property Protection	2020	**Howell Mountain MWC**	Retrofit / HMMWCO Critical Facilities and buildings and their ability to withstand earthquakes.	If applicable, retain the services of a professional engineer to survey all municipally owned buildings for their ability to withstand an earthquake. Prioritize any retrofitting, giving those buildings to be used as shelters the highest priority.	HMMWC	3-5 Years	Unknown	Unknown	Grants, bonds, fee increases	High	**EQ-50, EQ-51, EQ-54**
HM-02-2020	All Hazard	PE&A - Public Education & Awareness	2020	**Howell Mountain MWC**	Construct/Install back up power generators or alternative communication systems to mitigate the potential for power outages or loss of cell service during emergencies.	Procure backup generators in the event that public meeting spaces such as community centers or town halls will be used as Emergency Command Centers. Perform regular maintenance on generators at Water Treatment Plants.	HMMWC	3-5 Years	Unknown	Unknown	Exisitng budget, bonds, grants, or fee increases	High	**EQ-58, EQ-53, WF-54**
HM-03-2020	Drought	PE&A - Public Education & Awareness	2020	**Howell Mountain MWC**	Develop a public education campaign to encourage water conservation during drought.	Examples may include offering incentives for the installation of low-flow toilets and showerheads and establishing a watering schedule for lawns. Encourage businesses to build financial reserves as part of economic development and create a water conservation plan.	HMMWC	Annually	Unknown	Unknown	Existing budget, grants	Medium	**DR-50, DR-53, DR-55**
HM-04-2020	Wildfire	PPRO - Property Protection	2020	**Howell Mountain MWC**	Develop alternative sources of water for emergency supply purposes such as for fighting wildfires.	Identify strategic locations to place water storage tanks or develop other potential emergency water supply sources that could be used to fight fires during wildfire events.	HMMWC	1-3 Years	Unknown	Unknown	Bonds, Grants, Fee Increases	High	**WF-50, WF-55, DR-53, DR-52, DR-54**
HM-05-2020	All Hazard	NRP - Natural Resource Protection	2020	**Howell Mountain MWC**	Develop alternate access and evacuation routes to ensure critical facilities are accessible during emergencies.	Develop potential alternate access or evacuation routes for critical facilities such as the Water Treatment Plant.	HMMWC	5-10 Years	Unkown	Unknown	Bonds, grants, fee increases	High	**DF-53, DF-54, EQ-52, EQ-58, WF-52, WF-53**
HM-06-2020	All Hazard	NRP - Natural Resource Protection	2020	**Howell Mountain MWC**	Water Quality may be affected by natural hazard events.	Develop a public information campaign on how to prepare for water contamination during a natural hazard event.	HMMWC	1-3 Years	Unknown	Unknown	Existing budget, grants, fee increases	High	**DF-56, EQ-56, DR-51, WF-51, CC-54, CC-52, EQ-55, FL-57, FL-58**
HM-07-2020	Flood	PRV - Prevention	2020	**Howell Mountain MWC**	Retrofit dams to reduce the risk of failure.	Ensure Emergency Action Plans (EAP) are updated and on file with local emergency management officials.	HMMWC	3-5 Years	Unknown	Unknown	Bonds, grants, fee increases	Extreme	**DF-50, DF-52, EQ-51, EQ-57, CC-56**
HM-08-2020	Climate Change	NRP - Natural Resource Protection	2020	**Howell Mountain MWC**	Severe weather may cause increased flooding in the District.	Construct, install and maintain warning gauges on local dams as the opportunity or need arises.	HMMWC	3-5 Years	Unknown	Unknown	Existing budget, bonds, grants, fee increases	High	**DF-51, DF-55, CC-55, CC-51, CC-50, CC-53**

Mitigation No.	Hazard Type	Mitigation Type	Status	Primary	Description	Implementation Steps	Responsible Party	Time Frame	Estimated Capital Costs	Estimated Maintenance Costs	Potential Funding Sources	Priority	Related Problem Statements
NC-200-2020	Dam Failure	ES - Emergency Services	2020	**County Unincorporated**	Design and implement County-wide warning system program, with all other HMP participating jurisdictions as secondary participants, to warn everyone within a dam inundation zone of impending dam failure	1. Consider type of warning systems and equipment that will be most effective 2. Apply for funding 3. Implement	Napa County	3-5 Years	Unknown	Unknown	HMGP/PDM	High	**DF-11, DF-28, DF-29, DF-07, DF-13, DF-14, DF-19, DF-20, DF-17, DF-50, DF-51, DF-52, DF-53, DF-54, DF-55, DF-56**