

Draft Plan

September 13, 2023

Hazard Mitigation Plan





Credits

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))

A: See **Hazard Mitigation Planning Team** below.

Hazard Mitigation Planning Team:

<i>Name</i>	<i>Department</i>	<i>Position</i>
<i>Town of Yucca Valley</i>		
Debra Breidenbach-Sterling	Human Resources and Risk Management Division	Manager
Lesley Copeland	Town Clerk’s Office	Town Clerk and Public Information Officer
Sue Earnest	Community Services Department	Manager
Jordan Gumbish	Finance Division	Manager
Alex Qishta	Public Works/Engineering Department	Director
Jessica Rice, Chair	Emergency Preparedness Department	Senior Management Analyst
Shane Stueckle	Community Development and Public Works	Deputy Town Manager
John Scalise	San Bernardino County Sheriff	Administrative Sergeant
Floyd Stone	San Bernardino County Sheriff	Operations Sergeant
Scott Tuttle	San Bernardino County Fire Department	Interim Deputy Chief - Operations
Donnie Vioria	San Bernardino County Fire Department	Battalion Chief
Curtis Yakimow	Town Manager’s Office	Town Manager
<i>Emergency Planning Consultants</i>		
Carolyn J. Harshman	Emergency Planning Consultants	President

Acknowledgements

Yucca Valley Town Council

- ✓ Rick Denison, Mayor
- ✓ Robert Lombardo, Mayor Pro Tem
- ✓ Jeff Drozd, Council Member
- ✓ Merl R. Abel, Council Member
- ✓ Jim Schooler, Council Member



Point of Contact

To request information or provide comments regarding this mitigation plan, please contact:

Name and Position Title	Jessica Rice, Senior Management Analyst
Email	jrice@yucca-valley.org
Mailing Address	57090 Twentynine Palms Highway, Yucca Valley, CA 92284
Telephone Number	(760) 369-7207 x227

Consulting Services

Emergency Planning Consultants

- ✓ Principal Planner: Carolyn J. Harshman, CEM
- ✓ Planning Associate and HAZUS Specialist: Alex Fritzler
- ✓ Research Analyst: Jill Caputi

3665 Ethan Allen Avenue
 San Diego, California 92117
 Phone: 858-922-6964
 epc@pacbell.net
 www.carolynharshman.com

Mapping

The maps in this plan were provided by the Town of Yucca Valley, County of San Bernardino, Federal Emergency Management Agency (FEMA), or were acquired from public Internet sources. Care was taken in the creation of the maps contained in this plan, however they are provided "as is". The Town of Yucca Valley cannot accept any responsibility for any errors, omissions or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from land surveys may have been used in the creation of these products, in no way does this product represent or constitute a land survey. Users are cautioned to field verify information on this product before making any decisions.

Mandated Content

In an effort to assist the readers and reviewers of this document, the jurisdiction has inserted "markers" emphasizing mandated content as identified in the Disaster Mitigation Act of 2000 (Public Law – 390). Following is a sample marker:

EXAMPLE

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))

A:



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Part I: PLANNING PROCESS

Introduction

Q&A | ELEMENT A: PLANNING PROCESS | A1-b.

Q: Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process? (Requirement 44 CFR § 201.6(c)(1))

A: See **Introduction** below.

Yucca Valley accommodates a diversity of land uses to maintain a balanced community with vibrant residential neighborhoods, a healthy economic base, and quality services for residents and visitors. The **Risk Assessment - Town Profile** shares valuable information about a range of characteristics about the project area.

The Hazard Mitigation Plan (Mitigation Plan) is prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 (also known as Public Law 106-390) since 2005 has required state and local governments (including special districts and joint powers authorities) to prepare mitigation plans to document their mitigation planning process, and identify hazards, potential losses, mitigation needs, goals, and strategies. This type of planning supplements the Town's comprehensive land use planning and emergency management planning programs. The Town's most recent Hazard Mitigation Plan was approved by FEMA in 2018. Once adopted by the Town Council and approved by FEMA, the Plan will ensure eligibility for Hazard Mitigation Grant Program (HMGP) and other mitigation-related funding.

DMA 2000 was designed to establish a national program for pre-disaster mitigation, streamline disaster relief at the federal and state levels, and control federal disaster assistance costs. Congress believed these requirements would produce the following benefits:

- Reduce loss of life and property, human suffering, economic disruption, and disaster costs.
- Prioritize hazard mitigation at the local level with increased emphasis on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring critical facilities/services survive a disaster.
- Promote education and economic incentives to form community-based partnerships and leverage non-federal resources to commit to and implement long-term hazard mitigation activities.

The following FEMA definitions are used throughout this plan (Source: FEMA, 2002, *Getting Started, Building Support for Mitigation Planning*, FEMA 386-1):

Hazard Mitigation – “Any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards”.

Planning – “The act or process of making or carrying out plans; specifically, the establishment of goals, policies, and procedures for a social or economic unit.”



Planning Approach

The four-step planning approach outlined in the FEMA publication, *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3) was used to develop this plan:

- ✓ **Develop mitigation goals and objectives** - The risk assessment (hazard characteristics, inventory, and findings), along with municipal policy documents, were utilized to develop mitigation goals and objectives.
- ✓ **Identify and prioritize mitigation actions** - Based on the risk assessment, goals and objectives, existing literature/resources, and input from participating entities, mitigation activities were identified for each hazard.
- ✓ **Prepare implementation strategy** - Generally, high priority activities are recommended for implementation first. However, based on organizational needs and goals, project costs, and available funding, some medium or low priority activities may be implemented before some high priority items.
- ✓ **Document mitigation planning process** - The mitigation planning process is documented throughout this plan.

Q&A | ELEMENT A: PLANNING PROCESS | A2-a.

Q: Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))

A: See **Stakeholder Involvement** below.

Stakeholder Involvement

A Hazard Mitigation Planning Team (Planning Team) consisting of department representatives from Town of Yucca Valley worked with Emergency Planning Consultants to create the update to the HMP. The Planning Team served as the primary stakeholders throughout the planning process.

As required by DMA 2000, the Planning Team expanded the planning process to include the general public and external entities (e.g., special districts, community lifelines, adjoining jurisdictions, organizations serving socially vulnerable individuals, organizations serving underserved populations) by making the Second Draft Plan available online during the plan writing phase. The general public and external entities served as secondary stakeholders with an opportunity to contribute to the plan during the plan writing phase of the planning process. All were informed that the Second Draft Plan was available on the City's website. Also, all were informed of the date and time of the Town Council meeting where the Final Draft Plan was presented for adoption.

The general public was informed of the availability of the Second Draft Plan via a range of public noticing venues including Town Hall, a press release via Constant Contact, and social media including Facebook, Instagram, X, and Nextdoor. The posting included a request to forward any comments to Planning Chair Jessica Rice. External entities were directed to the Second Draft via an email invitation.

The Second Draft was announced and posted on the Town's website on _____ and again on _____ along with a request to forward any comments to the Planning Team Chair Jessica Rice.



A hard copy of the Second Draft Plan was available to the public at Town Hall’s reception counter. To ensure access to the Second Draft, underserved communities and socially vulnerable populations were informed via notification lists from the Town’s General Plan – Housing Element and Town’s Public Information Officer distribution lists. See **Attachments**.

The general public and external entities served as secondary stakeholders with an opportunity to contribute to the plan during the plan writing phase of the planning process.

Q&A | ELEMENT C: Mitigation Strategy | C2-a.

Q: Does the plan contain a narrative description or a table/list of their participation activities? (Requirement 44 CFR § 201.6(c)(3)(ii))

A: See **National Flood Insurance Program** below.

National Flood Insurance Program

Established in 1968, the NFIP provides federally backed flood insurance to homeowners, renters, and businesses in communities that adopt and enforce floodplain management ordinances to reduce future flood damage. The Town of Yucca Valley adopted a floodplain management ordinance and has Flood Insurance Rate Maps (FIRM) that show floodways, 100- year flood zones, and 500-year flood zones. The Deputy Town Manager is designated as the Town’s floodplain administrator. The floodplain management ordinance is enforced through the development and permitting processes.

NFIP Participation

According to the General Plan – Safety Element (2022), the Town of Yucca Valley participates in NFIP and the FEMA FIRM maps for the Town of Yucca Valley were September 2, 2016. These studies and maps represent flood risk at the point in time when FEMA completed the studies and does not incorporate planning for floodplain changes in the future due to new development. Although FEMA is considering changing that policy, it is optional for local communities. According to FEMA, the Town of Yucca Valley is designated a No Special Flood Hazard Area (NSFHA). A Non-Special Flood Hazard Area (NSFHA) is an area that is in a moderate- to low-risk flood zone (Zones B, C, X Pre- and Post- FIRM). The Town of Yucca Valley contains the following flood zones: Zone A, AE, and X.

The NSFHA is not in any immediate danger from flooding caused by overflowing rivers or hard rains. However, it’s important to note that structures within a NSFHA are still at risk. In fact, over 20% of all flood insurance claims come from areas outside of mapped high-risk flood zones.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-c.

Q: Does the Plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Repetitive Loss Properties** below.

Repetitive Loss Properties

Repetitive Loss Properties (RLPs) are most susceptible to flood damages; therefore, they have been the focus of flood hazard mitigation programs. Unlike a countywide program, a Floodplain Management Plan (FMP) for repetitive loss properties involves highly diversified property profiles, drainage issues, and property owner’s interest. It also requires public involvement processes



unique to each RLP area. The objective of an FMP is to provide specific potential mitigation measures and activities to best address the problems and needs of communities with repetitive loss properties. A repetitive loss property is one for which two or more claims of \$1,000 or more have been paid by the National Flood Insurance Program (NFIP) within any given ten-year period. According to FEMA resources, none of the properties within the Town of Yucca Valley are designated as Repetitive Loss Property (RLP).



Planning Process

Throughout the project, the Planning Team served as the primary stakeholders while also making a concerted effort to gather input and ideas from the general public and external agencies who served as secondary stakeholders. The hazard mitigation strategies contained in this plan were developed through an extensive planning process involving the Town of Yucca Valley Planning Team, general public, and external agencies. Particular attention was given to adding research on climate vulnerability while paying special attention to underserved communities and socially vulnerable populations.

Following review and input by the Planning Team to the First Draft Plan, next (still during the Plan Writing Phase), the Second Draft Plan was shared with the general public and external agencies. Next, the comments gathered from the secondary stakeholders were incorporated into a Third Draft Plan which was submitted to Cal OES and FEMA along with a request for a determination of “approvable pending adoption”.

Next, the Planning Team completed amendments to the Plan to reflect mandated input by Cal OES and FEMA. The Final Draft Plan was then posted in advance of Rosemead’s City Council public meeting. Any comments gathered were included in the staff report to the City Council. Following adoption by the Town Council, proof of adoption was forwarded to FEMA along with a request for a Letter of Approval. The FEMA Letter of Approval will be included in the Final Plan. The planning process described above is portrayed below in a progression:

Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))

A: See **Plan Methodology and Planning Phases Progression** below.

Q&A | ELEMENT A: PLANNING PROCESS | A2-a.

Q: Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))

A: See **Planning Phases Progression** below.



Figure: Planning Phases Progression

PLANNING PHASES PROGRESSION				
Plan Writing Phase (First & Second Draft Plan)	Plan Review Phase (Third Draft Plan)	Plan Adoption Phase (Final Draft Plan)	Plan Approval Phase (Final Plan)	Plan Implementation Phase
<ul style="list-style-type: none"> • Planning Team input – research, meetings, writing, review of First Draft Plan • Incorporate input from the Planning Team into Second Draft Plan • Invite general public and external agencies via email, web posting, and social media to review, comment, and contribute to the Second Draft Plan • Incorporate input into the Third Draft Plan 	<ul style="list-style-type: none"> • Third Draft Plan sent to Cal OES and FEMA for approvable pending adoption • Address any mandated revisions identified by Cal OES and FEMA into Final Draft Plan • Receive FEMA Approvable Pending Adoption 	<ul style="list-style-type: none"> • Post public notice of Town Council meeting along with the Final Draft Plan • Final Draft Plan distributed to Town Council in advance of meeting • Present Final Draft Plan to Town Council for adoption • Town Council adopts Final Draft Plan 	<ul style="list-style-type: none"> • Submit Proof of Adoption to FEMA with request for final approval • Receive FEMA Letter of Approval • Incorporate FEMA approval and Town Council resolution into the Final Plan 	<ul style="list-style-type: none"> • Conduct annual Planning Team meeting • Integrate mitigation action items into budget and other funding and strategic documents



Plan Methodology

The Planning Team discussed knowledge of hazards and past historical events, as well as building codes and facilities maintenance plans.

The rest of this section describes the mitigation planning process including 1) Planning Team involvement, 2) general public, underserved communities, socially vulnerable populations, and external agency involvement; and 3) integration of existing data and plans.

Q&A ELEMENT A: PLANNING PROCESS A1-a.
<p>Q: Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))</p> <p>A: See Planning Team Involvement below.</p>

Planning Team Involvement

The Planning Team consisted of representatives from different Town departments/divisions with a role in hazard mitigation processes. The Planning Team served as the primary stakeholders throughout the planning process. The Planning Team was responsible for the following tasks:

- ✓ Develop planning goals,
- ✓ Prepare timeline,



- ✓ Ensure plan meets DMA 2000 requirements,
- ✓ Organize and solicit involvement of public and external agencies,
- ✓ Analyze existing resources including data, maps, and reports,
- ✓ Research hazard information,
- ✓ Review HAZUS loss projection estimates,
- ✓ Develop mitigation action items,
- ✓ Participate in Planning Team and Town Council meetings, and

The Planning Team, with assistance from Emergency Planning Consultants, identified and profiled hazards; determined hazard rankings; estimated potential exposure or losses; evaluated development trends and specific risks; researched climate vulnerability; identified location of underserved communities and socially vulnerable populations; and developed mitigation goals and action items.

Table: Planning Team Level of Participation

	Research and Writing of Plan	Planning Team Meeting 1: July 27, 2023	Planning Team Meeting 2: August 2, 2023	Planning Team Meeting 3: August 9, 2023	Planning Team Meeting 4: August 30, 2023	Planning Team Comment on First Draft Plan	Distribute Second Draft Plan to General Public and External Agencies	Review Input from General Public, and External Agencies of the Second Draft	Submit Third Draft Plan to Cal OES/FEMA for Approvable Pending Adoption	Post Final Draft Plan in Advance of City Council Meeting	Present Final Draft Plan to City Council at Public Meeting for Plan Adoption	Submit Proof of Adoption to FEMA for Final Approval	Incorporate FEMA Approval into Final Plan
Debra Breidenbach-Sterling	X	X	X		X	X							
Lesley Copeland	X	X	X	X	X	X							
Sue Earnest	X	X	X		X	X							
Jordan Gumbish	X	X	X	X	X	X							
Alex Qishta	X	X	X	X	X	X							
Jessica Rice, Chair	X	X	X	X	X	X							
Shane Stueckle	X	X	X	X	X	X							
John Scalise	X	X	X	X	X	X							
Floyd Stone	X	X	X	X	X	X							
Scott Tuttle	X	X		X	X	X							
Donnie Vilorio	X		X										
Curtis Yakimow	X	X	X		X	X							



Table: Planning Team Timeline

Tasks	June 2023	July	August	September	October	November	December	January 2024	February	March
Research										
Research for Risk Assessment	X									
Prepare HAZUS		X								
Plan Writing										
First Draft, Second Draft, Third Draft, Final Draft, Final	X	X	X	X	X	X	X	X	X	X
Planning Team Meetings										
Meeting #1 HMP Overview and Initial Hazard Briefing		X								
Meeting #2 HAZUS and Update Mitigation Action Items			X							
Meeting #3 Develop Mitigation Action Items			X							
Meeting #4 Review First Draft Plan			X							
Community Outreach (Review Second Draft Plan)										
Provide Access and Seek Input from General Public, Underserved Communities, Socially Vulnerable Populations, and External Agencies on the Second Draft Plan				X						
Approval and Adoption of Plan										
Submit Third Draft Plan to Cal OES/FEMA. Complete Mandated Revisions					X	X	X	X	X	
Receive FEMA's Approval Pending Adoption									X	
Post and Participate in City Council Meeting to Adopt the Final Draft Plan, Submit Proof of Adoption to FEMA										X
Receive FEMA Final Approval										X
Incorporate FEMA Final Approval into Final Plan										X



Q&A | ELEMENT C. MITIGATION STRATEGY | C1-a.

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

A: See **Capability Assessment – Existing Processes and Programs** below.

Capability Assessment – Existing Processes and Programs

The Town of Yucca Valley will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the Planning Team working with their respective departments to integrate mitigation strategies into the planning documents and the Town of Yucca Valley’s operational guidelines. In addition to the Capability Assessment below, the Planning Team will strive to identify additional policies, programs, practices, and procedures that could be created or modified to address mitigation activities.

The Town will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the Planning Team members with their respective departments to integrate mitigation strategies into their planning documents and operational guidelines. FEMA identifies four types of capabilities: Planning and Regulatory, Administrative and Technical, Financial, and Education and Outreach. Following are explanations drawn from “Beyond The Basics” a website developed as part of a multi-year research study funded by the U.S. Department of Homeland Security, Coastal Resilience Center and led by the Center for Sustainable Community Design within the Institute for the Environment at the University of North Carolina at Chapel Hill and the Institute for Sustainable Coastal Communities at Texas A&M University. This excellent resource ties FEMA regulations together with best practices in hazard mitigation.

Planning and Regulatory

Planning and regulatory capabilities are based on the implementation of ordinances, policies, local laws and State statutes, and plans and programs that relate to guiding and managing growth and development. Examples of planning capabilities that can either enable or inhibit mitigation include comprehensive land use plans, capital improvements programs, transportation plans, small area development plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Plans describe specific actions or policies that support community goals and drive decisions. Likewise, examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed and structures are built. Planning and regulatory capabilities refer not only to the current plans and regulations, but also to the community’s ability to change and improve those plans and regulations as needed.

Administrative and Technical

Administrative and technical capability refers to the community’s staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. It also refers to the ability to access and coordinate these resources effectively. Think about the types of personnel employed by each jurisdiction, the public and private sector resources that may be accessed to implement mitigation activities in your community, and the level of knowledge and technical expertise from all of these sources. These include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, floodplain managers, and more. For jurisdictions with limited staff resources, capacity should also be considered; while staff members may have specific skills, they may not have the time to devote to additional work tasks.



The planning team can identify resources available through other government entities, such as counties or special districts, which may be able to provide technical assistance to communities with limited resources. For example, a small town may turn to county planners, engineers, or a regional planning agency to support its mitigation planning efforts and provide assistance. For large jurisdictions, reviewing administrative and technical capabilities may involve targeting specific staff in various departments that have the expertise and are available to support hazard mitigation initiatives. The degree of intergovernmental coordination among departments also affects administrative capability.

Financial

Financial capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions. The costs associated with implementing mitigation activities vary. Some mitigation actions, such as building assessment or outreach efforts, require little to no costs other than staff time and existing operating budgets. Other actions, such as the acquisition of flood-prone properties, could require a substantial monetary commitment from local, state, and federal funding sources. Some local governments may have access to a recurring source of revenue beyond property, sales, and income taxes, such as stormwater utility or development impact fees. These communities may be able to use the funds to support local mitigation efforts independently or as the local match or cost-share often required for grant funding.

Education and Outreach

This type of capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Examples include fire safety programs that the Fire Department delivers to students at local schools; and participation in community programs, such as Firewise and StormReady.

The table below includes a broad range of capabilities within the Town of Yucca Valley to successfully accomplish mitigation.

Table: Capability Assessment - Existing Processes and Programs
 (Source: [Town of Yucca Valley Website, Planning Team 2023](#))

Type of Capability				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
Town of Yucca Valley Departments/Divisions					
X	X		X	Town Clerk's Office	The Town Clerk is responsible for preserving important documents such as resolutions, ordinances and contracts. Other duties include the preparation of agendas and minutes and executing notary services. The Clerk's office also performs assignments at the request of the Mayor and Town Council, in addition to providing liaison services to Yucca Valley residents, community groups, and other agencies.
X	X	X	X	Town Manager's Office	The Town Manager serves as the Chief Executive Officer of the Town and is appointed by and reports to the Town Council. The Town Manager is



Type of Capability				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					appointed to enforce municipal law, execute the Town's policy direction as established by the Town Council, submit the annual Town budget, hire all Town department heads and employees, and oversee the operation of all Town functions. Specifically, the Town Manager's Office is responsible for public safety, financial oversight, public information, legislative advocacy, and citizen response. Additionally, the Town Manager serves as an advisor to the Town Council on policy items impacting the community and assists the Town Council in their development of the Town's Strategic Planning efforts.
X	X	X	X	Community Development Department	The Community Development Department is responsible for implementing policies with regard to land use and the overall development of the Town. The Department assists the community in determining and planning the most effective means for improving the physical environment of the Town and provides land use and development information as well as provides management of development regulations and maintenance of public improvements.
	X		X	Community Services Department	The Community Services Department plans and conducts a broad range of recreational and cultural programs to enhance the quality of life for Yucca Valley residents. The divisions within the Community Services Department include Recreation, the Hi-Desert Nature Museum, Senior Center, and Facility Reservations. The department also provides staff liaison to the Town's Parks, Recreation and Cultural Commission and Youth Commission
	X			Human Resources Division	The Human Resources Division is responsible for the recruitment and selection of employees; position classification, employee compensation, benefits, and development. Risk Management functions are also handled through the Human Resources Division.
	X		X	Public Works/Engineering Department	The Public Works/Engineering Department facilitates capital improvements, inspections, traffic engineering programs, and provides engineering support for public and private projects including residential and commercial development, streets, storm drains, facilities maintenance, and park facilities. The various divisions within the department help improve the public safety and physical appearance of the community by maintaining and improving the physical condition of the streets, parks, public buildings and other facilities.
		X		Finance Department	The Finance Department is charged with maintaining the financial and accounting system of the Town in a manner consistent with the highest professional standards in accordance with legal requirements and generally accepted accounting principles. Additionally, the department is responsible for the safeguarding of Town financial assets through continuous review to ensure that the Town is abiding by the financial policies and practices established by the Council. The Department provides the Council and Town Departments with timely financial information designed to support the decision-making process and coordinates the preparation of the annual budget and comprehensive annual financial report.
X	X		X	Building & Safety Division	Building & Safety regulates construction and occupancy of all residential, commercial and industrial structures and enforces the building, electrical,



Type of Capability				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					plumbing and mechanical codes adopted by the Town Council and State. Also, plan check applications, review reports and calculations, issue permits, and field-inspect construction projects to assure compliance with structural, fire and safety standards.
X	X		X	Code Compliance Division	The Code Compliance Division works to protect public health, safety, and welfare by enforcing compliance with local, state and federal code standards. Our oversight responsibilities include (but are not limited to): Land use, Zoning, Housing, Property maintenance, Solid waste, Water conservation, Public Nuisances, Vehicle Abatement, and Fire Hazard Abatement.
X	X		X	Disaster Preparedness Department	The Disaster Preparedness Department is responsible for the planning, coordination and management of disaster preparedness, mitigation, response, and recovery.
Town of Yucca Valley Commissions					
X		X		Planning Commission	The Planning Commission advises the Town Council and Community Development Department on matters concerning future development and land use within the Town of Yucca Valley.
X		X	X	Parks, Recreation & Cultural Commission	The Parks, Recreation and Cultural Commission works in an advisory capacity to the Town Council and other relevant agencies to help shape public recreation, development of open spaces, parks, playgrounds, and other recreational facilities and programs.
Town of Yucca Valley Plans and Policies					
X		X		Capital Improvement Program	The Town of Yucca Valley's Capital Improvement Program (CIP) is a planning tool for the expenditure of resources for public infrastructure. The CIP identifies existing and proposed public improvement projects, special projects, and on-going maintenance programs as well as addressing the implementation strategies. The Capital Improvement categories include: Street and Highway, Parks and Recreation, Public Facilities, and Town-owned properties.
	X	X	X	Annual Budget	The annual s budget establishes the Town's spending plan, along with applicable funding resources, in our effort to meet the service requirements of Yucca Valley's residents, businesses, and institutions. Equally important, the budget addresses a variety of community priorities, as defined by the Town Council, residents and staff through the most recent Strategic Plan adoption and resident priority surveys. (Adopted Budget Fiscal year 2022-2024)
X	X			Building Code	The Town regulates construction and occupancy of all residential, commercial and industrial structures and enforce the building, electrical, plumbing and mechanical codes adopted by the Town Council and State.
X	X	X	X	General Plan	The General Plan is used to set long-term goals and policies that will guide growth and development in the Town of Yucca Valley for decades to come. It develops strategies for growing prosperity while protecting the quality of life that makes the high desert community incomparably special.



Type of Capability				Capability Name	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					The General Plan addresses a variety of issues to set a vision for the future, including the Safety Element which outlines the hazards posing significant threats as well as goals and policies to manage the threats.
Town of Yucca Valley External Agency Providers					
X	X		X	San Bernardino County Sheriff	The Town's public safety resources are maximized through cooperation with San Bernardino County's professional agencies to provide the highest quality law enforcement and fire protection for our residents, visitors and businesses.
X	X		X	San Bernardino County Fire	The Town's public safety resources are maximized through cooperation with San Bernardino County's professional agencies to provide the highest quality law enforcement and fire protection for our residents, visitors and businesses.
X	X		X	San Bernardino County OES	Through leadership and guidance, strengthen countywide emergency management capabilities to ensure the protection of life and property before, during and after disasters. The County's EOC provides centralized coordination for all government entities within the County.
X			X	Army Corps of Engineers	Corps projects are carried out at the request of local and state agencies and authorized by Congress, so prior to the global environmental awakening, the USACE mission was steered by flood control, water supply, navigation and national defense. The Corps has always been a lead partner in the plan to preserve and protect our nation. As a partner rich in engineering and scientific know-how, no other federal agency is better equipped as a significant partner in this nation's efforts to restore and preserve the environment, while ensuring continued economic viability and national defense.
Community Lifelines					
	X			Amerigas Propane	Provider of propane throughout the county.
	X			Ferrell Gas (Propane)	Provider of propane throughout the county.
	X			Hi Desert Propane	Provider of propane throughout the county.
X	X		X	Southern California Edison (SCE)	Provider of electricity throughout the county.
X	X		X	Hi-Desert Water District	The District's water service area spans 57 square miles and includes over 300 miles of pipeline which provides water to the Town of Yucca Valley and a portion of the unincorporated area of San Bernardino County.

Q&A | ELEMENT C: MITIGATION STRATEGY | C1-b.

Q: Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation? (Requirement 44 CFR § 201.6(c)(3))

A: See **Expanding and Improving on Capabilities** below.



Expanding and Improving on Capabilities

Planning and Regulatory Capabilities – The Town builds and maintains its own buildings and infrastructure and regulates all construction within the community as per the International Building Code. Future plans are laid out in the General Plan and Capital Improvement Program. Some of the funding of future construction relies on successful bond measures where plans and justifications are shared with the public. The Town is very experienced in adhering to federal and state mandates. Also, departmental protocols are in place that ensure future development projects satisfy “substantial conformance” requirements with the General Plan and Zoning Ordinance.

Administrative and Technical –

Existing capabilities are typical for a local government. The Town has grant writing capabilities but seeks to develop GIS capabilities. Mutual aid agreements and a warning/notification system are already in place but could be expanded and improved. The HMP’s approval will trigger eligibility for a range of federal and state grants. Also, the Town Council could form a sub-committee dedicated to land use matters and mitigation plan implementation. The Plan’s opportunities for success will be increased by the Council’s involvement.

Finance -

All local governments have a broad range of funding sources. Taxation, impact fees, bonds, grants, in-kind donations, and philanthropic donations are included in the spectrum. As such, the Town needs to keep these resources in mind for future mitigation activities.

Education and Outreach –

Utilize existing community groups, local citizen groups, and non-profit organizations to support and encourage mitigation as well as home and business mitigation. Continue to involve the Town Manager and Town Clerk/Public Information Officer in talking about and helping to implement the Hazard Mitigation Plan.

Q&A | ELEMENT A: PLANNING PROCESS | A4-a.

Q: Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document? (Requirement 44 CFR § 201.6(b)(3))

A: See **Use of Existing Data** below.

Use of Existing Data

The Planning Team gathered and reviewed existing data and plans during plan writing and specifically noted as “sources”. Numerous electronic and hard copy documents were used to support the planning process:

Town of Yucca Valley Website

www.yucca-valley.org

Applicable Incorporation: Department Information for Capability Assessment.

Town of Yucca Valley General Plan –Safety Element, 2022

Applicable Incorporation: Information about hazards contributed to the hazard-specific sections. Also contains environmental justice content used in Town Profile.

Town of Yucca Valley Comprehensive Financial Report, 2022



Applicable Incorporation: Town Profile

Town of Yucca Valley Housing Technical Report (Draft)

Applicable Incorporation: Town Profile

Celebrating 20 Years of Community, 2011

Applicable Incorporation: Town Profile

County of San Bernardino Multi-Jurisdictional Hazards Mitigation Plan (2022)

<https://www.sbcounty.gov/uploads/SBCFire/documents/EmergencyServices/Hazard-Mitigation-Plan-202212.pdf>

Applicable Incorporation: Information about hazards in the County contributed to the hazard-specific sections.

State of California Hazard Mitigation Plan, 2018

https://www.caloes.ca.gov/wp-content/uploads/002-2018-SHMP_FINAL_ENTIRE-PLAN.pdf

Applicable Incorporation: Risk Assessment – Hazard Identification.

HAZUS Maps and Reports

Created by Emergency Planning Consultants

Applicable Incorporation: Numerous HAZUS maps and reports have been included in the hazard-specific sections.

National Flood Insurance Program

<https://www.fema.gov/national-flood-insurance-program>

Applicable Incorporation: Community status used in the flood section.

Local Flood Insurance Rate Maps

<https://msc.fema.gov/portal/home>

Applicable Incorporation: Used in the Flood hazard section.

California Department of Forestry and Fire Protection (CAL FIRE)

<https://www.fire.ca.gov/>

Applicable Incorporation: Wildland fire hazard map in the Wildfire hazard section.

California Department of Conservation

www.conservation.ca.gov/cgs

Applicable Incorporation: Seismic hazards mapping used in Earthquake hazard section.

U.S. Geological Survey (USGS)

www.usgs.gov

Applicable Incorporation: Earthquake records and statistics used in earthquake hazard section.

Using HAZUS for Mitigation Planning (2018)

https://www.fema.gov/sites/default/files/documents/fema_using-hazus-mitigation-planning.pdf

Applicable Incorporation: Used in Risk Assessment in HAZUS Information.

Weather Spark

<https://weatherspark.com/>

Applicable Incorporation: Weather information used in Town Profile.



CalEnviroScreen 4.0, 2023

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

Incorporation: Climate Vulnerability and Adaption

SB 353 Disadvantaged Communities

<https://oehha.ca.gov/calenviroscreen/sb535>

Incorporation: Climate Vulnerability and Adaption



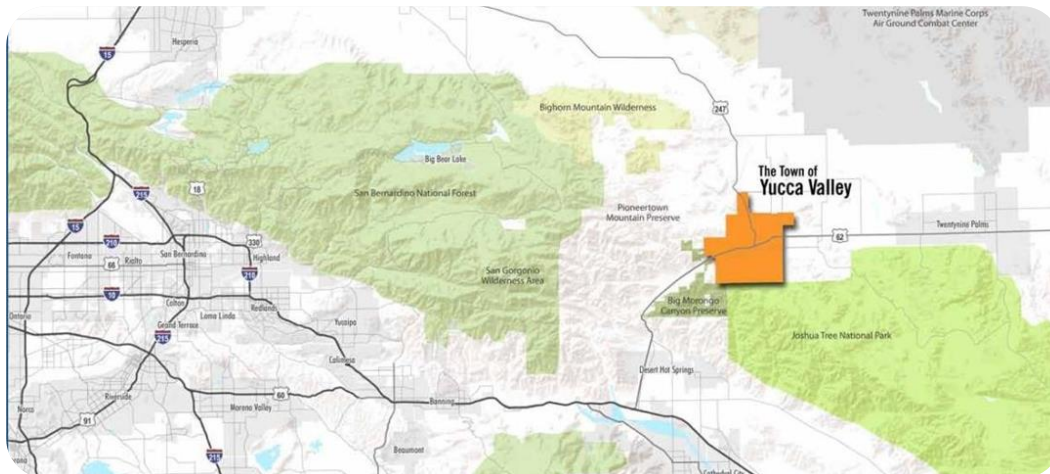
Part II: RISK ASSESSMENT

Town Profile

Geography and the Environment

According to the Yucca Valley 20 Year Community Profile (2011), Yucca Valley is near the southern border of San Bernardino County, about 10 miles north of Riverside County and 115 miles west of the Arizona border. Nearby cities include San Bernardino (55 miles to the west), Palm Springs (27 driving miles to the south), and Barstow (89 miles to the north). Yucca Valley is located in the Mojave Desert approximately 3,300 feet above sea level. The San Bernardino Mountains are to the west and Joshua Tree National Park abuts the Town’s southern border. The Town encompasses approximately 39 square miles.

Map: Regional Location Map
(Source: Yucca Valley Community Profile – 20 Years, 2011)



Principal Employers

According to the Town’s Annual Comprehensive Financial Report (2022), the following are the principal employers:

Employer	Number of Employees (2022)
Morongo Unified School District	328
Walmart	272
Home Depot	150
Stater Bros.	70
US Army	121
CA Dept of Forestry & Fire Protection	104
San Bernardino County School District	149
Apple Core Enterprises (Applebee’s)	99
Von’s	91
San Bernardino County	70



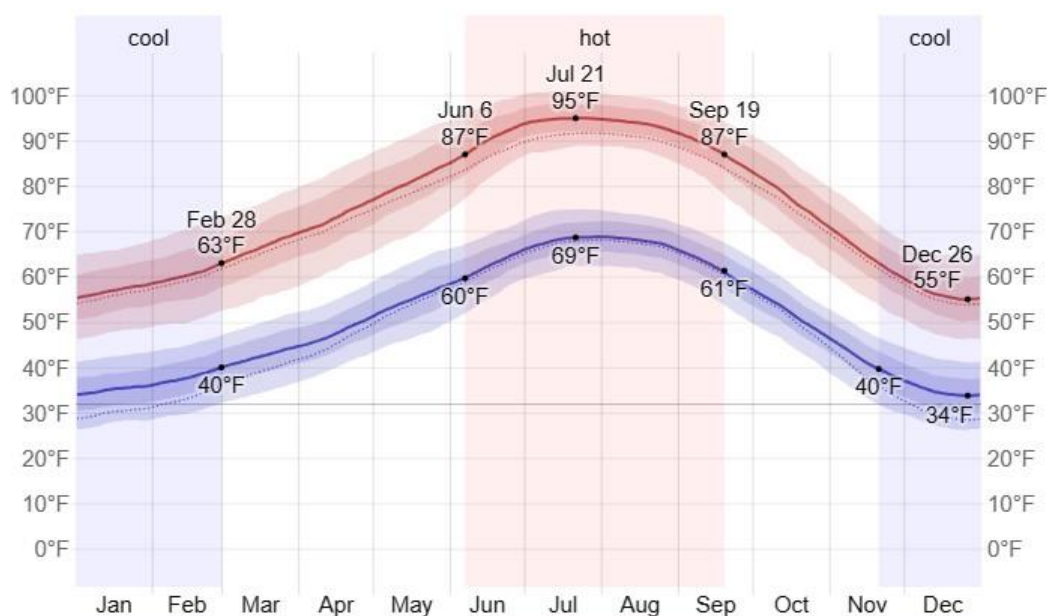
Climate

According to Weather Spark, the Town of Yucca Valley has a moderate climate, including hot, dry summers with an average high temperature of about 95°F and cool, wet winters with an average temperature of 56°F. Winter temperatures in some areas can range near zero, the cold often compounded by the wind-chill factor. The average annual rainfall for the region is less than 10 inches.

As the State of California and the San Bernardino region has undergone a several-year drought, rainfall has been much lower in the Town.

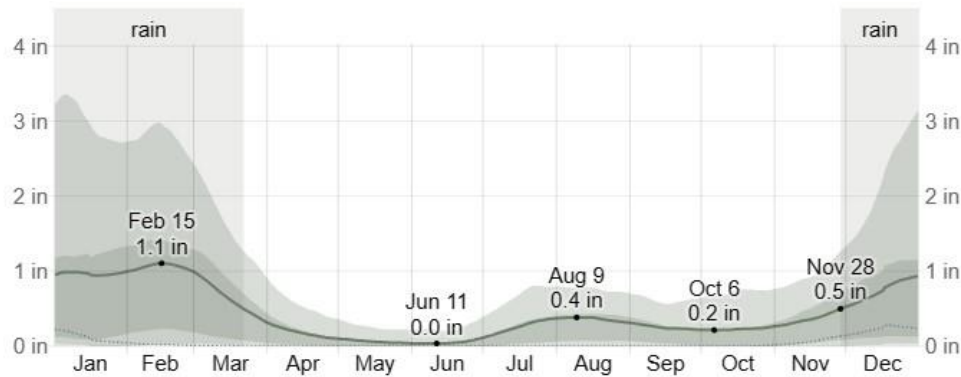
Furthermore, actual rainfall in the Southern California region tends to fall in large amounts during sporadic and often heavy storms rather than consistently over storms at somewhat regular intervals. In short rainfall in Southern California might be characterized as feast or famine within a single year.

Graph: Average High and Low Temperature for Yucca Valley
(Source: ©WeatherSpark.com 2023)



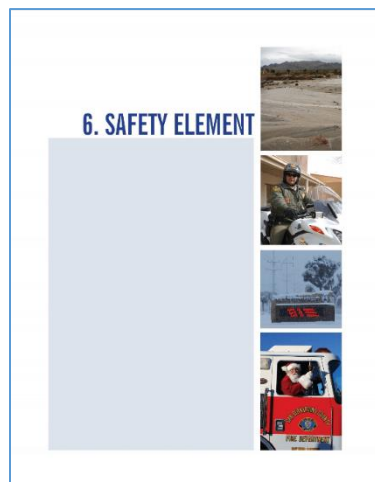


Graph: Average Monthly Rainfall for Yucca Valley
(Source: ©WeatherSpark.com 2023)



Climate Change Vulnerability and Adaptation

The following is drawn directly from the Town of Yucca Valley General Plan – Safety Element.



Changes to the global climate system are expected to affect future occurrences of natural hazards in and around Yucca Valley. Many hazards are projected to occur more frequently and intensely in coming years and decades, and in some cases, these trends have already begun. According to California's Statewide Summary Report: Fourth Climate Change Assessment, Yucca Valley can expect to experience various changes to climate-related hazard events.

Under California law, the Safety Element is required to include a vulnerability assessment that looks at how people, buildings, infrastructure, and other key community assets may be affected by climate change. The Town conducted a Climate Change Vulnerability Assessment in spring of 2021, to analyze Yucca Valley's susceptibility to climate-related hazards. The Vulnerability

Assessment, prepared in accordance with the most recent available guidance in the California Adaptation Planning Guide, assesses how eight different climate-related hazards (air quality, drought, extreme heat, flooding, human health hazards, landslides, severe weather, and wildfire) may affect 58 different population groups and community assets. The Yucca Valley Climate Change Vulnerability Assessment conducted for this Safety Element indicated that Yucca Valley's populations and assets are most vulnerable to extreme heat, flooding, landslides, and wildfire. Populations in Yucca Valley tend to be most vulnerable to extreme heat, human health hazards, and wildfire, which directly affect health outcomes. Throughout the town, energy delivery is vulnerable to multiple hazards, including severe weather, such as high winds that can trigger public safety power shutoff (PSPS) events, extreme heat that reduces the capacity and strains the system, and wildfires that damage the system, ultimately disrupting energy service. An increase in droughts, extreme heat, and wildfire create higher vulnerabilities for chaparral, woodland, shrubland, and grassland ecosystems.



Goals, Policies, and Implementation Actions are identified in the Safety Element and have been added to the Mitigation Actions Matrix, as appropriate.

Environmental Justice

The EJE Goals, Policies, and Implementation Actions will be incorporated into the Mitigation Actions Matrix, as appropriate.

Environmental justice is the movement to recognize and ameliorate the disproportionate and unfair burden of environmental pollution and other toxins faced by low-income communities and communities of color. In 2016, Senate Bill 1000 was signed into law which requires local jurisdictions that have disadvantaged communities to incorporate environmental justice policies into their general plans. For the purpose of plan requirements, environmental justice is defined as: “the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (California Government Code Section 65040.12). Residents living in or neighborhoods with high levels of pollution are at an increased risk for developing respiratory diseases, such as asthma, and cardiovascular diseases, such as stroke. Pregnant women living in highly polluted neighborhoods are also at an increased risk for experiencing poor birth outcomes, such as preterm birth. The environmental justice movement is intended to address these types of inequities by addressing the specific environmental hazards faced by disadvantaged communities.

Identification of Disadvantaged Communities

SB 1000 defines “disadvantaged communities” as areas identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or as an area that is low-income that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. To assist in identifying disadvantaged communities, the State has provided a mapping tool called “CalEnviroScreen.” CalEnviroScreen uses several factors, called “indicators” that have been shown to determine whether a community is disadvantaged and disproportionately affected by pollution. Pollution burden indicators measure different types of pollution that residents may be exposed to, and the proximity of environmental hazards to a community. Population characteristics represent characteristics of the community that can make them more susceptible to environmental hazards.

CalEnviroScreen provides an overall percentile score determined by combining weighted individual scores for all the individual indicators analyzed. SB 1000 considers a CalEnviroScreen score of 75 percent or higher score to be a qualifier for consideration as a disadvantaged community. The overall scores are represented in a statewide map, with red representing the highest percentile range and green representing the lowest. Areas with higher scores generally experience higher pollution burdens and fare poorer on a range of health and socioeconomic indicators than areas with low scores. The CalEnviroScreen scores for Yucca Valley are between 20 and 60 percent overall for pollution. There are no census tracts within the Town that score above 75 percent. There are no SB 535 Disadvantaged Communities in the Town of Yucca Valley. See **Figures: CalEnviroScreen 4.0 Results**.



Figure: CalEnviroScreen 4.0 Results
(Source: CalEnviroScreen, 2022)

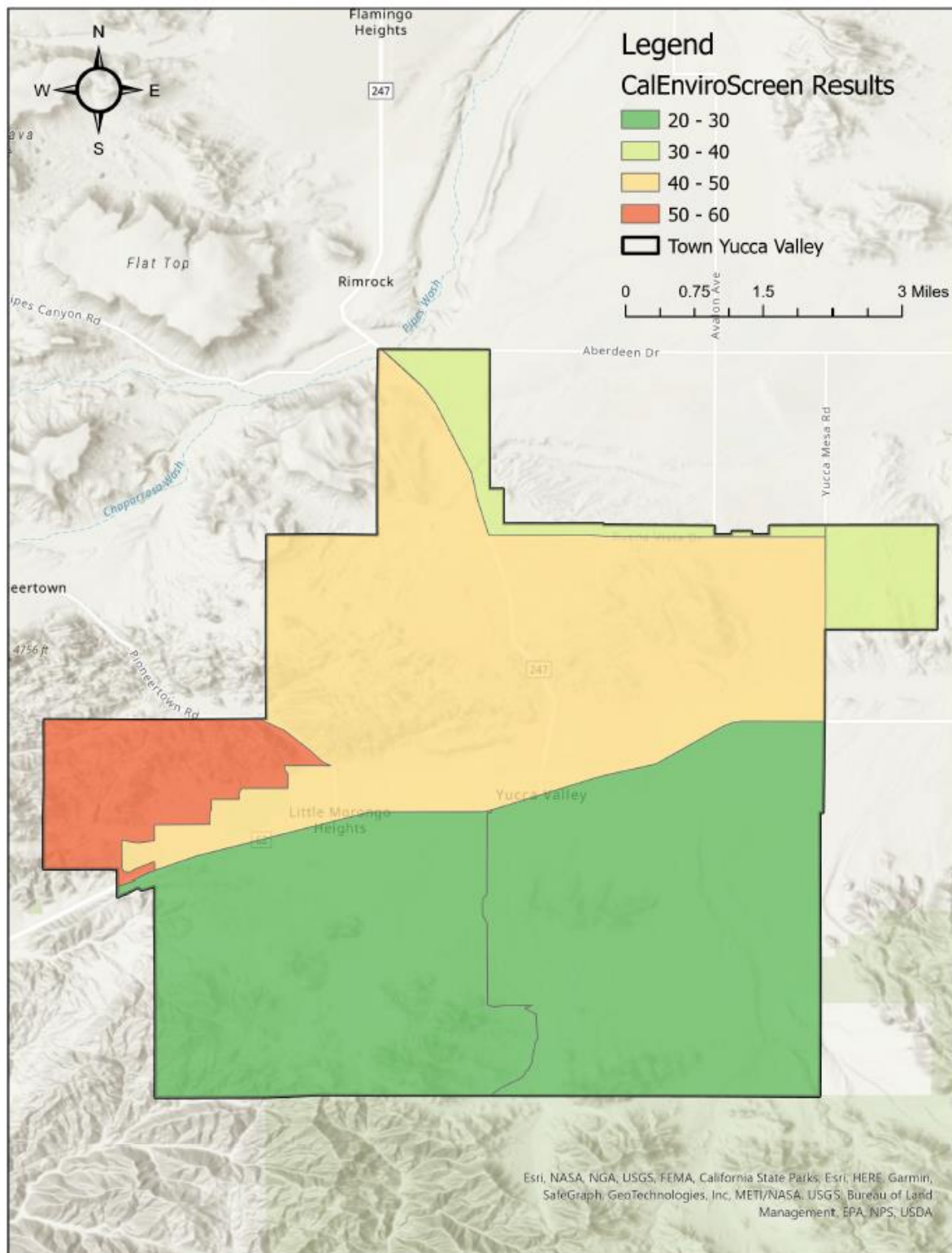
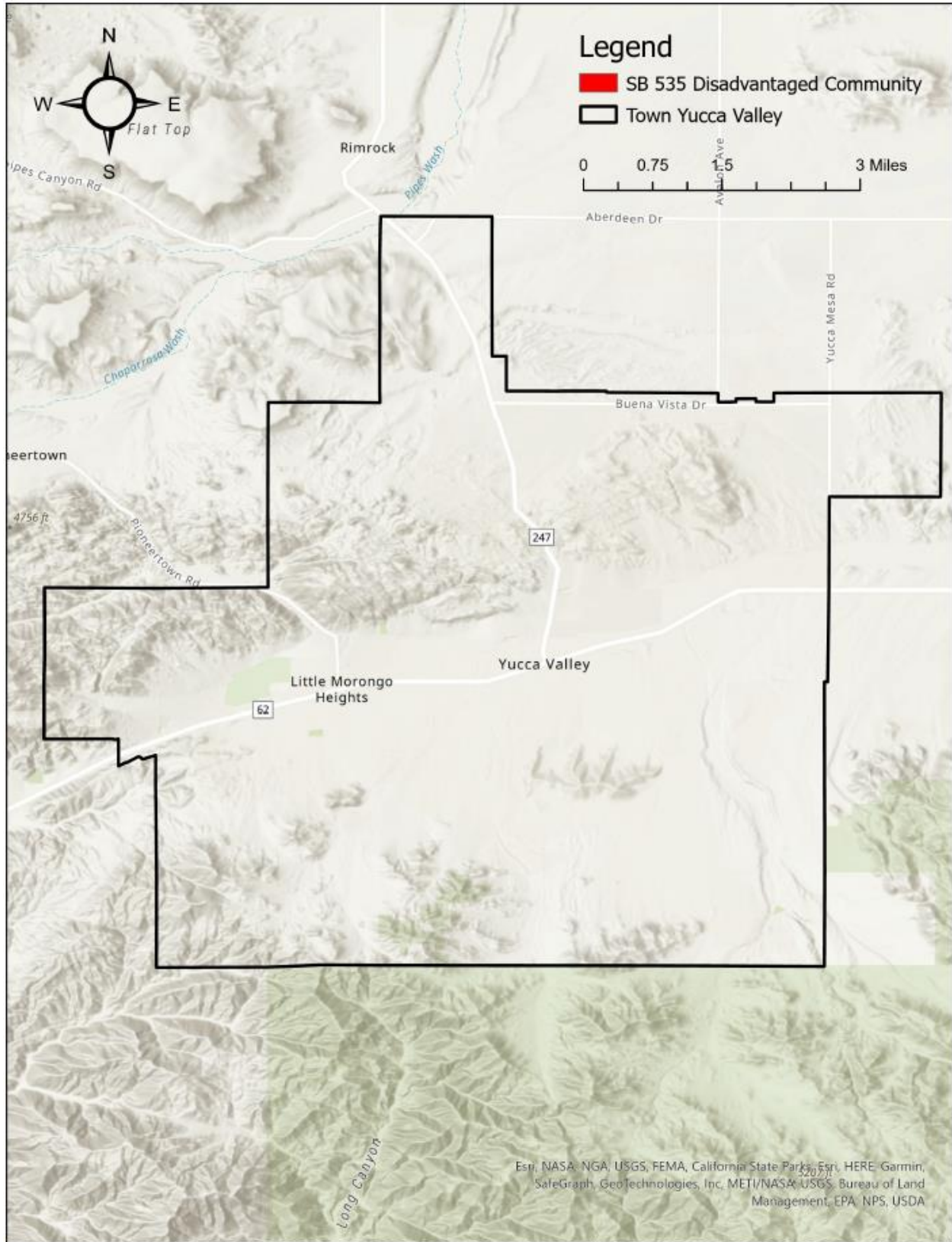




Figure: Yucca Valley SB 535 Disadvantaged Communities
(Source: CalEPA SP 353 Disadvantaged Communities, 2022)





Population and Demographics

According to the Town's Housing Technical Report (draft version), the Town's population was 16,865 in 2000 and increased to 20,700 persons in 2010. Based on California DOF population estimates, the population of the town increased to 22,236 in 2020, an increase of 7.4 percent over 10 years and an estimated annual growth rate of 1.4 percent during those 10 years. As a point of comparison, the SCAG region grew from a population of 18,051,534 in 2010 to 19,021,787 in 2020, an increase of 5.4 percent for that 10-year period.

Yucca Valley's population growth rate (6.7 percent) exceeded the growth rate for San Bernardino County, which only saw a growth of 5.8 percent from 2010 to 2018. According to DOF's modeling, Twentynine Palms and Yucaipa had the largest growth since 2010; each had a growth rate of 7.3 percent. Conversely, Big Bear Lake grew by less than 100 residents since 2010, a growth rate of 3.2 percent. Overall, Yucca Valley and its neighboring jurisdictions experienced limited growth since 2010, similar to San Bernardino County as a whole.

Table: Regional Population Trends

(Source: Town of Yucca Valley Housing Technical Report, 2023 Draft)

	2010	2018	% Change
Yucca Valley	20,700	22,082	6.7%
Twentynine Palms	25,048	26,872	7.3 %
Yucaipa	51,367	55,138	7.3 %
Big Bear Lake	5,019	5,178	3.2 %
San Bernardino County	2,035,210	2,152,845	5.8 %

According to SCAG projections, Yucca Valley's population is estimated to grow to 25,800 in 2045, an increase of 20.6 percent since 2016. Yucca Valley is expected to have the slowest growth rate of other nearby jurisdictions in San Bernardino County. Yucaipa and Big Bear Lake are projected to grow by at least a third of their 2016 population, with Yucaipa expected to grow by nearly 40 percent. Twentynine Palms does not exceed the County's expected growth rate (31.5 percent) but is expected to grow by over a quarter. In 2019, the Town reported that the area experienced an unusual level of growth which has been attributed to the COVID-19 pandemic. It is unclear at this time whether the population increase will be temporary or sustained in the long term.



Risk Assessment

What is a Risk Assessment?

Conducting a risk assessment can provide information regarding: the location of hazards; the value of existing land and property in hazard locations; and an analysis of risk to life, property, and the environment that may result from natural hazard events. Specifically, the four levels of a risk assessment are as follows:

1. *Hazard Identification*
2. *Profiling Hazard Events*
3. *Inventory of Assets*
4. *Estimation of Potential Human and Economic Losses Based on the Exposure and Vulnerability of People, Buildings, and Infrastructure*

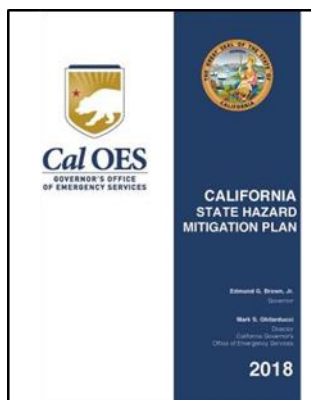
Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

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

A: See **Hazard Identification** below.

Hazard Identification

This section is the description of the geographic extent, potential intensity, and the probability of occurrence of a given hazard. Maps are used in this plan to display hazard identification data. To determine the hazard with significant potential to impact the Planning Team examined three resources: California’s 2018 State Hazard Mitigation Plan, 2022 County of San Bernardino Multi-Jurisdictional Hazard Mitigation Plan, and the Town’s 2022 General Plan –Safety Element.



The 2018 State HMP identified hazards posing a threat to communities within the state boundaries. Those hazards include Earthquakes, Floods, Levee Failures, Wildfires, Landslides and Earth Movements, Tsunami, Climate-Related Hazards, Volcanoes, and Other Hazards.

The 2022 County of San Bernardino Multi-Jurisdictional Hazard Mitigation Plan identified hazards posing a threat to communities within the county boundaries. Those hazards include Wildfire, Flood, Earthquake/Geologic, Terrorism, Drought, Climate Change, and Landslide.



The Town's General Plan – Safety Element identified the following safety issues of concern to include:

- ✓ Geologic hazards, including (non-seismic) slope failures; collapsible, compressible or expansive soils subsidence due to groundwater pumping; and shallow ground water
- ✓ Seismic (earthquake) hazards, including surface fault rupture, ground shaking, liquefaction effects, and earthquake-induced slope instabilities
- ✓ Flooding (inundation) from extreme weather and seismically induced dam failure
- ✓ Fire hazards and smoke from wildfires in the region
- ✓ Presence of hazardous materials
- ✓ Extreme weather

Next, the Planning Team reviewed existing documents to determine which of the hazards posed the most significant threat to the planning area and the jurisdiction's ability to deliver services. In other words, which hazard would likely result in a local declaration of emergency.

The geographic extent of each of the identified hazards was identified by the Planning Team utilizing maps and data contained in the County of San Bernardino MJHMP.

The following hazards identified in the County of San Bernardino MJHMP that have been included in the Yucca Valley HMP: Earthquake, Flood, and Wildfire.

The following hazards identified in the County's MJHMP that have been omitted from inclusion in Yucca Valley's HMP:

- ✓ Drought – Based on a review by the Planning Team, it was determined that drought should be included in the new Utility Related hazard chapter.
- ✓ Terrorism - Based on the fact terrorism is not a natural hazard as specified by FEMA regulations for inclusion in the HMP, the Planning Team chose to not include the hazard.
- ✓ Climate Change – Rather than a stand-alone hazard section, the Planning Team chose to integrate climate change impacts into the hazard-specific chapters. Additionally, the Community Profile now includes information on the Town's vulnerability to climate change with a focus on underserved and socially vulnerable populations.

Additionally, the Planning Team chose to add Utility, Epidemic / Pandemic / Vector-Borne, and include Extreme Heat to the existing 2018 Extreme Weather chapter which already includes windstorms and extreme cold. The rest of the 2018 HMP hazards remain including earthquake, wildfire, and flood.

Next, the Team utilized FEMA's Calculated Priority Risk Index (CPRI) ranking technique to quantify the probability, maximum strength, duration, and warning time for each of the hazards. The hazard ranking system is described below.



Table: Calculated Priority Risk Index
 (Source: Federal Emergency Management Agency)

CPRI Category	Degree of Risk			Assigned Weighting Factor
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 1 in 1,000 years.	1	45%
	Possibly	Rare occurrences. Annual probability of between 1 in 100 years and 1 in 1,000 years.	2	
	Likely	Occasional occurrences with at least 2 or more documented historic events. Annual probability of between 1 in 10 years and 1 in 100 years.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability of greater than 1 every year.	4	
Magnitude/ Severity	Negligible	Negligible property damage (less than 5% of critical and non-critical facilities and infrastructure). Injuries or illnesses are treatable with first aid and there are no deaths. Negligible loss of quality of life. Shut down of critical public facilities for less than 24 hours.	1	30%
	Limited	Slight property damage (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability, and there are no deaths. Moderate loss of quality of life. Shut down of critical public facilities for more than 1 day and less than 1 week.	2	
	Critical	Moderate property damage (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least 1 death. Shut down of critical public facilities for more than 1 week and less than 1 month.	3	
	Catastrophic	Severe property damage (greater than 50% of critical and non-critical facilities and infrastructure). Injuries and illnesses result in permanent disability and multiple deaths. Shut down of critical public facilities for more than 1 month.	4	
Warning Time	> 24 hours	Population will receive greater than 24 hours of warning.	1	15%
	12–24 hours	Population will receive between 12-24 hours of warning.	2	
	6-12 hours	Population will receive between 6-12 hours of warning.	3	
	< 6 hours	Population will receive less than 6 hours of warning.	4	
Duration	< 6 hours	Disaster event will last less than 6 hours.	1	10%
	< 24 hours	Disaster event will last less than 6-24 hours.	2	
	< 1 week	Disaster event will last between 24 hours and 1 week.	3	
	> 1 week	Disaster event will last more than 1 week.	4	



Table: Calculated Priority Risk Index Ranking for the Town of Yucca Valley
 (Source: Town of Yucca Valley Planning Team)

Hazard	Probability	Weighted 45% (x.45)	Magnitude/Severity	Weighted 30% (x.30)	Warning Time	Weighted 15% (x.15)	Duration	Weighted 10% (x.10)	CPRI Total	Hazard Priority Ranking (H-High, M-Medium, L-Low) *
Earthquake	3	1.34	4	1.20	4	0.60	1	0.10	3.25	H
Epidemic / Pandemic / Vector-Borne Diseases	2	0.90	1	0.30	1	0.15	4	0.40	1.75	L
Extreme Weather – Windstorm, Extreme Temperatures	2	0.90	1	0.30	1	0.15	4	0.40	1.75	L
Flooding	4	1.80	2	0.60	2	0.30	2	0.20	2.90	H
Utility Related – Power, Drought	2	0.90	1	0.30	1	0.15	4	0.40	1.75	L
Wildfire	3	1.34	2	0.60	4	0.60	2	0.20	2.74	M
*Hazard Priority Ranking High=CPRI score for probability + magnitude/severity (impact) = 6 or higher Medium=CPRI score for probability + magnitude/severity (impact) = 5 Low=CPRI score for probability + magnitude/severity (impact) = 3 or 4 N/A=CPRI score for probability + magnitude/severity (impact) = 2										

Profiling Hazard Events

This process describes the causes and characteristics of each hazard and which of the Town’s facilities and infrastructure may be vulnerable to each specific hazard. A profile of each hazard discussed in this plan is provided in the Hazard-Specific Sections. **Table: Hazard Profile of Location, Extent, and Probability** indicates a generalized perspective of the community’s vulnerability of the various hazards according to extent (or degree), location, and probability.

Q&A ELEMENT B: RISK ASSESSMENT B1-a. Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i)) A: See Table: Hazard Profile of Location, Extent, and Probability below.
Q&A ELEMENT B: RISK ASSESSMENT B1-b. Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) A: See Table: Hazard Profile of Location, Extent, and Probability below.
Q&A ELEMENT B: RISK ASSESSMENT B1-c. Q: Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) A: See Table: Hazard Profile of Location, Extent, and Probability below.
Q&A ELEMENT B: RISK ASSESSMENT B1-d. Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i)) A: See Table: Hazard Profile of Location, Extent, and Probability below.



Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.

Q: Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Table: Hazard Profile of Location, Extent, and Probability** below.

Table: Hazard Profile of Location, Extent, and Probability for the Town of Yucca Valley
(Source: General Plan – Safety Element, Planning Team)

Hazard	Location (Where)	Extent (How Big an Event)	Probability (How Often) *	Recent Significant Occurrence
Earthquake	Town wide	The Southern California Earthquake Center (SCEC) in 2007 concluded that there is a 99.7 % probability that an earthquake of M6.7 or greater will hit California within 30 years. Earthquake would most likely originate from the San Andreas fault.	Likely	June 28, 1992 M 7.3 Landers Earthquake
Epidemic / Pandemic / Vector-Borne Disease	Town wide	Based on source and impacts to population, extent can vary greatly.	Possibly	Epidemic: N/A Pandemic: 2020-2023 COVID-19 Vector-Borne: N/A
Extreme Weather – Windstorm and Extreme Temperatures	Town wide	Windstorm – 50 miles per hour or greater Extreme Temperatures – High heat equals above 90 degrees with humidity for at least 2-3 days. Cold equals precipitation forms as sleet or snow, or when rain turns to ice.	Possibly	Windstorm: 2016 involving 80 miles per hour winds over several days Extreme Heat: 7/12/23 – 7/17/23 Extreme Cold: Snowed in March 2023
Flooding	SR 62 and other low-lying roadways. Mainly central and southern portions of the Town	Urban flooding to streets. Flooding along the creeks and other waterways from heavy rain and melting snow.	Likely	August 19-20, 2023 Hurricane Hilary dropped 3” of rain. Town distributed 25,000 sandbags and opened 1 shelter
Utility Related – Power, Drought	Town wide	Varies greatly depending on shortage/outage and season.	Possibly	Power Outage – Sky Harbor on August 19, 2023 for 1 hour. Drought -Water Conservation Level 2 Internet – Frequent outages with provider Frontier Communications. Recently out for several days following Hurricane Hilary.



Wildfire	Varies	CAL FIRE rating varies from moderate to very high fire hazard severity zone.	Likely	Elk Fire – May 2022
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* Probability is defined as: Unlikely = 1:1,000 years, Possibly = 1:100-1:1,000 years, Likely = 1:10-1:100 years, Highly Likely = 1:1 year

¹ Uniform California Earthquake Rupture Forecast

HAZUS-MH







The hazard maps in the Mitigation Plan were generated by Emergency Planning Consultants using FEMA’s Hazards United States – Multi Hazard (HAZUS-MH) software program. Please see **Attachments – HAZUS** for complete reports. Once the location and size of a hypothetical earthquake are identified, HAZUS-MH estimates the intensity of the ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems and utilities, the number of people displaced from their homes, and the estimated cost of repair and clean up. It’s important to note that the “project are” is based on Census Tracts not jurisdictional boundaries.

As per FEMA’s HAZUS Guidebook, HAZUS is a GIS-based software that can be used to estimate potential damage, economic loss, and social impacts from earthquakes, flooding, tsunami and hurricane wind hazards. The HAZUS software includes nationwide general GIS datasets, and a model for the four natural disasters below. The model results can support the risk assessment piece of mitigation planning.



Graphic: Model Results to Support Risk Assessment for Mitigation Planning (Source: Using HAZUZ for Mitigation Planning, FEMA, 2018)

 Earthquake model	Estimates damages and losses to buildings, essential facilities, transportation, and utility lifelines from a single scenario or probabilistic earthquake analysis. There are also tools that allow the user to integrate earthquake hazard data generated outside of Hazus into the earthquake model. This model estimates debris generation, shelter requirements, casualties, and fire following an earthquake disaster.
 Flood model	Generates flood hazard data using nationwide hydrological datasets. There are also tools that allow the user to integrate flood hazard data generated outside of Hazus software into the flood model. This model estimates the expected levels of damage to infrastructure and buildings. Debris generation and shelter requirements, as well as agricultural losses, can be calculated with this model.
 Tsunami model	Can produce analyses that have several pre-tsunami and/or post-tsunami applications. Use of the methodology will generate an estimate of the consequences to a county or region of a "scenario tsunami," i.e., a tsunami with a specified inundation depth, velocity, and location. The resulting "loss estimate" generally will describe the scale and extent of damage and disruption that may result from the scenario tsunami.
 Hurricane wind model	Can create the wind hazard data from a historical or real-time event, probabilistic event, or from a user-defined scenario. Estimates of potential damage and economic loss to buildings can then be calculated. The storm surge analysis combines the wind and coastal flood model to simulate storm surge for historical, and manual hurricanes. The model combines the wind and flood losses.

HAZUS is packaged with datasets that include building inventories and infrastructure for the entire United States. Because HAZUS is currently built on GIS technology, the inventory and infrastructure datasets can be mapped and intersected with the hazard information created from the four models.

Following the intersection, HAZUS determines the effects of wind, ground shaking, and water depths on buildings and infrastructure to calculate losses and damages. The outputs and estimates can be used in hazard mitigation planning, emergency response, and planning for recovery and reconstruction.

Losses estimated in HAZUS are based on the accuracy of input data. Basic analysis can be developed using the default data and parameter data provided within HAZUS. Users can conduct more advanced analysis using more accurate data that is specific to the region, hazard, population, etc. User-supplied data improves the accuracy of inventories and/or parameters.

Advanced-level analyses may also incorporate data from third-party studies. The user must determine the appropriate level of analysis to meet the user's needs and resources.

HAZUS analysis can be performed at three different levels:

- A Level 1 basic analysis can be performed simply using the default data provided. This level of analysis is very coarse, and because the results will be subject to a much higher level of uncertainty, this should serve primarily as a baseline for further study. The user will still be able to produce basic maps and results. Limited additional data will be required to complete the flood analysis. Site specific input data produces more accuracy in vulnerability identification and loss estimation amounts. If the data is available, it is highly



recommended that a user integrate site specific data to reduce uncertainty associated with the results of default data. Using a user defined depth grid, in the flood model, against default state data is classified as a level 1 analysis and is the recommendation of HAZUS Program.

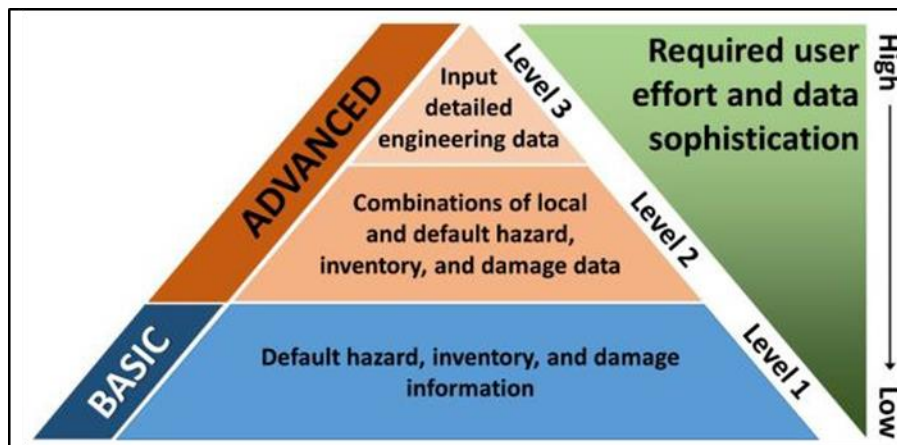
- A Level 2 advanced analysis increases the accuracy and precision of an analysis by incorporating user-supplied data relevant to a given hazard. While the data included with the HAZUS software can be utilized to run a basic level one analysis, level two inputs are supplied by local sources and contain a higher level of detail. This can include datasets that model the hazards in more detail, or datasets that increase the accuracy of the inventory information. Incorporating more detailed data will improve the quality of the results. Level 2 is broadly defined as the incorporation of user-defined hazard and updated GBS or site-specific data.
- A Level 3 advanced analysis achieves the highest degree of precision and involves modifying or substituting the model parameters and/or equations, relevant to a given hazard. Users can modify inputs depending on the time and resources available. Keeping track of the data used is suggested so that any relationships between input and results is documented. It is usually done by advanced users experienced with both the hazard and the HAZUS software.

FEMA's Natural Hazard Risk Assessment Program (NHRAP) encourages users to conduct Level 2 or 3 analyses to improve the accuracy of results and recommends the use of user defined data (e.g., depth grids for all flood analysis) for mitigation planning.



Graphic: HAZUS Analysis Levels

(Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)



HAZUS creates credible estimates for losses and damages; datasets created on the local level typically provide greater detail than the datasets that are packaged with HAZUS (Level 1). Incorporating local datasets into the analysis will improve the results.

HAZUS Outputs

The user plays a major role in selecting the scope and nature of the output of a HAZUS analysis. A variety of maps can be generated for visualizing the extent of the losses. Numerical results may be examined at the level of the census block or tract or may be aggregated by county or region. There are three main categories of HAZUS outputs: direct physical damage, induced damage, and direct losses. Direct physical damage includes general building stock (GBS), essential facilities, high potential loss facilities, transportation systems, utility systems, and user defined facilities. Induced damage includes building debris, tree debris generation and fire following disaster occurrence. Direct losses include losses for buildings, contents, inventory, income, crop damage, vehicle loss, injuries, casualties, sheltering needs and displaced households.



Graphic: HAZUS Outputs
(Source: Using HAZUS for Mitigation Planning, FEMA, 2018)

Hazus Capabilities	Earthquake Ground Shaking Ground Failure	Flood Frequency Depth Riverine Coastal Surge	Hurricane Wind Surge	Tsunami Depth Momentum Flux Runup Velocity
Inputs				
Historic	✓		✓	
Deterministic	✓	✓	✓	✓
Probabilistic	✓	✓	✓	
User-supplied	✓	✓	✓	✓
Other supported inputs	Real-time & scenario USGS ShakeMaps	Risk MAP, User-supplied depth grids (ArcGRID, GeoTIFF, IMAGINE), HEC-RAS (.FLT)	Hurrevac, User-supplied wind files (.dat)	NOAA PMEL SIFT, State models
Direct Damage				
General Building Stock	✓	✓	✓	✓
Essential Facilities	✓	✓	✓	
Transportation Systems	✓	✓		
Utility Systems	✓	✓		
User-Defined Facilities	✓	✓	✓	✓
Induced Damage				
Fire Following	✓			
Debris Generation	✓	✓	✓	
Direct Losses				
Cost of Repair	✓	✓	✓	✓
Income Loss	✓	✓	✓	✓
Agricultural		✓		
Casualties	✓			✓
Shelter and/or Evacuation Needs	✓	✓	✓	✓
Average Annualized Loss (AAL)	✓	✓	✓	

Inventory of Assets and Estimation of Potential Human and Economic Losses Based on the Exposure and Vulnerability of People, Buildings, and Infrastructure

A vulnerability assessment in its simplest form is a simultaneous look at the geographical location of hazards and an inventory of the underlying land uses (populations, structures, etc.). Facilities that provide critical and essential services following a major emergency are of particular concern because these locations house staff and equipment necessary to provide important public safety, emergency response, and/or disaster recovery functions.

FEMA separates critical buildings and facilities into the five categories shown below based on their loss potential. All of the following elements are considered critical facilities:

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.



Transportation Systems include airways – airports, heliports; highways – bridges, tunnels, roadbeds, overpasses, transfer centers; railways – trackage, tunnels, bridges, rail yards, depots; and waterways – canals, locks, seaports, ferries, harbors, drydocks, piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power and communication systems.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Table: Hazard Proximity to Critical Facilities below illustrates the hazards with potential to impact critical facilities owned by or providing services to the Town of Yucca Valley.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards?
(Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Hazard Proximity to Hazards** below.

Table: Hazard Proximity to Critical Facilities

(Source: Town of Yucca Valley Planning Team, Emergency Planning Consultants)



Name of Facility	Earthquake	Epidemic/Pandemic/Vector-Borne Diseases	Extreme Weather -Windstorm and Extreme Temperatures	Flooding	Utility Related – Power, Drought	Wildfire
Note: "X" indicates affirmative. In the case of Wildfire, the location is in or near the High or Very High Fire Hazard Severity Zone while an affirmative Flooding designation is in or near a 100-year floodplain.						
Town Hall Complex Address: 57090 Twentynine Palms Highway, Yucca Valley # of Buildings: 3 # Staff: 21 Structure + Content Value: \$6,478,710	X	X	X	X	X	
Library Address: 57098 Twentynine Palms Highway, Yucca Valley # of Buildings: 1 # Staff: 0 Structure + Content Value: \$143,840	X	X	X	X	X	
Community Development / Public Works Address: 58928 Business Center Drive, Yucca Valley # of Buildings: 3 # Staff: 17 Structure + Content Value: \$393,869	X	X	X	X	X	
Yucca Valley Animal Shelter Address: 4755 Malin Way, Yucca Valley # of Buildings: 3 # Staff: 8 Structure + Content Value: \$5,362,918	X	X	X	X	X	X
California Welcome Center – Yucca Valley/Chamber of Commerce Address: 56711 Twentynine Palms Highway, Yucca Valley # of Buildings: 1 # Staff: 0 Structure + Content Value: \$1,005,894	X	X	X	X	X	



Name of Facility	Earthquake	Epidemic/Pandemic/Vector-Borne Diseases	Extreme Weather -Windstorm and Extreme Temperatures	Flooding	Utility Related – Power, Drought	Wildfire
County of San Bernardino (Contracted Services at County-Owned Locations)						
San Bernardino County Fire Department Stations: Address: #41 - 57201 Twentynine Palms Highway, Yucca Valley	X	X	X	X	X	
San Bernardino County Fire Department Stations: Address: #42 – 58612 Aberdeen Drive, Yucca Valley	X	X	X	X	X	
Community Lifelines						
Amerigas Propane 55596 Yucca Trail, Yucca Valley	X	X	X	X	X	
Ferrell Gas (Propane) 55888 Yucca Trail #B, Yucca Valley	X	X	X	X	X	
Hi Desert Propane 7281 Dumosa Ave #5, Yucca Valley	X	X	X	X	X	
Southern California Edison (SCE) 6999 Old Woman Springs Road, Yucca Valley	X	X	X	X	X	
Hi Desert Water District 55439 Twentynine Palms Highway, Yucca Valley	X	X	X	X	X	
Yucca Valley Airport 6804 Warren Vista Ave, Yucca Valley	X	X	X	X	X	

Q&A ELEMENT D: PLAN UPDATE E1-a.
Q: Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community’s vulnerability since the previous plan was approved? (Requirement 44 CFR § 201.6(d)(3))
A: See Changes in Development below.

Changes in Development

The Town of Yucca Valley was first incorporated in 1991. It began as farmland and ranches, and it is now a hub for commerce and manufacturing. Primarily comprised of single family residential housing, Yucca Valley is also a home for commercial and industrial spaces. The Community Development Department provided the following statement concerning changes in development:

“There are no anticipated changes in growth patterns or development activity within the Town during the next 5 years. The Town’s residential unit growth rate is below 1% annually. There are no economic factors occurring that would indicate those growth patterns will increase at any time in the near future. Minor Development Code amendments are anticipated corresponding to changes in state laws.”



Earthquake Hazards

Hazard Definition

An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of the Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure.

One tool used to describe earthquake intensity is the Magnitude Scale. The Magnitude Scale is sometimes referred to as the Richter Scale. The two are similar but not exactly the same. The Magnitude Scale was devised as a means of rating earthquake strength and is an indirect measure of seismic energy released. The Scale is logarithmic with each one-point increase corresponding to a 10-fold increase in the amplitude of the seismic shock waves generated by the earthquake. In terms of actual energy released, however, each one-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a Magnitude 7 (M7) earthquake is 100 times (10 X 10) more powerful than a M5 earthquake and releases 1,024 times (32 X 32) the energy.

Table: Mercalli Scale and Peak Ground Acceleration Comparison
(Source: USGS, 2023)

Modified Mercalli Scale	Perceived Shaking	Potential Structure Damage		Estimated PGA ^a (%g)
		Resistant Buildings	Vulnerable Buildings	
I	Not Felt	None	None	<0.17%
II-III	Weak	None	None	0.17% - 1.4%
IV	Light	None	None	1.4% - 3.9%
V	Moderate	Very Light	Light	3.9% - 9.2%
VI	Strong	Light	Moderate	9.2% - 18%
VII	Very Strong	Moderate	Moderate/Heavy	18% - 34%
VIII	Severe	Moderate/Heavy	Heavy	34% - 65%
IX	Violent	Heavy	Very Heavy	65% - 124%
X – XII	Extreme	Very Heavy	Very Heavy	>124%

a. PGA = peak ground acceleration. Measured in percent of g, where g is the acceleration of gravity
Sources: USGS, 2008; USGS, 2010

<p>Q&A ELEMENT B: RISK ASSESSMENT B1-d.</p> <p>Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))</p> <p>A: See Previous Occurrences of Earthquakes in the Town of Yucca Valley below.</p>

Previous Occurrences of Earthquakes in the Town of Yucca Valley

According to the General Plan – Safety Element, there have been several notable past earthquakes that were felt strongly in Yucca Valley, but the concentration of intense seismic activity in 1992 was the most destructive in recent history. The Joshua Tree Earthquake struck on April 22, 1992, most likely centered on the Eureka Peak fault, approximately 12 miles south of Highway 62. This magnitude 6.1 earthquake injured over 30 people. On June 28, 1992, the magnitude 7.3 Landers Earthquake rocked Southern California and was the largest quake to have



occurred in the continental United States in 40 years. The epicenter was in Landers, approximately 10 miles north of Yucca Valley. Several faults were involved, including Johnson Valley, which bisects the northern part of the Town. Several roads and buildings were damaged, over 400 people were injured in the region, and 3 people lost their lives, including one in Yucca Valley. The magnitude 6.4 Big Bear Earthquake struck approximately 3 hours after the Landers Earthquake. No additional damage in Yucca Valley was attributed to this quake.

Since the writing of the 2018 Mitigation Plan, there have been no significant earthquake events impacting the Town.

Q&A ELEMENT B: RISK ASSESSMENT B1-a.
Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See Local Conditions below.
Q&A ELEMENT B: RISK ASSESSMENT B2-a.
Q: Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
A: See Local Conditions below.

Previous Occurrences of Earthquakes in San Bernardino County

According to the County of San Bernardino MJHMP, there have been 10 earthquakes greater than Magnitude 4.0 in the last five years. The table below lists these earthquakes.

Table: San Bernardino Earthquakes
(Source: County of San Bernardino MJHMP, 2022)

Date	Name
9/14/2011	Calimesa 4.1
1/15/2014	Fontana 4.4
7/5/2014	Running Springs 4.6
3/29/2014	Brea 5.1
7/25/2015	Fontana 4.2
9/16/15	Big Bear Lake 4.0
12/30/2015	Muscoy 4.4
1/6/2016	Banning 4.4
7/3/2019	Ridgecrest 6.4
7/4/2019	Ridgecrest 7.1

Q&A ELEMENT B: RISK ASSESSMENT B1-b.
Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See Local Conditions below.



Local Conditions

According to the Yucca Valley 20 Year Community Profile (2011), Yucca Valley is in an area of high seismic activity and several faults have the potential to cause damage in the community. The Pinto Mountain fault extends in an easterly direction through the central part of Town. The Eureka Peak, Burnt Mountain, Johnson Valley, and Homestead Valley faults run north-south through various portions of the community. The southern San Andreas Fault passes about eight miles southwest of the Town. These and several other seismically active faults are within about 60 miles of the community, posing a significant seismic shaking hazard. The faults that extend through the town also have the potential to cause surface fault rupture, the displacement of the ground surface when a fault moves. Deformation associated with movement along the Pinto Mountain fault could impact several buildings and infrastructure in downtown Yucca Valley. The State of California regulates development in seismically active areas through the Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act. The 2022 General Plan – Safety Element outlines the following faults the pose a risk to Yucca Valley: Morongo Valley, Pinto Mountain, Johnson Valley, Burnt Mountain, and Eureka Peak. Development within the zones can occur following geologic investigations that identify development standards and requirements for development projects that are designed to mitigate potential earthquake-related hazards. California's Unreinforced Masonry Law requires all cities and counties in Seismic Zone 4, as identified in the California Building Code, to identify potentially hazardous unreinforced masonry buildings in their jurisdictions. The number of unreinforced masonry structures is unknown and warrants study.

Pinto Mountain Fault and Morongo Valley Fault

The Pinto Mountain fault bisects the middle of Town and runs parallel to Highway 62. The Pinto Mountain fault zone is an east-trending left-lateral strike-slip fault that extends from the Morongo Valley region to beyond Twentynine Palms. This fault most recently experienced a triggered slip in 1992, due to the shaking from the Landers earthquake. The Morongo Valley Fault splits just south from the Pinto Mountain fault and continues through Morongo Valley.

Johnson Valley Fault

The Johnson Valley Fault exists within the northern Town limits. The 1992 M7.3 Landers earthquake rupture propagated from the Johnson Valley fault to the Homestead Valley fault across Homestead Valley. Rupture was concentrated along the Kickapoo fault (a.k.a., Landers fault), a previously unrecognized north-south-striking, 5-km-long fault in Homestead Valley, and along small secondary fault traces east of the Kickapoo fault. Seismic activity on the Johnson Valley Fault is expected to have a maximum magnitude of 7.3.

Burnt Mountain Fault

The Burnt Mountain fault runs north and south along the southern portion of Yucca Valley. Like its neighbor to the east (the Eureka Peak fault), the Burnt Mountain fault was unknown until the Landers earthquake sequence brought it to the attention of geologists by breaking about 5 kilometers of the total length of this fault at the surface. Once this discovery was made, subsequent mapping determined the existence of roughly 16 kilometers more surface trace. While the offset displayed along the Burnt Mountain fault in 1992 was only about 6 cm (and nearby Eureka Peak fault was offset only 21 cm), these faults are probably quite significant over geologic time in transferring slip from the San Andreas Fault zone to the Eastern California Shear Zone.



Eureka Peak Fault

The Eureka Peak fault is located in the southeast corner of the Town. The Eureka Peak fault is a fairly short fault with a few significant claims to fame. First, the southernmost surface rupture during the Landers earthquake of 1992 occurred on this fault, breaking about 10 kilometers of the fault with a maximum surface offset of 21 centimeters. While a seemingly trivial point to note (compared to the offsets of several meters experienced elsewhere), this rupture actually marked the discovery of the Eureka Peak fault, as similar rupture revealed the existence of the nearby Burnt Mountain fault. Second, this fault probably handles a significant portion of the slip transferred from the San Andreas fault zone -- the Pacific/North American plate boundary -- to the Eastern California Shear Zone, northward across the Mojave, and may have been the fault responsible for the Joshua Tree earthquake in April 1992, which almost certainly prompted the Landers rupture to occur in June 1992. Seismic activity on the Eureka Peak Fault is expected to have a maximum magnitude of 6.8, potentially larger when combined with other faults.

Earthquake Related Hazards

Ground shaking, landslides, and liquefaction are the specific hazards associated with earthquakes. The severity of these hazards depends on several factors, including soil and slope conditions, proximity to the fault, earthquake magnitude, and the type of earthquake.

Ground Shaking

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter (where the earthquake originates). Buildings on poorly consolidated and thick soils will typically see more damage than buildings on consolidated soils and bedrock.

Liquefaction

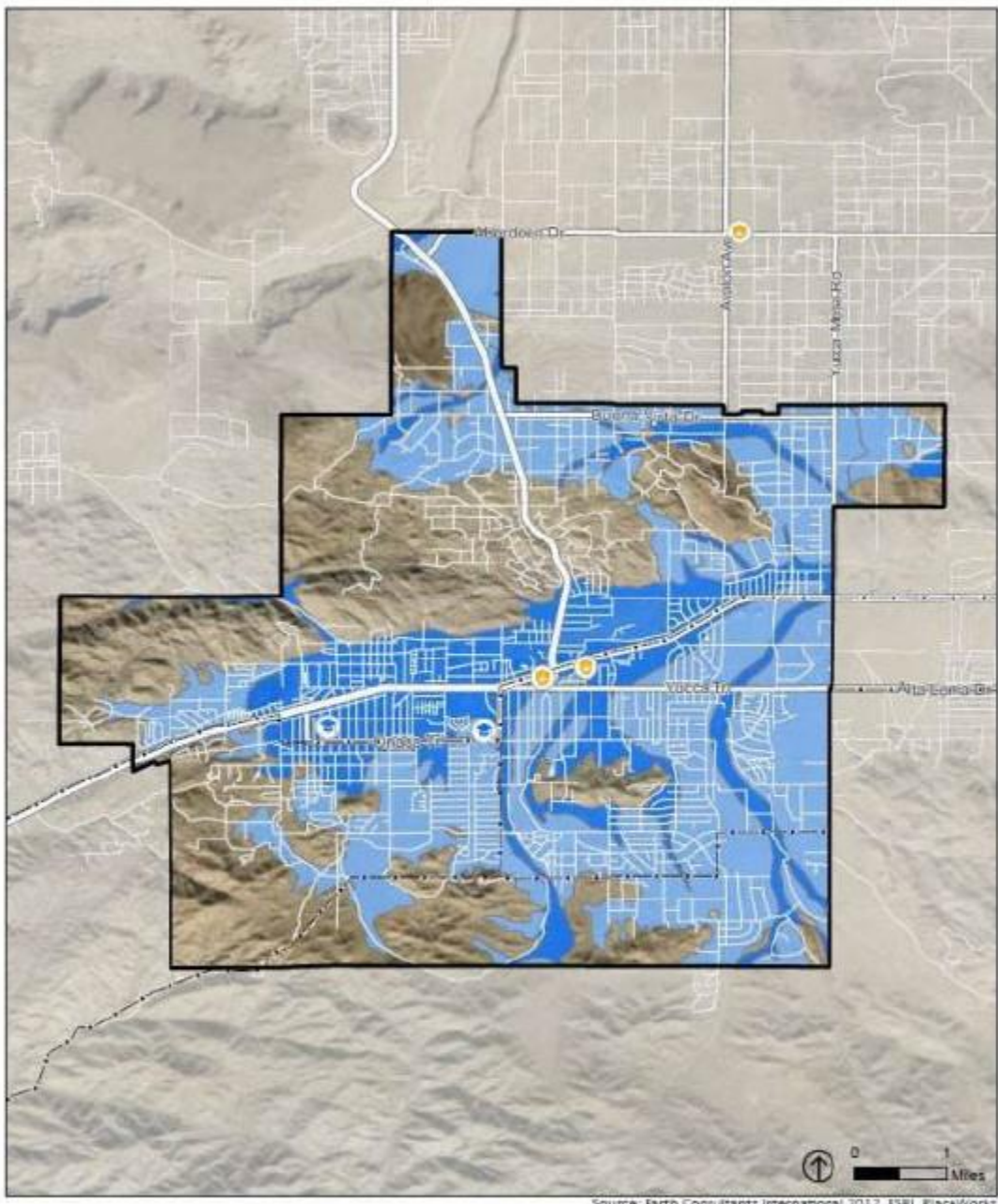
Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other events. Liquefaction occurs in saturated soils, which are soils in which the space between individual soil particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake, the water pressure is relatively low. However, earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. Because liquefaction only occurs in saturated soil, its effects are most commonly observed in low lying areas. Typically, liquefaction is associated with shallow groundwater, which is less than 50 feet beneath the earth's surface.

According to the General Plan - Safety Element, portions of the town are susceptible to liquefaction, which is a potentially destructive secondary effect of strong seismic shaking. Liquefaction occurs primarily in saturated, loose, fine- to medium-grained soils in areas where the groundwater table is within approximately 50 feet of the surface. Shaking causes the soil to lose strength and behave as liquid. Excess water pressure is vented upward through fissures and soil cracks and can result in a water-soil slurry flowing onto the ground surface. Liquefaction-related effects include loss of bearing strength, ground oscillations, lateral spreading, and flow failures or slumping. Site-specific geotechnical studies are the only practical and reliable way of determining the specific liquefaction potential of a site; however, a determination of general risk potential can be provided based on soil type and depth of groundwater. The Town has delineated areas of



known and suspected liquefaction hazard. Liquefaction susceptibility in the town ranges from low to very low.

Map: Liquefaction Areas
(Source: General Plan – Safety Element)



- | | |
|-------------------|----------------------------------------------------------------------------------------------------------------------|
| Town Boundary | Liquefaction Susceptibility |
| Transmission Line | Low Low - Areas underlain by coarse-grained Holocene age sediments, groundwater depth > 100' or unknown |
| Fire Stations | Very Low Very Low - Areas underlain by coarse-grained Pleistocene age sediments, groundwater depth > 100' or unknown |
| Schools | |



Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Impacts from Earthquakes in Yucca Valley** below.

Impacts from Earthquakes in Yucca Valley

Based on the risk assessment, it is evident that earthquakes will continue to have potentially devastating economic impacts to Yucca Valley. Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary health hazards (e.g., mold and mildew)
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed

Issues Relating to Earthquakes

Important issues associated with an earthquake include the following:

- ✓ Almost half of the Town is prone to liquefaction.
- ✓ Structures on these soils may experience significant structural damage.
- ✓ It is estimated approximately 60% of the planning area's building stock was built prior to 1975, when seismic provisions became uniformly applied through building code applications. Many structures may need seismic retrofits in order to withstand a moderate earthquake.
- ✓ Due to limitations in current modeling abilities, the risk to critical facilities in the planning area from the earthquake hazard is likely understated. A more thorough review of the age of critical facilities, codes they were built to, and location on liquefiable soils should be conducted.
- ✓ Damage to transportation systems in the planning area after an earthquake has the potential to significantly disrupt response and recovery efforts and lead to isolation of populations.
- ✓ Earthquakes can cause fires in wooden homes and the collapse of essential buildings such as fire stations.
- ✓ Landslides and tsunamis are major secondary hazards that could have a widespread effect on the county.
- ✓ Citizens are expected to be self-sufficient up to two weeks after a major earthquake without government response agencies, utilities, private-sector services, and infrastructure components. Education programs are currently in place to facilitate development of individual, family, neighborhood, and business earthquake preparedness. It takes individuals, families, and communities working in concert with one another to be prepared for disaster.



Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Summary of Vulnerability to Earthquakes** below.

- ✓ After a major seismic event, the planning area is likely to experience disruptions in the flow of goods and services resulting from the destruction of major transportation infrastructure across the broader region.
- ✓ A seismic event can damage communication systems, complicating efforts to coordinate response to the event.

Summary of Vulnerability to Earthquakes

The following is a summary of vulnerability to earthquakes. All of Town's 60 staff would be impacted by an earthquake. In addition, all of the Town-owned facilities would be impacted by an earthquake including the Town Hall Complex, Library, Community Development/Public Works, Yucca Valley Animal Shelter, and California Welcome Center – Yucca Valley/Chamber of Commerce. Altogether, this includes a total of 11 buildings and structures/contents valued at \$16,923,231. These estimates are based on 2023.

The combination of plate tectonics and associated geology generates earthquakes as a result of the periodic release of tectonic stresses. San Bernardino County terrain lies in the center of the North American and Pacific tectonic plate activity. There have been earthquakes as a result of this activity in the historic past, and there will continue to be earthquakes in the future of California. Fault ruptures themselves contribute very little to damage unless the structure or system element crosses the active fault; however, liquefaction can occur further from the source of the earthquake. In general, newer construction is more earthquake resistant than older construction due to enforcement of improved building codes. Manufactured buildings are very susceptible to damage because their foundation systems are rarely braced for earthquake motions. Locally generated earthquake motions and associated liquefaction, even from very moderate events, tend to be more damaging to smaller buildings, especially those constructed of unreinforced masonry (URM) and soft story buildings.

Impacts from earthquakes in Yucca Valley will vary depending on the fault that the earthquake occurs on, the depth of the earthquake strike, and the intensity of shaking. Should ground shaking be intense, Town facilities and critical infrastructure could be damaged or destroyed. Of greater risk than the building is the students and staff who occupy those buildings; injury or loss of life could occur during a significant event. In addition to earthquakes causing structural damage, the Town has multiple non-structural components that may be damaged during earthquake shaking. Nonstructural components include furnishings and equipment, electrical and mechanical fixtures, and architectural features such as suspended ceilings, partitions, cabinets, and shelves. In general, nonstructural components and building contents become hazards when they slide, break, fall, or tip over during an earthquake. Securing the nonstructural components and building contents will improve safety and security of the facility.

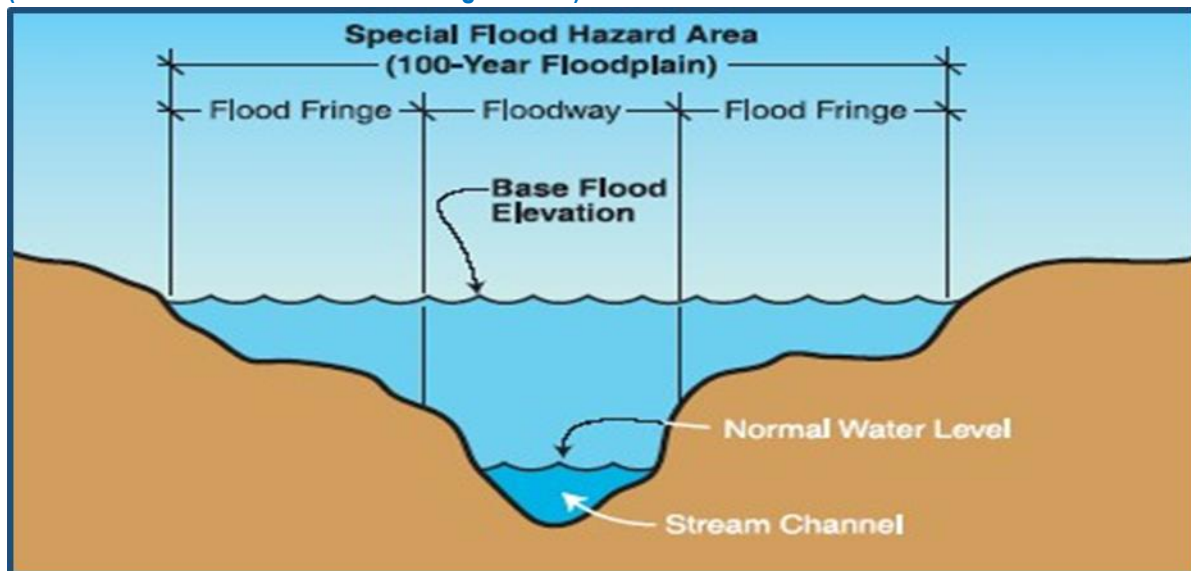


Flood Hazards

Hazard Definition

A floodplain is a land area adjacent to a river, stream, lake, estuary, or other water body that is subject to flooding. This area, if left undisturbed, acts to store excess flood water. The floodplain is made up of two sections: the floodway and the flood fringe. The 100-year flooding event is the flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood. Schematic: Floodplain and Floodway shows the relationship of the floodplain and the floodway.

Figure: Floodplain and Floodway
(Source: FEMA How-To-Guide Assessing Hazards)



Types of Flooding

Two types of flooding primarily affect the region: slow-rise or flash flooding. Slow-rise floods may be preceded by a warning period of hours or days. Evacuation and sandbagging for slow-rise floods have often effectively lessened flood related damage. Conversely, flash floods are most difficult to prepare for, due to extremely limited, if any, advance warning and preparation time.

For the Town of Yucca Valley, floodplains are not controlled by infrastructure while localized or urban flooding continues to pose a seasonal problem.

Q&A ELEMENT B: RISK ASSESSMENT B1-d.
Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))
A: See Previous Occurrences of Flooding in the Town of Yucca Valley below.



Previous Occurrences of Flooding in the Town of Yucca Valley

According to the General Plan – Safety Element, Yucca Valley is traversed by Yucca Wash, Water Canyon, Old Woman Springs Creek, Covington Wash, East and West Burnt Mountain Creeks, Long Canyon, Hospital Canyon, and Piñon Creek, and is at risk to both creek flooding and localized stormwater flooding. Historically, the desert region of San Bernardino County and the Town of Yucca Valley have been subject to flooding events primarily during the winter and spring months when river systems swell with heavy rainfall runoff. Typically, stormwater is kept within defined limits by a variety of storm drainage and flood-control measures. Occasionally, extended heavy rainfall results in floodwaters that exceed normal high-water boundaries and cause damage. Flooding has occurred both within the 100-and 500-year floodplains and in other localized areas. As land uses and climate conditions shift and as improvements are made to flood-control channels, the size of these flood zones is likely to change.

Most recent flood event was caused by Hurricane Hilary on August 19-20, 2023 when the community experienced 3 inches of rain. The Town distributed 25,000 sandbags to property owners. Also, the Town opened a shelter for the first time in nearly 2 decades.

Previous Occurrences of Flooding in San Bernardino County

The desert areas of San Bernardino County contain many mountain ranges that are steep and experience summer thunderstorms causing flash floods in many dry washes on the desert floor. The water collects in dry lake beds throughout the desert area.

Flash flooding causes road and bridge wash outs and erosion of earthen channels and basins when they occur near these facilities. Cities and towns often experience street closures for several days due to sediment transport and road damage. Because of the sheet flow character of the desert, many private properties experience erosion and sediment deposits.

The urban valley also can experience flash flooding in its narrow canyons and within the many unimproved creeks and interim channels feeding the Santa Ana River. The valley floor in many areas is very flat so even minor rain events can produce flooding of roads and private property.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

Q: Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Local Conditions** below.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

Q: Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Local Conditions** below.

Local Conditions

According to the General Plan – Safety Element, FEMA identified the following areas in a 100-year flood zone: Yucca Wash, Water Canyon, Old Woman Springs Creek, Covington Wash, East and West Burnt Mountain Creeks, Long Canyon, Hospital Canyon, and Piñon Creek. These areas have little or no drainage infrastructure, undersized pipes where runoff exceeds pipe capacity even for minor storms, obstructions, or damaged drainpipes. It is estimated that there are more areas affected by this flood zone that have yet to be identified by FEMA. Most of the 100-



year flood zones are concentrated around Yucca Wash, which crosses the center of community east to west, making flood control an important safety issue. This and other flood zones in Yucca Valley are shown in the **Flood Hazard Zones Map**.

100-year events are not the only storms to cause flooding. Smaller storms can also result in property or infrastructure damage, especially when public and private floodways are not properly maintained. Floods are not only destructive to residential and commercial properties, but they can cause significant erosion to natural lands and ecosystems. Most of the existing development in Yucca Valley has been completed without significant alteration to the natural terrain. As a result, natural drainage courses pass through developed or semi-developed areas. Small channels pass through private yards, and some structures are built within the flow paths of shallow drainages. Most streets, many of which are unpaved, follow the natural contours of the land, crossing arroyos and gullies without the benefit of culverts or bridges. These crossings can quickly become filled with high-velocity floodwaters, trapping vehicles or washing them downstream.

Agencies responsible for flood control in Yucca Valley include FEMA, the Federal Insurance Administration (FIA), and the Department of Water Resources (DWR).

Q&A | ELEMENT C: MITIGATION STRATEGY | C2-a.

Q: Does the plan contain a narrative description or a table/list of their participation activities?
(Requirement 44 CFR § 201.6(C)(3)(ii))

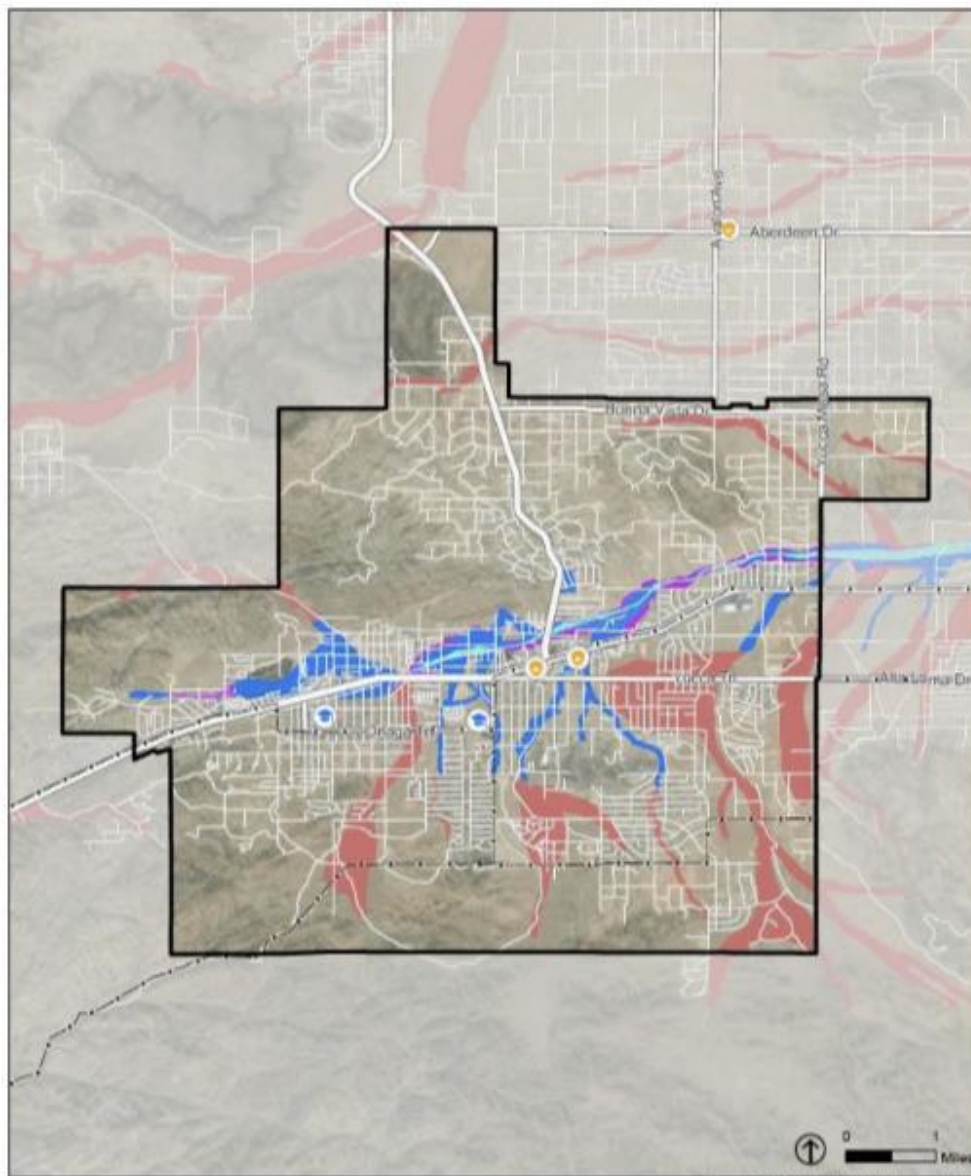
A: See **NFIP** below.

National Flood Insurance Program

The Town participates in the National Flood Insurance Program (NFIP). Created by Congress in 1968, the NFIP makes flood insurance available in communities that enact minimum floodplain management rules consistent with the Code of Federal Regulations §60.3.



Map: Flood Hazard Zone Town of Yucca Valley
(Source: General Plan – Safety Element)



Source: FEMA 2020, DWR, ESRI, PlaceWorks

- | | | |
|--------------------------|--------------------------|---------------|
| Town Boundary | FEMA 500-Year Flood Zone | Fire Stations |
| DWR 100-Year Flood Zone | FEMA Regulatory Floodway | Schools |
| FEMA 100-Year Flood Zone | Transmission Line | |



Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.



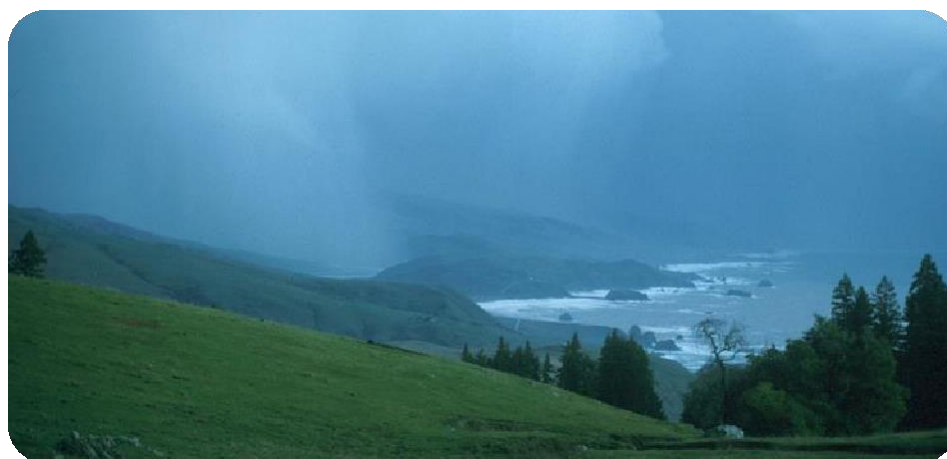
ZONE	DESCRIPTION
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

Atmospheric Rivers

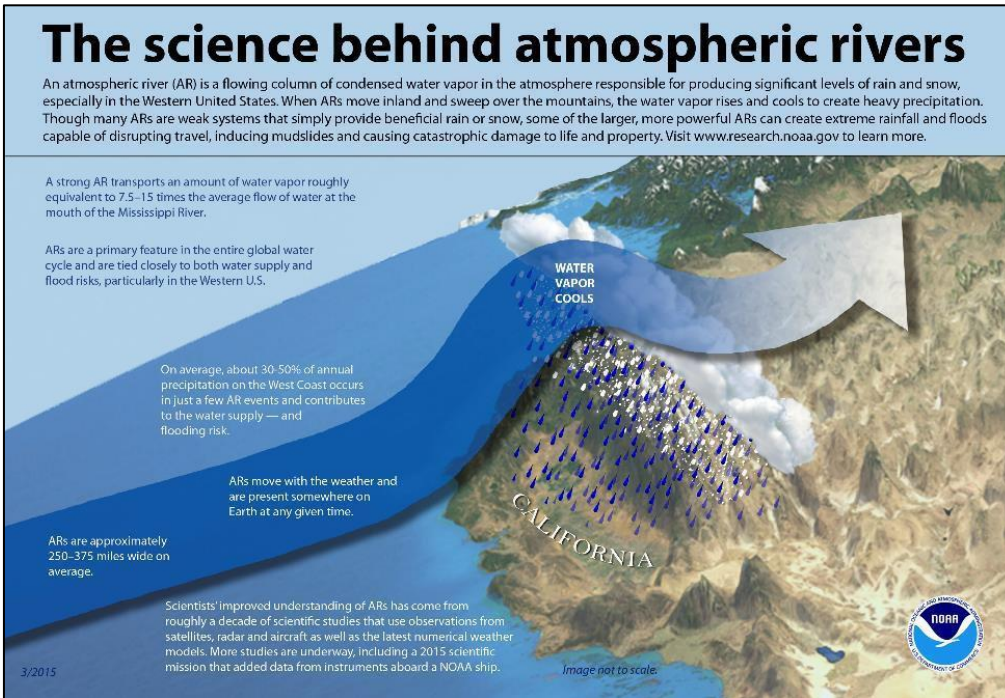
According to the National Oceanic and Atmospheric Administration (NOAA), atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. These columns of vapor move with the weather, carrying an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.



Although atmospheric rivers come in many shapes and sizes, those that contain the largest amounts of water vapor and the strongest winds can create extreme rainfall and floods, often by stalling over watersheds vulnerable to flooding. These events can disrupt travel, induce mudslides, and cause catastrophic damage to life and property. A well-known example is the "Pineapple Express," a strong atmospheric river that can bring moisture from the tropics near Hawaii over to the U.S. West Coast.



Graphic: Atmospheric Rivers
 (Source: National Oceanic and Atmospheric Administration, 2023)



While atmospheric rivers are responsible for great quantities of rain that can produce flooding, they also contribute to beneficial increases in snowpack. A series of atmospheric rivers fueled the strong winter storms that battered the U.S. West Coast from western Washington to southern California from December 10–22, 2010, producing 11 to 25 inches of rain in certain areas. These rivers also contributed to the snowpack in the Sierras, which received 75 percent of its annual snow by December 22, the first full day of winter.

NOAA research (e.g., [NOAA Hydrometeorological Testbed](#) and Cal Water) uses satellite, radar, aircraft and other observations, as well as major numerical weather model improvements, to better understand atmospheric rivers and their importance to both weather and climate.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

A: See **Impact of Urban Flooding in the Town of Yucca Valley, Issues Relating to Urban Flooding** below.

Impact of Urban Flooding in the Town of Yucca Valley

Floods and their impacts vary by location and severity of any given flood event, and likely only affect certain areas of the region during specific times. Based on the risk assessment, it is evident that urban flooding will continue to have potential economic impacts to the Town of Yucca Valley.



Impacts that are not quantified, but anticipated in future events, include:

- ✓ Injury and loss of life,
- ✓ Commercial and residential structural damage,
- ✓ Disruption of and damage to public infrastructure,
- ✓ Secondary health hazards e.g., mold and mildew,
- ✓ Damage to roads/bridges resulting in loss of mobility,
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community,
- ✓ Negative impact on commercial and residential property values, and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Urban Flooding

- ✓ Structures in the planning area built before any regulations existed on floodplain development may be particularly vulnerable to the flood hazard.
- ✓ The accuracy of the existing flood hazard mapping produced by FEMA in reflecting the true flood risk within the planning area is questionable.
- ✓ The extent of the flood-protection currently provided by flood control facilities (dams, etc.) is not known due to the lack of an established national policy on flood protection standards.
- ✓ The risk associated with the flood hazard overlaps the risk associated with other hazards such as earthquake, landslide, and severe weather. This provides an opportunity to seek mitigation alternatives with multiple objectives that can reduce risks from multiple hazards.
- ✓ There is no area-wide degree of consistency in land-use and floodplain management practices.
- ✓ There needs to be a sustained effort to gather historical damage data, such as high-water marks on structures and damage reports, to measure the cost-effectiveness of future mitigation projects.
- ✓ Ongoing flood hazard mitigation will require funding from multiple sources.
- ✓ Coordinated hazard mitigation efforts among jurisdictions affected by flood hazards in the county are recommended.
- ✓ Residents and businesses near the floodplain (channels) should continue to be educated about flood preparedness and the resources available during and after floods.
- ✓ The concept of residual risk should be considered in the design of future capital flood control projects and should be communicated with residents living in the floodplain.
- ✓ The promotion of flood insurance as a means of protecting private property owners from the economic impacts of frequent flood events should continue.

✓ **Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.**

✓ **Q:** Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

✓ **A:** See **Summary of Vulnerability** below.

Summary of Vulnerability

The following is a summary of vulnerability to urban flooding. Some of Yucca Valley's staff could be impacted by urban flooding while conducting field responsibilities. All of the Town-owned facilities are vulnerable to urban flooding: Town Hall Complex, Community Development/Public Works, Yucca Valley Animal Shelter, California Welcome Center – Yucca Valley/Chamber of Commerce. Altogether, this includes a total of approximately 11 buildings and structures/contents valued at \$16,923,231. These estimates are based on 2023.



Historically, the majority of urban flooding has impacted properties near large intersections and freeway overpasses. A mitigation action item calls for historical research and development of a drainage study to minimize or eliminate future urban flooding.

Although the existing channels protect Yucca Valley from flooding in the floodplain, excessive rain and blocked or insufficient storm drains can result in damage to buildings and infrastructure. Structures can also be damaged from trees falling as a result of water-saturated soil. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of schools. The Town could be required to reroute traffic or even close access to impacted neighborhoods.

Another concern associated with stormwater flooding includes impacts to infrastructure that provides a means of ingress and egress throughout the Yucca Valley. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways, and other critical infrastructure. Standing water can cause damage to roads and can also damage building foundations.



Wildfire Hazards

Hazard Definition

Wildfire is an uncontrolled fire spreading through vegetative fuels and exposing or possibly consuming structures. They often begin unnoticed and spread quickly. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A wildland/urban interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

Wildfire Characteristics

There are three categories of wildland/urban interface fire: The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings. The occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought, and development.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Previous Hazard Events in Yucca Valley** below

Previous Hazard Events in Yucca Valley

According to the General Plan – Safety Element, several historical wildland fires have impacted Yucca Valley, including the Acoma Fire of 2008, which burned 356 acres but only destroyed one outbuilding in Town. The largest wildland fire, the 2006 Sawtooth-Millard-Heart Complex fire, was started by lightning and was the result of a merger of three separate wildland fires. It burned approximately 85,700 acres between Yucca Valley and San Geronio. In the Yucca Valley region, the fire destroyed 50 homes, 171 outbuildings, and 194 vehicles. It also caused a significant amount of damage to homes, businesses, and property. Seventeen individuals were injured and one civilian died.

In 2015, the Lake Fire impacted the Town of Yucca Valley with ash and serving as a host community for regionally displaced residents. The fire started on June 17, 2015 and burned over 31,359 acres before it was fully contained on July 21, 2015.

In 2022 the Elk Fire impacted the town which burned 431 acres. According to the Desert Sun Newspaper, the fire started on the southeast side of Yucca Valley and moved into a remote area before making its way into Joshua Tree National Park.



Previous Hazard Events in San Bernardino County

According to the County of San Bernardino Multi-Jurisdictional Hazard Mitigation Plan, there have been 10 significant wildland fires in the past 5 years. The table below lists these wildland fires.

Table: Wildfires Impacting San Bernardino County 2018-2022

(Source: County of San Bernardino Multi-Jurisdiction Hazard Mitigation Plan, 2022)

Date	Name
9/4/2019	Tenaja Fire
10/10/2019	Sandalwood Fire
10/10/2019	Rache Fire
10/30/2019	Water Fire
10/30/2019	Hill Fire
10/31/2019	Hillside Fire
7/31/2020	Apple Fire
7/31/2020	El Dorado Fire
8/25/2021	South Fire
9/5/2022	Radford Fire

The 2019 Sandalwood Cut Fire was a reminder that wildfires are a significant threat to lives and property in the unincorporated San Bernardino County area. The Blue Cut Fire started from burning trash being dumped on vegetation. 74 structures were destroyed, 16 structures were damaged, and two lives were lost.

In 2019 The Hillside Fire caused 1,300 people to be evacuated at 2am, while the Water Fire destroyed 3 structures and 2 vehicles.

The Sandalwood Fire, Hillside Fire, and Water Fire all occurred in the County’s mapped Very High Fire Severity Zone. Mitigation efforts have reduced but not eliminated the threat from wildfire. The strong fall winds that are capable of creating firestorms cannot be controlled. Drought cannot be controlled. Fuels reduction programs reduce the potential spread of fire, upgraded Building Codes make structures more fire resistant, and public education prepares residents for wildfires. However, the threat of wildfire remains. The continuing goal is to reduce the threat from wildfire wherever possible.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

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

A: See **Local Conditions** below.

Local Conditions

Yucca Valley is in the lower Mojave section of the Southeastern Deserts Bioregion, an area characterized by isolated, steep-sided mountain ranges separated by broad alluvial basins. Lower elevation areas of the region feature desert scrub or are barren of vegetation. The limited amount of vegetation and low surface fuel loads typically hinder the spread of fire. Higher elevations both inside and outside the Town, including areas such as Joshua Tree National Park, feature a variety of vegetation types. Because of the increased diversity of surface fuel and relatively higher loads and continuity of vegetation, the spread of fire in these regions is higher than on the desert floor. This is reflected in the higher number of fires reported historically in



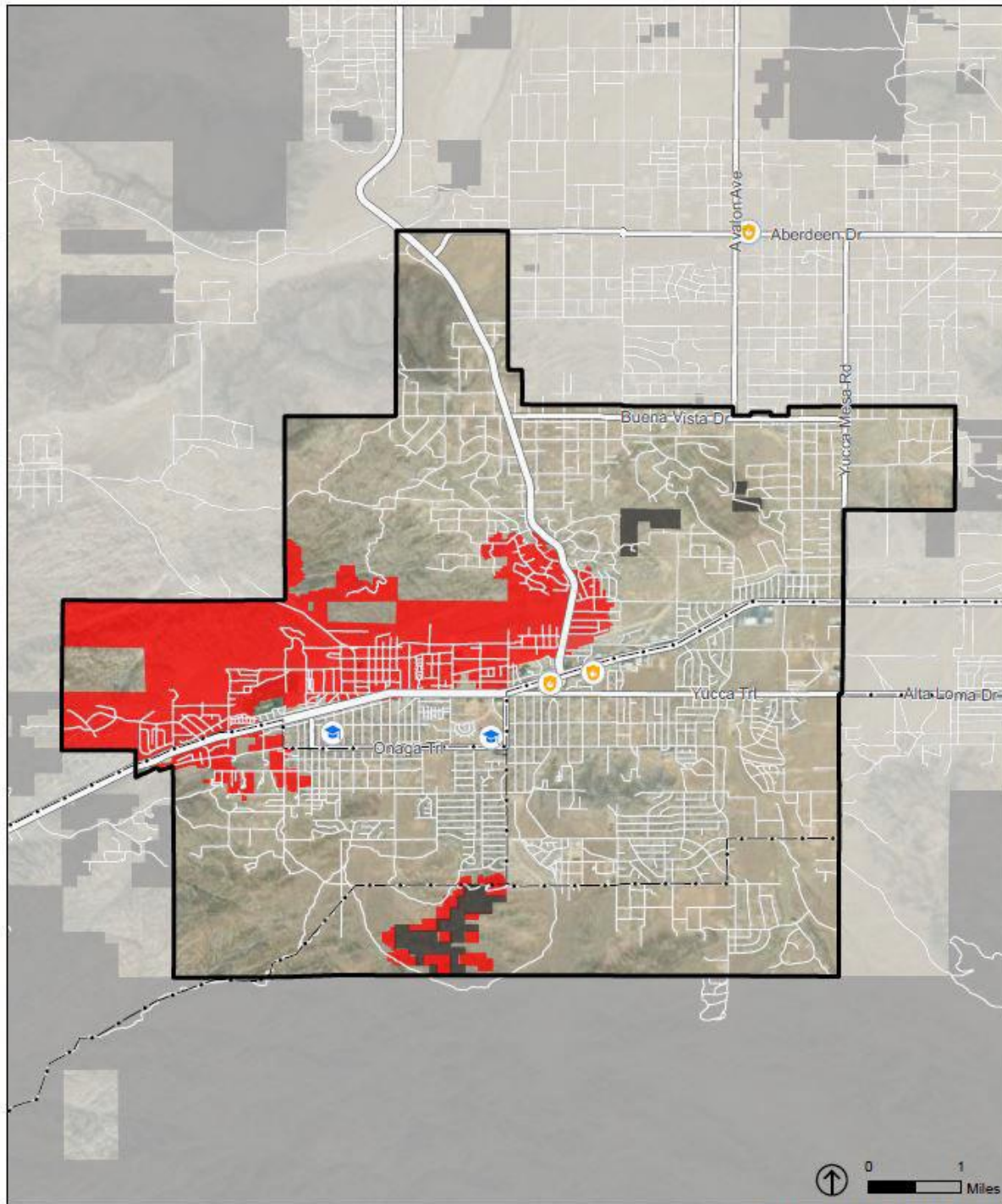
Joshua Tree National Park and in the mountains to the northwest, compared with the Yucca Valley area proper. In addition to vegetation, weather also impacts the risk of wildfires in Yucca Valley. Drought conditions that further reduce the low level of precipitation and summer thunderstorms that produce lightning are both factors that increase the likelihood of wildland fires in the community.

Wildland fires pose a significant threat to large areas of Yucca Valley, mostly in the west-northwest and south parts of Town. The California Department of Forestry and Fire Protection identified the hillside areas of Yucca Valley as having a high to very high fire threat, as shown on **Map: Fire Hazard Severity Zones** below. In addition to providing fire safety standards in Yucca Valley, the San Bernardino County Fire Department also provides fire prevention and protection services.

The continued development of defensible spaces, free of combustible vegetation, will help reduce the potential for fire to harm lives and property.



Map: Fire Hazard Severity Zones
(Source: General Plan-Safety Element)



Source: CalFIRE 2008, ESRI, PlaceWorks

- | | | |
|-------------------------------------|-----------------------------------------------|-------------------|
| Town Boundary | Federal Responsibility Area
Not Designated | Transmission Line |
| Local Responsibility Area | Fire Stations | Schools |
| Very High Fire Hazard Severity Zone | | |



Q&A | RISK ASSESSMENT | B3-a.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Impacts of Wildfire** below.

Impacts of Wildfire

Wildfires and their impact vary by location and severity of any given wildfire event. Based on the risk assessment, it is evident that wildfires will continue to have potentially devastating economic impacts to Yucca Valley. Impacts that are not quantified, but anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary health hazards (e.g., mold and mildew)
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values and
- ✓ Significant disruption to citizens as temporary facilities and relocations would likely be needed.

Issues Relating to Wildfire

Wildfire is an inevitable and normal ecological process in the fire-adapted landscape of Los Angeles County. Nearly 100 years of aggressive fire suppression has contributed to the high wildfire risk of today. Absent fire for many years, wildland areas became overstocked with highly flammable vegetation. At the same time, expansion of homes into rural WUI areas increased the number of homes in high-risk areas. Typically, residential property owners do not maintain forested lands, exacerbating wildfire potential. On public lands, availability of budget for large-scale wildland fuels maintenance is an ongoing issue. Overcrowded conditions degrade overall forest health and degrade the environmental values provided by forest ecosystems. While in a few areas, recent wildfires burned hot enough to damage wildland ecosystems, in general wildland ecosystems have not sustained irrevocable damage. In many cases fires were beneficial. Large, uncontrolled wildfires can cause significant damage to ecosystem services, however life, home and economic losses to residents and communities must be considered along with environmental consequences.

Research shows that home loss in wildland fires is primarily driven by two equally important factors:

1 - The vulnerabilities of buildings that make them prone to ignition are the embers that cause 80 percent of wildland fire home ignitions. The following elements are most vulnerable to embers but can be retrofitted on existing homes to reduce risk of ignition:

- ✓ Non-Class A roofs
- ✓ Roof edges and soffits
- ✓ Combustible plants and materials within 5 feet of house walls
- ✓ Non-WUI approved venting products that allow for ember entry into structures
- ✓ Wooden attachments, such as fences and decks
- ✓ Non-WUI rated windows
- ✓ Siding



2 - The vegetative fuels within 100 feet of structures (the area referred to as defensible space)— Good defensible space, wherein vegetation has been reduced to reduce fire intensity and spread, is critical to reduce ignition.

Outside of the home and the 100-foot defensible space zone, surrounding wildland fuels can play a role in home destruction, as fire and embers can spread from nearby wildland areas into communities. It is in this area that vegetation management can come into play. This refers to actions taken to alter natural vegetation or plant communities that abut communities, usually on the scale of 10’s to 1,000’s of acres. Vegetation management can include prescribed fire, prescribed grazing, timber harvest techniques, invasive plant removal, or mechanical treatment to remove fine fuels, dense stands of fire-prone species, shrubs, and dead and dying vegetation. Fuels are reduced in order to create “community calming zones” or restore ecosystems to fewer flammable conditions. Strategically placed calming zones can reduce near-community fire intensity and spread, provide safe anchors that firefighters can use to stop forward progress of the fire, and supplement and support near-home mitigation strategies. Roadside fuels treatment can support emergency ingress and egress, increasing community and firefighter safety.

Although the patterns of land use, natural plant communities, topography, weather, soils, and geology vary across the landscapes San Bernardino County, notable patterns are discernible. An approach is needed for deploying existing techniques at the scale of whole communities.

Such an approach would be informed by the principles of landscape ecology. It would view the natural lands where fires tend to originate and the built infrastructure of human communities that abut the natural landscapes as a coupled system. Mitigating large-scale loss of life and property can be achieved using relatively well-established techniques of home hardening, defensible space and vegetation management at the scale of whole communities and the natural landscapes that surround them.

<p>Q&A RISK ASSESSMENT B2-a.</p> <p>Q: Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))</p> <p>A: See Summary of Vulnerability to Wildfire below.</p>

Summary of Vulnerability to Wildfires

The following is a summary of vulnerability to wildfires. All of Yucca Valley’s staff could be indirectly impacted by wildfire. In addition, a Town- owned facility could be directly impacted by wildfire including Yucca Valley Animal Shelter. In total, 8 staff, 3 buildings and structure/content valued at \$5,362,918 could be at risk. These estimates are based on 2023.

The wildfire hazard is one of the highest priority hazards in San Bernardino County and is a hazard with the high potential for catastrophic loss. High fuel loads throughout the County, along with geographical and topographical features, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and sometimes catastrophic fires. The more urbanized areas within the County are not immune from fire. The dry vegetation and hot and sometimes windy weather, combined with continued growth in the Wildland Urban Interface (WUI) areas, results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County,



especially in these interface areas, the risk and vulnerability to wildfires will likely increase. Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and timber; and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the Yucca Valley community. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact Yucca Valley by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in Yucca Valley; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damage and casualties arising from wildland-urban interface fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused Southern California Edison to initiate Public Safety Power Shutoffs (PSPSs) which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.



Epidemic/Pandemic/Vector-Borne Diseases Hazards

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

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

A: See **Hazard Definition** below.

Hazard Definition

According to the California State Hazard Mitigation Plan (2018), the California Department of Public Health has identified epidemics, pandemics, and vector-borne diseases as specific hazards that would have a significant impact throughout the State.

According to the Centers for Disease Control (CDC), an epidemic refers to an increase, often sudden, in the number of cases of a disease above what is normally expected in that population area. A pandemic refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people. Vector-borne diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by vectors – living organisms that can transmit infectious pathogens between humans, or from animals to humans.



Seasonal Influenza

Seasonal influenza, also known as the flu, is a disease that attacks the respiratory system (nose, throat, and lungs) in humans. Seasonal influenza occurs every year. In the U.S., the influenza season typically occurs from October through May, peaking in January or February with yearly epidemics of varying severity. Although mild cases may be similar to a viral “cold,” influenza is typically much more severe. Influenza usually comes on suddenly; may include fever, headache, tiredness (which may be extreme), dry cough, sore throat, nasal congestion, and body aches; and can result in complications such as pneumonia. Persons aged 65 and older, those with chronic health conditions, pregnant women, and young children are at the highest risk for serious complications, including death.

Pandemic Influenza

Pandemic influenza occurs when a new influenza virus, for which there is little or no human immunity, emerges and spreads on a worldwide scale, infecting a large proportion of the human population. The 20th century saw three such pandemics. The most notable pandemic was the 1918 Spanish influenza pandemic that was responsible for 20 million to 40 million deaths



throughout the world. There have been two pandemics in the 21st century; H1N1 in 2009, and the most recent COVID-19 outbreak in 2019. As demonstrated historically and currently, pandemic influenza has the potential to cause serious illness and death among people of all age groups and have a major impact on society. These societal impacts include significant economic disruption that can occur due to death, loss of employee work time, and costs of treating or preventing the spread of influenza.

H1N1 Influenza

In 2009 a pandemic of H1N1 influenza, popularly referred to as the swine flu, resulted in many hospitalizations and deaths. Pandemic H1N1 influenza is spread in the same way as seasonal influenza, from person to person through coughing or sneezing by infected people. In April 2009, two kids living more than 100 miles apart in Southern California came down with the flu. By mid-April, their illnesses had been diagnosed as being caused by a new strain of H1N1 influenza. Persons infected with H1N1 experienced fever and mild respiratory symptoms, such as coughing, runny nose, and congestion. In some cases, symptoms were severe and included diarrhea, chills, and vomiting, and in rare cases respiratory failure occurred. The H1N1 virus caused relatively few deaths in humans. In the United States, for example, it caused fewer deaths (between 8,870 and 18,300) than seasonal influenza, which, based on data for the years 2014–2019, causes an average of about 40,000 deaths each year. The H1N1 virus was most lethal in individuals affected by chronic disease or other underlying health conditions.

COVID-19

As of 2020, the CDC has responded to a pandemic of respiratory disease spreading from person to person caused by a novel (new) coronavirus. The disease was named “Coronavirus Disease 2019” (abbreviated “COVID-19”). Coronaviruses are a large family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).

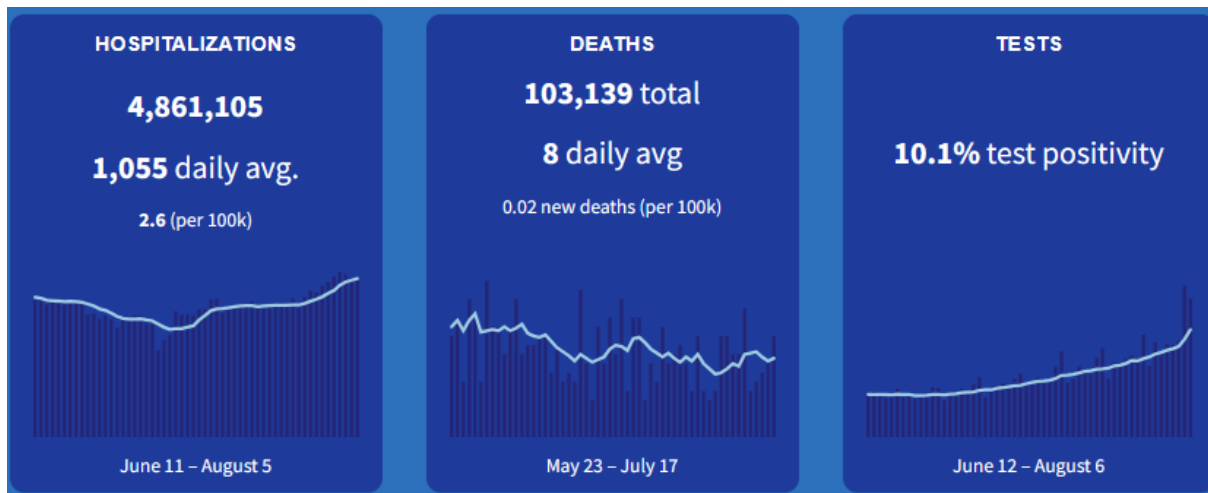
According to the CDC, many of the patients at the epicenter of the outbreak in Wuhan, Hubei Province, China had some link to a large seafood and live animal market, suggesting animal-to-person spread. Later, a growing number of patients reportedly did not have exposure to animal markets, indicating person-to-person spread. Person-to-person spread was subsequently reported outside Hubei and in countries outside China, including in the United States. Most international destinations now have ongoing community spread with the virus that causes COVID-19, as does the United States.

On March 4, 2020, Governor Newsom proclaimed a state of emergency in California’s response to the COVID-19 outbreak. On March 19, 2020, Governor Newsom issued an executive order directing all residents immediately to heed current State public health directives to stay home, except as needed to maintain continuity of operations of essential critical infrastructure sectors.



According to the California Department of Public Health, as of June 1, 2023, California has suffered 104,047 COVID-related deaths.

Figure: Tracking COVID-19
(Source: California Department of Public Health, 2023)



Avian Influenza

Avian Influenza, commonly referred to as “Bird Flu,” remains a looming pandemic threat. Avian Influenza primarily spreads from birds to birds and rarely to humans. Public health experts continue to be alert to the possibility that an avian virus may mutate or change so that it can be passed from birds to humans, potentially causing a pandemic in humans. Some strains of the Avian Influenza could arise from Asia or other continents where people have very close contact with infected birds. This disease could have spread from poultry farmers or visitors to live poultry markets who had been in very close contact with infected birds and contracted fatal strains of Avian Influenza. Thus far, Avian Influenza viruses have not mutated and have not demonstrated easy transmission from person to person. However, if Avian Influenza viruses were to mutate into a highly virulent form and become easily transmissible from person to person, the public health community would be very concerned about the potential for an influenza pandemic. Such a pandemic could disrupt all aspects of society and severely affect the economy.



Vector-Borne Diseases

Vector-borne diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by vectors. Every year there are more than 700,000 deaths from diseases such as malaria, dengue, schistosomiasis, human African trypanosomiasis, leishmaniasis, Chagas disease, yellow fever, Japanese encephalitis and onchocerciasis. Vectors are living organisms that can transmit infectious pathogens between humans, or from animals to humans. Many of these vectors are bloodsucking insects, which ingest disease-producing microorganisms during a blood meal from an infected host (human or animal) and later transmit it into a new host, after the pathogen has replicated. Often, once a vector becomes infectious, they can transmit the pathogen for the rest of their life during each subsequent bite/blood meal.



Mosquito-Borne Viruses

Mosquito-borne viruses belong to a group of viruses commonly referred to as arboviruses (for arthropod-borne). Although 12 mosquito-borne viruses are known to occur in California, only West Nile virus (WNV), western equine encephalomyelitis virus (WEE), and St. Louis encephalitis virus (SLE) are significant causes of human disease. WNV continues to seriously affect the health of humans, horses, and wild birds throughout the state. Since 2003, there have been over 6,000 WNV human cases with 248 deaths, and over 1,200 equine cases.

WNV first appeared in the United States in 1999 in New York and rapidly spread across the country to California in subsequent years. California has historically maintained a comprehensive mosquito-borne disease surveillance and control program including the Mosquito-borne Virus Surveillance and Response Plan, which is updated annually in consultation with local vector control agencies.

Climate change will likely affect vector-borne disease transmission patterns. Changes in temperature and precipitation can influence seasonality, distribution, and prevalence of vector-borne diseases. A changing climate may also create conditions favorable for the establishment of invasive mosquito vectors in California.

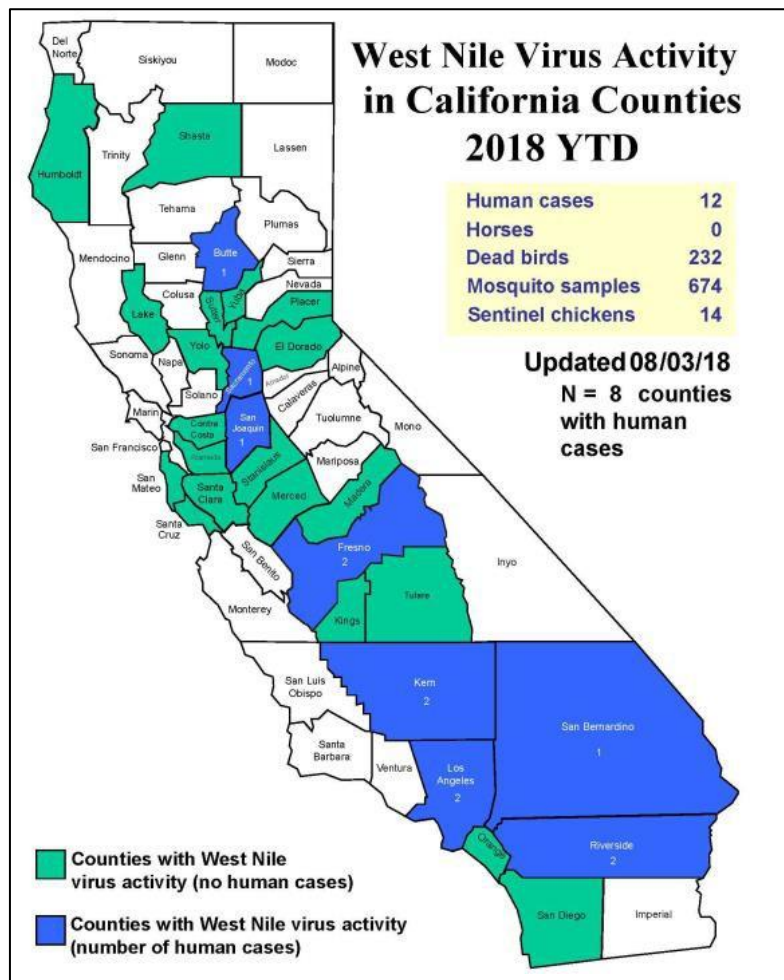
For most Californians, WNV poses the greatest mosquito-borne disease threat. Above-normal temperatures are among the most consistent factors associated with WNV outbreaks. Mild winters are associated with increased WNV transmission due, in part, to less mosquito and resident bird mortality. Warmer winter and spring seasons may also allow for transmission to start earlier. Such conditions also allow more time for virus amplification in bird-mosquito cycles, increasing the potential for mosquitoes to transmit WNV to people.

The effects of increased temperature are primarily through acceleration of physiological processes within mosquitoes, resulting in faster larval development and shorter generation times, more frequent mosquito biting, and shortening of the incubation period time required for infected mosquitoes to transmit WNV. During periods of drought, especially in urban areas, mosquitoes tend to thrive more due to changes in stormwater management practices. Mosquitoes in urban areas can reach higher abundance due to stagnation of water in underground stormwater systems that would otherwise be flushed by rainfall. Runoff from landscape irrigation systems mixed with organic matter can also create ideal mosquito habitat. Drought conditions may also



force birds to increase their utilization of suburban areas where water is more available, bringing these WNV hosts into contact with urban vectors.

Map: West Nile Virus Activity in California Counties
(Source: California State Hazard Mitigation Plan, 2018)



Lyme Disease

Lyme disease is caused by a spirochete (a corkscrew-shaped bacteria) called *Borrelia burgdorferi* and is transmitted by the Western black-legged tick. Lyme disease was first described in North America in the 1970s in Lyme, Connecticut, the town for which it was then named. Though the tick has been reported from 56 of the 58 counties in California, the highest incidence of disease occurs in the northwest coastal counties and northern Sierra Nevada counties with western-facing slopes. Ticks prefer cool, moist areas and can be found in wild grasses and low vegetation in both urban and rural areas.

The map below shows Western black-legged tick and Lyme disease incidence in California. The Western black-legged tick is commonly found in all green areas shown on the map; dark green areas on the map show where reported Lyme disease cases most often had exposure.



Map: Tick and Lyme Disease Incidence in California
(Source: State of California Hazard Mitigation Plan, 2018)



Valley Fever

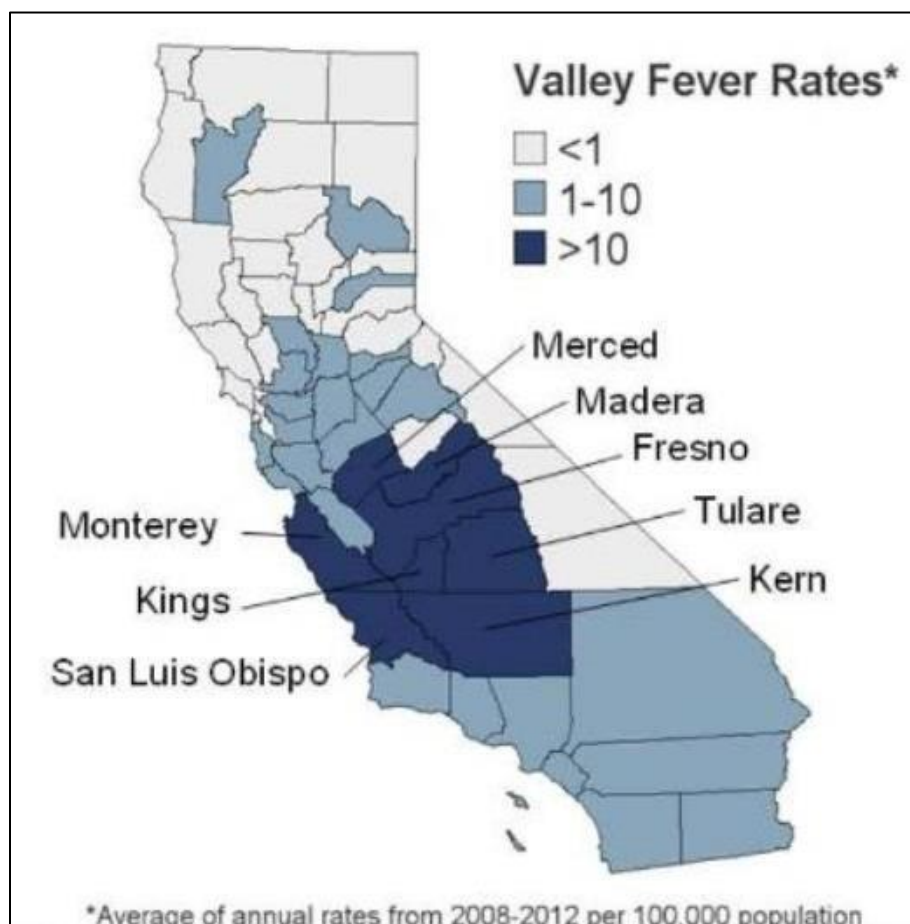
Valley Fever is caused by *Coccidioides*, a fungus that lives in the soil in the southwestern United States and parts of Mexico, Central America, and South America. Inhaling the airborne fungal spores can cause an infection called coccidioidomycosis, which is also known as “cocci” or “Valley Fever.”

Most people who are exposed to the fungus do not get sick, but some people develop flu-like symptoms that may last for weeks to months. In a very small proportion of people who get Valley Fever, the infection can spread from the lungs to other parts of the body and cause more severe conditions, such as meningitis or even death. Valley Fever cannot spread from person to person.

Most cases of Valley Fever in the U.S. occur in people who live in or have traveled to the southwestern United States, especially Arizona and California. The map below shows the areas where the fungus that causes Valley Fever is thought to be endemic, or native and common in the environment. The full extent of the current endemic areas is unknown and is a subject for further study.



Map: Valley Fever Average Annual Rates by California County
(Source: State of California Hazard Mitigation Plan, 2018)



Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 22 CFR § 201.6(c)(2)(i))

A: See **Previous Hazard Events in Yucca Valley** below.

Previous Hazard Events in Yucca Valley

As a result of the Coronavirus, the Town implemented safety precautions during the timeframe of March 2020 – May 2022. Numerous protocols were put into place to mitigate against the spread, such as: reductions in office hours or “by appointment only”, altering staff work schedules, allowing some staff to work from home, installation of safety glass at the front counter areas of all Town offices, minimizing the number of visitors allowed inside Town office at one time, social distancing, sanitizing Town office spaces, providing PPE to the staff and public such as masks, hand sanitizer, testing kits, etc. Due to logistics complications to obtain laptops, PPE, etc. and the alterations in work schedules, office functionality and operations were compromised.



Previous direct impacts from West Nile and Zika have been mild. Indirect impacts included a need for signage and some tools to help with mosquito overgrowth.

Previous Hazard Events in San Bernardino County

According to the San Bernardino County Department of Public Health, the county has 111 confirmed cases of Monkey Pox as of August 17, 2023. Since the 2020 COVID-19 outbreak there have been 709,444 confirmed COVID cases and 8,173 COVID-19 deaths in San Bernardino County.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

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

A: See **Local Conditions** below.

Local Conditions

While the variety of influenza, vector borne, and mosquito borne diseases continue to affect the planning area, to date COVID-19 has had the biggest impact.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Impacts of Epidemic/Pandemic/Vector-Borne Diseases** below.

Impacts of Epidemic/Pandemic and Vector-Borne Diseases

Based on the risk assessment, it is evident that Epidemic/Pandemic and Vector-Borne Diseases will continue to have potentially devastating economic impacts to the community. Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Disruption of public infrastructure
- ✓ Disruption of the educational process
- ✓ Significant economic impact (e.g., jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values
- ✓ Closure of businesses and public services
- ✓ Reduction of transportation services

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Summary of Vulnerability** below.



Summary of Vulnerability

The following is a summary of vulnerability to epidemics/pandemics/vector-borne diseases. It's estimated that all of Yucca Valley's staff could be impacted by epidemics, pandemic, or vector-borne diseases. In addition, all of the Town-owned properties could be impacted by a future epidemic, pandemic, or vector-borne disease event including Town Hall Complex, Community Development/Public Works, Yucca Valley Animal Shelter, California Welcome Center – Yucca Valley/Chamber of Commerce. In total, 11 buildings and structure/content valued at \$16,923,231 could be at risk. These estimates are based on 2023.



Extreme Weather Hazards

Hazard Definition

Extreme weather including high winds and high/low temperatures can pose significant risks to life and property in the Town of Yucca Valley by creating conditions that disrupt essential systems such as public utilities, telecommunications and transportation routes. These extreme weather events include windstorms and extreme temperatures. High winds can and do occasionally cause tornado-like damage to local homes and businesses in and near the community. High winds can have destructive impacts, especially to trees, power lines, and other utility services. Extreme temperatures can cause utility outages and threaten the health of Town residents as well as the utilities.

Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard?
(Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Previous Hazard Events** below.

Previous Hazard Events

Severe weather conditions can cause substantial damage to property and infrastructure. Like other natural hazards, weather can also negatively impact daily economic activity and potentially result in injuries and/or loss of life. The Town of Yucca Valley is susceptible to high winds, thunderstorms, extreme temperatures, and winter storms resulting in hail, heavy snow, and/or ice. An additional risk with extreme weather conditions is that they can also trigger other types of hazards, such as floods, landslides, or wildland fires.

The most recent, significant extreme weather incident occurred in 2016 involving 80 miles per hour winds over several days. See **Photo: 2023 Snowfall** from snowstorm in March of 2023 that impacted the entire community.

Photo: 2023 Snowfall
(Source: Planning Team)





Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

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

A: See **Local Conditions** below.

Windstorms

According to the General Plan – Safety Element, windstorms are chronic events in Yucca Valley that cause extensive damage. Windstorms can occur in Yucca Valley almost any time during the year, but primarily in January, July, August, and December, it is estimated that the Town is impacted by windstorms approximately five times per year. Windstorms may travel in any direction and are only partly affected by terrain. These storms can potentially damage trees, power lines, and property. They also increase the chance of wildland fires. Windstorms, where winds can reach in excess of 65 miles per hour, frequently cause power outages in Town. Power outages may affect economic activity in Yucca Valley, although many businesses are prepared and use backup generators when needed.

Winter Storms and Extreme Cold

According to the General Plan – Safety Element, the Town of Yucca Valley occasionally receives sufficient snow and/or ice to interfere with commuting and other activities. Historically heavy snowstorms are more common in the areas of higher elevation and can result in the accumulation of a few inches or a few feet of snow. Winter storms occur on a yearly basis between December and March. Heavy snow and ice accumulation on rooftops, overhead utility lines, and tree branches are the primary cause of property damage. These storms can also bring extreme cold below 32° Fahrenheit. Populations that are more vulnerable to cold temperatures include the elderly, persons with medical conditions, infants, and small children. Caring for sensitive residents and visitors can be more challenging with snowy or icy road conditions.

Dust Storms

According to the General Plan – Safety Element, dust storms are high wind events that pick up and distribute sand and other particles over large distances. In the Yucca Valley region, dust storms are usually the result of Santa Ana wind conditions, which occur most often in the fall and winter months. They can reduce visibility, damage buildings, and negatively impact the health of those in the community. The combination of wind and dust most often negatively impacts traffic through Town. Less frequent than windstorms, the damage from dust storms can be more severe.

Extreme Heat

According to the General Plan – Safety Element, while there is no universal definition of extreme heat, California guidance documents define extreme heat as temperatures that are hotter than 98 percent of the historical high temperatures for the area, as measured between April and October of 1961 to 1990. Days that reach this level are called extreme heat days. In Yucca Valley, the extreme heat threshold is 101.9 degrees Fahrenheit (°F). An event with five extreme heat days in a row is called a heat wave.

Health impacts are the primary concern with this hazard, though economic impacts are also an issue. Extreme heat events are dangerous because people exposed to extreme heat can suffer



a number of heat-related illnesses, including heat cramps, heat exhaustion, and (most severely) heat stroke. Very high temperatures can harm plants and animals that are not well adapted to them, including natural ecosystems. Extreme heat can increase the temperature of water in lakes, streams, creeks, and other water bodies, especially during drought events when water levels are lower. Indirectly, extreme heat puts more stress on power lines, causing them to run less efficiently. The heat also causes more demand for electricity (usually to run air conditioning units), and in combination with the stress on the power lines, may lead to brownouts and blackouts.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Impacts of Windstorms** below.

Impacts of High Winds in the Town of Yucca Valley

Based on the risk assessment, it is evident that High Wind conditions will continue to have potentially devastating economic impacts on the Town.

Impact that is not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary Health hazards e.g. dust and allergens
- ✓ Blockage or damage to roads/bridges resulting in loss of mobility
- ✓ Resulting power outages occurring during the summer could pose significant threat to health and comfort

Impacts of Winter Storms in the Town of Yucca Valley

Based on the risk assessment, it is evident that Winter Storm conditions will continue to have potentially devastating economic impact to the Town.

Impact that is not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage due to roof loads
- ✓ Disruption of and damage to public infrastructure particularly when snow melts and storm drains systems are overloaded
- ✓ Secondary Health hazards e.g. mold and mildew
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community due to business closures
- ✓ Significant disruption to students and teachers due to temporary closures

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Summary of Vulnerability** below.



Summary of Vulnerability

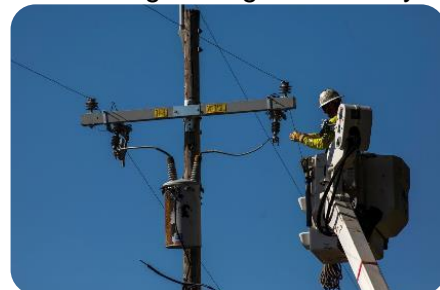
The following is a summary of vulnerability to extreme weather. All of the Town's staff could be impacted by extreme weather. In addition, all of the Town-owned properties could be impacted by a high wind event including Town Hall Complex, Community Development/Public Works, Yucca Valley Animal Shelter, California Welcome Center – Yucca Valley/Chamber of Commerce. In total, approximately 11 buildings and structure/content valued at \$16,923,231 could be at risk. These estimates are based on 2023.



Utility Related Hazards

Hazard Definition

Utility providers provide communities with vital services. Because of training and rigorous safety programs, delivery of services is typically very reliable and without incident. However, in certain hazardous circumstances, like an earthquake or high wind, utility providers are impacted just like their customers. In an effort to minimize this vulnerability, power utility providers have developed protocols like Public Safety Power Shutoff while water and gas utility providers encourage the use of emergency shutoff devices. Source supply issues can also arise with utility providers and are discussed in this section.



Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

Q: Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

A: See **Previous Hazard Events** below.

Previous Occurrences

Power Failure/Stoppages

Southern California Edison (SCE) provides utility service to Yucca Valley. The most recent unexpected power outage took place at Sky Ranch on August 19, 2023 during Hurricane Hilery. The other type of outage is a planned event in response to the threat of wildfire. These are known as Public Safety Power Shutoff. As of the Plan's update, there have been no PSPS events. If severe weather threatens a portion of the electric system, it may be necessary for SCE to turn off electricity in the interest of public safety.

Drought and Loss of Water Supply

A drought is a long period when precipitation levels are well below normal. Yucca Valley chronically experiences drought cycles. Drought makes less water available for people, businesses, agricultural activities, and natural systems. Local ecosystems that are not well adapted to drought conditions can be more easily harmed by it. During drought events, the flow of water in creeks and streams is reduced, creating more slow-moving or standing water. This can concentrate sediment and toxins in the low water levels, causing harm to plants and animals. Droughts can also indirectly lead to more wildfires, and the stress caused by water shortages can weaken plants, making them more susceptible to pests and diseases.

The U.S. Drought Monitor recognizes a five-point scale for drought events: D0 (abnormally dry), D1 (moderate drought), D2 (severe drought), D3 (extreme drought), and D4 (exceptional drought). According to the U.S. Drought Monitor, the most intensive drought conditions in recent years occurred during most of 2007, when approximately 90 percent of San Bernardino County was classified as being in "extreme" drought. As of spring 2021, southwestern San Bernardino County, including Yucca Valley, was classified as being in "severe" drought.



Natural Gas Pipelines

There have been no pipeline incidents that have posed a significant threat to Yucca Valley.

Internet Service

Like any other community, homes and businesses are dependent on reliable internet services. Unfortunately, there is an ongoing problem with delivery of services from Frontier Communications. Most recently, Frontier's internet service was unavailable for several days following Hurricane Hilary. Town facilities impacted by the outage included the Animal Shelter and the Community Development/Public Works Complex. The rest of the Town's facilities receive service through Spectrum Communications with only rare short-term interruptions.

Local Conditions

Power Failure and Stoppages

Power failure is defined as any interruption or loss of electrical service caused by disruption of power transmission caused by accident, sabotage, natural hazards, or equipment failure (also referred to as a loss of power or power outage). A significant power failure is defined as any incident of a long duration, which would require the involvement of the local and/or State emergency management organizations to coordinate provision of food, water, heating, cooling, and shelter. Power failures in the planning area are usually localized and are usually the result of a natural hazard event involving high winds or storms. Electricity throughout the project area is provided by SCE.

The massive 2011 Southern California electricity outage brought to light many critical issues surrounding the state's power generation and distribution system, including its dependency on out-of-state resources. Although California has implemented effective energy conservation programs, the state continues to experience both population growth and weather cycles that contribute to a heavy demand for power.

Hydro-generation provides approximately 25% of California's electric power, with the balance coming from fossil fuels, nuclear, and green sources. As experienced in 2000 and 2001, blackouts can occur due to losses in transmission or generation and/or extremely severe temperatures that lead to heavy electric power consumption.

The effects of an energy shortage would affect all occupants of the project area. Perhaps most at risk would be medically challenged individuals with health care equipment reliant on electricity (e.g., oxygen), businesses, emergency service locations, and vulnerable population centers (e.g., schools).

In 2018, the California Public Utilities Commission (CPUC) directed California's three largest energy companies to coordinate to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, electric power may now be shut off for reasons of public safety. This new protocol is referred to as Public Safety Power Shutoff (PSPS).

Natural Gas Pipelines

Natural gas service is provided by Southern California Gas Company. Transmission and distribution gas lines run throughout the community along many of the existing streets. Due to



rough terrain major gas lines do not exist in the southwest and northwest portions of the Town. Propane tanks are used by residents in these areas to provide gas for heating and cooking.

There are several major natural gas pipelines that traverse the planning area as shown on **Map: California Natural Gas Utility Service Area**. While pipelines are often thought of as presenting risks to communities, natural hazards can impact the integrity of pipelines. According to the U.S. Department of Transportation, although natural hazards are cited as the cause in fewer than ten percent (10%) of pipeline incidents, the failure of a large-diameter, high-pressure natural gas or hazardous liquid transmission pipeline during an earthquake can significantly complicate a communities' ability to respond and recover from the event. Natural gas is supplied to the planning area by Southern California Gas Company (SoCalGas).

In Northern California on September 9, 2010, a 30-inch steel natural gas transmission pipeline owned and operated by PG&E ruptured and exploded in the City of San Bruno residential neighborhood. The blast and ensuing inferno resulted in 8 confirmed deaths, 66 reported injuries, 34 destroyed structures, and 8 damaged structures. Cal OES has identified preliminary damage estimates at \$15.4 million, including \$2.5 million for debris removal, \$10.2 million for protective measures, \$2.1 million for roads and bridges, and \$0.6 million for utilities and other facilities. Investigations into the cause of the explosion are under way by the National Safety Transportation Board (NSTB), the California Public Utilities Commission (CPUC), and PG&E. Although it will not be confirmed until official investigations are completed, initial speculation points to the weakening of the 60-year-old pipeline due to corrosion. The day after the explosion, the CPUC asked PG&E to provide a list of its top 100 high-priority projects to upgrade or replace portions of the pipeline for reasons of public safety, as well as information on the status of listed projects. The list was published on September 21, 2010. Although targeted for repair several years ago, the San Bruno pipeline was not on the list.

Virtually all natural gas, which accounts for about 28 percent of energy consumed annually, is transported by transmission pipelines. Although California is a leader in exploring and implementing alternative energy sources such as wind and solar, the expansion of traditional energy sources, such as natural gas, continues. There are natural gas transmission pipelines within the Project Area, as well as adjoining communities.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

Q: For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Impacts from Utility Related Hazards in Yucca Valley** below.

Impacts of Utility Related Hazards

Based on the risk assessment, it is evident that utility related hazards will continue to have potentially devastating impacts on the community.

Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life,
- ✓ Commercial and residential structural damage,
- ✓ Disruption of and damage to public infrastructure,
- ✓ Significant economic impact,
- ✓ Negative impact on commercial and residential property values, and



- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed

Issues Relating to Utility Related Hazards

Important issues associated with utility related events include the following:

- ✓ A large percentage of the service area could be impacted all at the same time which would significantly impact emergency services capabilities.
- ✓ In the event of a power outage, it may be necessary for the utility provider to assist certain properties with reactivation.
- ✓ In the event of an outage of natural gas or propane, the utility provider may be required to assist customers with reactivation.
- ✓ Transportation systems in the planning area after an outage has the potential to significantly disrupt response and recovery efforts and lead to isolation of populations.
- ✓ Results loss of heating and air conditioning systems can impact comfort and safety levels for building occupants.
- ✓ Infrastructure-related computer systems are vulnerable to power outages.
- ✓ Schools and other educational facilities would be expected to be self-sufficient during outages and may be compromised as to decreased services from government response agencies, utilities, private-sector services, and infrastructure components.
- ✓ Lack of refrigeration would impact storage of onsite medicines, food, and other supplies.
- ✓ The flow of goods and services could result due to impacts to major transportation infrastructure across the broader region.
- ✓ A power outage can compromise or damage communication systems, complicating efforts to coordinate response to the event.

Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

Q: Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

A: See **Summary of Vulnerability** below.

Summary of Vulnerability

The following is a summary of vulnerability to utility related events. All of the Town's staff could be impacted by utility related events. In addition, all of the Town-owned properties could be impacted by a utility related event including Town Hall Complex, Library, Community Development/Public Works, Yucca Valley Animal Shelter, California Welcome Center – Yucca Valley/Chamber of Commerce. In total, 11 buildings and structures/content valued at \$16,923,231 could be at risk. These estimates are based on 2023.

Public Safety Power Shutoff (PSPS) can be initiated by SCE for a range of reasons including wildfire, high wind, severe weather, flooding, and earthquake. The power shutoffs are initiated in large areas within the County so property may not even be impacted by the initial event but still impacted by the power shutoff.



PART III: MITIGATION STRATEGIES

Mitigation Strategies

Overview of Mitigation Strategy

As the cost of damage from disasters continues to increase nationwide, the Town of Yucca Valley recognizes the importance of identifying effective ways to reduce vulnerability to disasters. Mitigation Plans assist communities in reducing risk from natural hazards by identifying resources, information and strategies for risk reduction, while helping to guide and coordinate mitigation activities at the Town of Yucca Valley facilities.

The plan provides a set of action items to reduce risk from hazards through education and outreach programs, and to foster the development of partnerships. Further, the plan provides for the implementation of preventative activities.

The resources and information within the Mitigation Plan:

1. Establish a basis for coordination and collaboration among agencies and the public in the Town of Yucca Valley.
2. Identify and prioritize future mitigation projects.
3. Assist in meeting the requirements of federal assistance programs.

The Mitigation Plan is integrated with other Town plans including the Town of Yucca Valley Emergency Operations Plan, General Plan, Capital Improvement Projects, as well as department-specific standard operating procedures.

Mitigation Measure Categories

Following is FEMA's list of mitigation categories. The activities identified by the Planning Team are consistent with the six broad categories of mitigation actions outlined in FEMA publication 386-3 *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies*.

- ✓ **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement projects, open space preservation, and storm water management regulations.
- ✓ **Property Protection:** Actions that involve modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- ✓ **Public Education and Awareness:** Actions to inform and educate citizens, property owners, and elected officials about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- ✓ **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses preserve or restore the functions of natural systems. Examples include sediment and



erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

- ✓ **Emergency Services:** Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.
- ✓ **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, retaining walls, and safe rooms.

Q&A ELEMENT C. MITIGATION STRATEGY C3-a.
Q: Does the plan include goals to reduce the risk from the hazards identified in the plan? (Requirement 44 CFR § 201.6(c)(3)(i))
A: See Goals below.
Q&A ELEMENT C. MITIGATION STRATEGY C5-a.
Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))
A: See Priorities below.
Q&A ELEMENT E. PLAN UPDATE E2-a.
Q: Does the plan describe how it was revised due to changes in community priorities? (Requirement 44 CFR § 201.6(d)(3))
A: See Goals below.

Goals

The Planning Team identified the overall goals to guide the direction of future activities aimed at reducing risk and preventing loss from natural hazards.

The Planning Team established goals based on the risk assessment that represent a long-term vision for hazard reduction and enhanced mitigation capabilities.

Each goal is supported by mitigation action items. The Planning Team developed these action items through its knowledge of the local area, risk assessment, review of past efforts, identification of mitigation activities, and qualitative analysis.

The five mitigation goals and descriptions are listed below.

Protect Life and Property

Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural, human-caused, and technological hazards.

Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.

Improve hazard assessment information to make recommendations for avoiding new development in high hazard areas and encouraging preventative measures for existing development in areas vulnerable to natural, human-caused, and technological hazards.



Public Awareness

Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.

Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

Natural Systems

Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.

Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

Partnerships and Implementation

Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.

Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

Emergency Services

Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.

Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

How are the Mitigation Action Items Organized?

The action items are a listing of activities in which Town agencies and citizens can be engaged to reduce risk.

The action items are organized within the following Mitigation Actions Matrix, categorized by hazard. Data collection and research and the public participation process resulted in the development of these action items. The Matrix includes the following information for each action item:

Lead Department/Position

The Mitigation Actions Matrix assigns primary responsibility for each of the action items to either a department or specific position within the Town. The primary responsibility for implementing the action items falls to the entity shown as the “Lead Department/Position”. The lead



department/position has the regulatory responsibility to address hazards, or is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitor, and evaluate. The lead department/division is a Town staff or contracted while supporting agencies may include local governments, County, or regional agencies.

Timeline

The mitigation plan will be updated every 5 years according to FEMA regulations. However, there are projects and programs in the Mitigation Actions Matrix that will require more than 5 years to complete.

Funding Source

External Resources could include a range of FEMA mitigation grants perhaps including HMGP, FMA, and BRIC.

Internal Resources could include general fund, capital improvement budgets, impact fees, human capital, in-kind resources, etc.

Plan Goals Addressed

The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.

The plan goals are organized into the following five areas:

- ✓ Protect Life and Property
- ✓ Enhance Public Awareness
- ✓ Preserve Natural Systems
- ✓ Encourage Partnerships and Implementation
- ✓ Strengthen Emergency Services

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-b.

Q: Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated? (Requirement 44 CFR § 201.6(c)(4)(ii))

A: See **Benefit/Cost Ratings** below.

Planning Mechanism

It's important that each action item be implemented. Perhaps the best way to ensure implementation is through integration with one or many of the Town's existing "planning mechanisms" including the "internal resources" including the General Plan, Capital Improvement Projects, General Fund, and "external resources" including Grants. Opportunities for integration will be simple and easy in cases where the action item is already compatible with the content of the planning mechanism. As an example, if the action item calls for the creation of a floodplain ordinance and the same action is already identified in the General Plan's policies, then the General Plan will assist in implementation. On the contrary, if preparation of a floodplain



ordinance is not already included in the General Plan policies, then the item will need to be added during the next update to the General Plan.

The Capital Improvement Program, depending on the budgetary environment, is updated every 5 years. The CIP includes infrastructure projects built and owned by the Town. As such, the CIP is an excellent medium for funding and implementing action items from the Mitigation Plan. The Mitigation Actions Matrix includes several items from the existing CIP. The authors of the CIP served on the Planning Team and are already looking to funding addition Mitigation Plan action items in future CIPs.

The General Fund is the budget document that guides all of the Town's expenditures and is updated on an annual basis. Although primarily a funding mechanism, it also includes descriptions and details associated with tasks and projects.

Grants come from a wide variety of sources – some annually and others triggered by events like disasters. Whatever the source, the Town uses the General Fund to identify successful grants as funding sources.

Building and Infrastructure

This addresses the issue of whether or not a particular action item results in the reduction of the effects of hazards on new and existing buildings and infrastructure.

Comments

The purpose of the “Comments” is to capture the notes and status of the various action items. Since Planning Team members frequently change between plan updates and annual reviews, the Comments provide a sort of history to help in tracking the progress and status of each action.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))

A: See **Benefit/Cost Ratings** below.

Benefit/Cost Ratings

The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project will be performed in the future as needed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.



Cost ratings were defined as follows:

High: Existing funding within the jurisdiction will not cover the cost of the action item so outside sources of revenue would be required.

Medium: The action item could be funded through existing jurisdictional funding but would require budget modifications.

Low: The action item could be funded through existing departmental funding.

Benefit ratings were defined as follows:

High: The action item will provide short-term and long-term impacts on the reduction of risk exposure to life and property.

Medium: The action item will have long-term impacts on the reduction of risk exposure to life and property.

Low: The action item will have only short-term impacts on the reduction of risk exposure to life and property.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))

A: See **Priority Rating** below.

Priority Rating

The Planning Team utilized the following rating tool to establish priorities. Designations of “High”, “Medium”, and “Low” priority have been assigned to all of the action item using the following criteria:

Does the Action:

- solve the problem?
- address Vulnerability Assessment?
- reduce the exposure or vulnerability to the highest priority hazard?
- address multiple hazards?
- benefits equal or exceed costs?
- implement a goal, policy, or project identified in the General Plan or Capital Improvement Project?

Can the Action:

- be implemented with existing funds?
- be implemented by existing state or federal grant programs?
- be completed within the 5-year life cycle of the LHMP?
- be implemented with currently available technologies?

Will the Action:

- be accepted by the community?
- be supported by community leaders?
- adversely impact segments of the population or neighborhoods?
- require a change in local ordinances or zoning laws?
- positive or neutral impact on the environment?
- comply with all local, state and federal environmental laws and regulations?

Is there:

- sufficient staffing to undertake the project?
- existing authority to undertake the project?



As mitigation action items were updated or written the Planning Team, representatives were provided worksheets for each of their assigned action items. Answers to the criteria above determined the priority according to the following scale.

- 1-6 = Low priority
- 7-12 = Medium priority
- 13-18 = High priority



Q&A | ELEMENT C: MITIGATION STRATEGY | C4-a.

Q: Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))

A: See **Mitigation Actions Matrix (Action Items)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C4-b.

Q: Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))

A: See **Mitigation Actions Matrix (Action Items)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C5-a.

Q: Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(ii))

A: See **Mitigation Actions Matrix (Priority, Goals)** below.

Q&A | ELEMENT C: MITIGATION STRATEGY | C5-b.

Q: Does the plan identify the position, office, department, or agency responsible for implementing/administering the identified mitigation actions, as well as potential funding sources and expected time frame? (Requirement 44 CFR § 201.6(c)(3)(iii))

A: See **Mitigation Actions Matrix (Lead Department/Division, Timeline, Funding Source)** below.

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.

Q: Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))

A: See **Mitigation Actions Matrix (Planning Mechanism)** below.

Q&A | ELEMENT E: PLAN UPDATE | E2-b.

Q: Does the plan include a status update for all mitigation actions identified in the previous mitigation plan? (Requirement 44 CFR § 201.6(d)(3))

A: See **Mitigation Actions Matrix (Comments and Status)** below.

Q&A | ELEMENT E: PLAN UPDATE | E2-c.

Q: Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms? (Requirement 44 CFR § 201.6(d)(3))

A: See **Integration into other Planning Mechanisms (Comments and Status – Completed)** below.



Mitigation Actions Matrix

Following is **Table: Mitigation Actions Matrix** which identifies the existing and future mitigation activities developed by the Planning Team.

Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MULTI-HAZARD ACTION ITEMS														
MH-1 Acquire and install emergency generator for the Town Hall Complex including Community Services and Animal Shelter.	Disaster Preparedness	Completed	X			X	X	Y	HMGP, BRIC	HMGP, BRIC	H	M	H	Completed in 2019
MH-2 Maintain and utilize County's TENS service for emergency notifications.	SBC Sheriff	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	
MH-6 Prepare Evacuation Plans	SBC Fire, SBC Sheriff	Ongoing	X	X		X	X	N	*		H	L	H	Deleted – Accomplished through General Plan Safety Element
MH-3 Update to State Building Code every 3 years.	Community Development	Ongoing	X	X	X	X		Y	GF	GF	H	L	M	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-4 Establish Memorandums of Understanding (MOU) for sharing of resources with City of 29 Palms, Copper Mountain College, and National Park Police.	Town Manager's Office	1-2 years	X	X		X	X		GF	GF	H	L	H	Revised – Action item
MH-5 Continue to support CERT Program	Disaster Preparedness	Ongoing	X	X		X	X		GF	GF	H	L	M	
MH-6 Add emergency preparedness information to Town's website.	Disaster Preparedness	Ongoing	X	X		X	X		GF	GF	H	L	M	
MH-7 Review all industrial development proposals with a focus on public health and safety issues to ensure that the type and intensity of the use is appropriate for the proposed location and compatible with surrounding land uses. (Source: GP Safety Element)	Community Development	Ongoing	X					Y	GF	GF	H	L	M	Deleted – removed during update to Safety Element
MH-8 Restrict higher intensity uses from areas subject to flooding, seismic hazards, airport safety hazards and	Community Development, Planning	Ongoing	X					Y	GF	GF	H	L	H	Deleted – removed during update to Safety Element



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGF, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
wildland fires. (Source: GP Safety Element)														
MH-9 Foster and maintain relationships with Caltrans to facilitate the establishment of emergency evacuation routes, and to provide for the development of an emergency response plan that assures the timely repair of state highways damaged by earthquakes, flooding or other disasters. Consult with Caltrans, the Federal Highway Administration, FEMA and the US Department of Defense regarding funding assistance for the construction, repair and/or upgrading of bridges, floodway crossings, cut slopes and other structures to minimize the potential isolation of the community and surrounding facilities from ground-	Town Manager, Community Development	Ongoing	X			X			GF	GP	H	F	H	Deleted – removed during update to Safety Element



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
based assistance. (Source: GP Safety Element)														
MH-10 The Town shall periodically review and update the Safety Element of the General Plan with the latest information and data available on the various seismic and flooding threats. This process shall ensure that additional or refined measures are systematically incorporated into these elements to protect lives and property. Also, the next update should ensure compliance with AB-2140. (Source: GP Safety Element)	Planning	Ongoing	X	X	X	X	X	Y	GF	GP	H	M	H	Deleted – removed during update to Safety Element
MH-7 Cooperate and coordinate with San Bernardino County, the Hi-Desert Water District and other agencies and utilities in the preparation of public information materials to assist residents	Disaster Preparedness	Ongoing	X	X		X	X		GF	GF	M	L	M	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
and business owners in responding to local disasters.														
MH-8 Update and maintain the Town's ham radio equipment located in Community Development.	Disaster Preparedness	1-2 years	X	X		X	X		GF, HMGP, BRIC	GF, HMGP, BRIC	M	L	M	New
MH-9 Coordinate and integrate both commercial and private radio operators, including ham radio operators, to establish a Radio Amateur Civil Emergency Service.	San Bernardino County OES, Disaster Preparedness	Ongoing		X			X		GF	GP	M	L	M	
MH-10 Continue to examine vulnerability to natural and man-made disasters when reviewing proposals for the siting and development of critical and essential public/quasi-public facilities.	Community Development	Ongoing	X	X			X	Y	GF	GP	H	L	H	
MH-11 Develop and maintain a Memorandum of Understanding with Morongo Unified School District	Community Development,	1 year	X	X		X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
requiring that the fuel storage tanks be equipped with an emergency generator.	Disaster Preparedness													
MH-12 Purchase, install, and maintain emergency generators for the Town's Aquatics Center and Senior Center. Both are designated as shelters.	Community Development, Disaster Preparedness	1-2 years	X	X		X	X	Y	HMGP, BRIC	HMGP, BRIC	H	L	H	New
MH-13 Encourage the purchase and maintenance of emergency power generators at other important public and private facilities.	Disaster Preparedness	1 year	X	X		X	X	Y	GF	GF	H	L	H	Revised – action item
MH-14 Promote hazard mitigation as a public value in recognition of its importance to the health, safety, and welfare of the population.	Disaster Preparedness	Ongoing		X		X		Y	GF	GF	M	L	M	
MH-15 Compile a directory of out-of-area contractors to help with repairs/reconstruction so that restoration occurs in a timely manner.	Public Works	Ongoing	X			X	X	N	GF/GR	GF	M	L	M	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-16 Review and update the Emergency Operations Plan with local key staff members, including medical, fire, police, etc., to ensure that the Town is adequately prepared for most likely and demanding emergency disasters. (Source: GP Safety Element – Implementation Actions)	Disaster Preparedness	Every 3 years	X	X	X		X	Y	GF, HMGP, BRIC	GF, HMGP, BRIC	H	H	H	Revised – action item, timeline
MH-17 Continue to enforce hazard-resistant building construction.	Community Development	Ongoing	X	X			X	Y	GF	GF	H	L	H	
MH-18 Require that new structures or structures undergoing significant renovation meet code requirements in accordance with the State Building Code.	Building & Safety	Ongoing	X	X				Y	GF	GF	H	L	H	
MH-19 Identify and inspect critical infrastructure for needs associated with ensuring reserve water supply for drinking and firefighting.	Disaster Preparedness	1-5 years	X	X	X	X	X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	M	M	M	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-20 Identify and inspect critical infrastructure for needs associated with reinforcing or retrofitting to mitigate against weaknesses.	Disaster Preparedness	1-5 years	X	X	X	X	X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	M	M	M	
MH-21 Identify and inspect critical infrastructure for needs associated with risks to transportation corridors.	Disaster Preparedness	1-5 years	X	X	X	X	X	Y	GF, HMGP, BRIC	GF/CIP	M	M	M	
MH-22 Incorporate updated building code standards into renovation and expansion of Town Hall into former Library for all non-field Town staff. Also incorporate “safety measures” (e.g., earthquake safety glass, etc.) to support emergency protocols including duck/cover/hold, shelter-in-place, lockdown, and evacuation.	Community Development	1-3 years	X	X	X		X	X	Bond	Bond	M	H	H	New
MH-23 Utilize local radio, print media, and social media to spread hazard awareness.	Disaster Preparedness	Ongoing	X	X		X			GF	GF	H	L	H	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-24 Conduct a vulnerability assessment of all Town-owned facilities to determine if the facilities should be redesigned or relocated to avoid future service disruptions.	Community Development, PW/ENG, Disaster Preparedness	5 years	X				X	Y	HMGP, BRIC, CIP	GF	H	M	M	Revised – action item
MH-25 Investigate, apply, and implement the National Weather Service designation of StormReady or Weather Ready Nation programs.	Disaster Preparedness	2 years	X	X	X	X	X	Y	GF	GF	H	L	H	
MH-26 Monitor trees and branches in public areas at risk of breaking or falling in wind and sandstorms. Prune or thin trees or branches when they would pose an immediate threat to property, utility lines or other significant structures or critical facilities in the community.	PW/ENG	Ongoing	X	X	X		X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	M	H	
MH-27 Integrate the Mitigation Plan into future Capital Improvement Plans and	Community Development,	Annual	X	X	X		X	Y	GF	GF	M	M	H	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
General Plan updates to ensure that development does not encroach on known hazard areas.	Disaster Preparedness, PW/ENG													
MH-28 Seek funding to prepare a Pre-Disaster Recovery Plan including priorities for changes in land use and restoration of the community's infrastructure and vital public facilities following a disaster.	Disaster Preparedness, PW/ENG, Community Development	1-5 years	X	X			X	Y	HMGP, BRIC	HMGP, BRIC	M	M	M	
MH-29 Complete the Continuity of Operations Plan (COOP).	Disaster Preparedness	1-2 years	X	X	X	X	X	Y	GF	GF	H	L	H	Revised – action item and timeline
MH-30 Explore alternatives for storing emergency water at Town Hall Complex.	Disaster Preparedness, Public Works	1-5 years	X				X	Y	GF, HMGP, BRIC	GF, HMGP, BRIC	H	M	H	New
MH-31 Seek grant funding for next update to Hazard Mitigation Plan.	Disaster Preparedness	5 years	X	X	X	X	X		HMGP	HMGP	M	L	M	Completed in 2023 and applying again in 2028
MH-32 Seek grant funding for establishing and maintaining GIS	Disaster Preparedness	1 year	X	X	X	X	X		GR	GF	H	H	H	Revised – action item



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
capabilities (e.g., software, equipment, etc.)														
MH-33 Identify and pursue funding opportunities to develop and implement local mitigation activities.	All Lead Departments	Ongoing	X	X	X	X	X		GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	M	H	
MH-34 Seek funding for development of a Personal Mitigation Outreach Program. Possible components could include home risk/mitigation assessments and broker available free/subsidized resources to participating residents. Initial Program should be delivered at the Senior Center.	Disaster Preparedness, Community Services	Ongoing	X	X	X	X	X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	M	H	
MH-35 Seek funding for upgrades to the existing EOC locations (Town Hall Complex, Community Development)	Public Works, Facilities, Disaster Preparedness	1-5 years	X			X	X	Y	GF, GR, CIP	GF, CIP	H	H	H	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-36 Seek funding to update 2013 Emergency Operations Plan.	Disaster Preparedness	1 year	X	X	X	X	X	Y	HMGP, BRIC	GF, HMGP, BRIC, CIP	H	H	H	New
EARTHQUAKE ACTION ITEMS														
EQ-1 Continuous evaluation of seismic building codes and updates to ensure that new buildings conform to latest standards.	Community Development	Ongoing	X	X		X	X	Y	GF	GF	H	L	H	
EQ-2 Maintain lines of communication between the Town and the US Geological Survey to assure the provision of earthquake predictions which may impact the Town and surrounding area.	San Bernardino County OES, Disaster Preparedness	Ongoing	X	X		X	X	Y	GF	GF	H	L	H	
EQ-3 Periodically contact the California Division of Mines and Geology to develop and maintain updated Alquist-Priolo Earthquake Fault Zoning maps	Community Development Department and State and	Ongoing	X	X		X		Y	GF	GP	H	L	H	Revised – funding. New – planning mechanism, benefit, cost, priority.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
and other information on seismic and other geological hazards affecting the community. Consult and cooperate with San Bernardino County, surrounding unincorporated communities and applicable State and Federal agencies, in an on-going program to improve and update the database and other information on regional geologic/seismic conditions.	Federal Agencies													
EQ-4 Continue to monitor suitability of future development in areas subject to a rock fall or landslide hazards.	Community Development, Engineering	Ongoing	X				X	Y	GF	GF	H	L	H	
EQ-5 Continue to install non-structural mitigation (e.g., strap or secure) all Town facilities.	Disaster Preparedness, Facilities	Ongoing	X	X			X	Y	GF	GF	H	L	H	Revised – action item
EQ-6 Maintain Emergency Kits and Grab-N-Go bags at all Town office locations.	Disaster Preparedness	Ongoing	X					N	GF	GF, GR	M	M	M	Completed and now ongoing



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EQ-7 Disseminate information on areas of landslide susceptibility at Town Hall and on the Town's website by making available/posting a link to the Slope Distribution Map. (Source: GP Safety Element – Implementation Actions)	Community Development	1 year	X	X	X	X	X	X	GF	GF	H	L	H	New
EQ-8 Contract with a state-certified geologist and/or geological engineer to review and determine the adequacy of geotechnical studies for proposed projects. (Source: GP Safety Element – Implementation Actions)	Community Development, Building & Safety	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New
EQ-9 Maintain a reference collection of maps and other materials illustrating the location of seismic hazards occurring within the Town boundaries. (Source: GP Safety Element - Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EQ-10 Disseminate information on fault locations at Town Hall and on the Town website by making available/ posting a link to the Seismic Hazards Map. (Source: GP Safety Element - Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New
EQ-11 Update building, zoning, and grading codes as needed to ensure adopted standards mitigate potential seismic hazards and comply with the Alquist-Priolo Act and Unreinforced Masonry Law. (Source: GP Safety Element -Implementation Actions)	Community Development, Building & Safety	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New
EQ-12 Communicate with the Hi-Desert Water District to ensure the seismic safety of all existing and proposed water storage tanks and pipe connections. (Source: GP Safety Element -Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EQ-13 Collect and distribute earthquake preparedness information and materials to Town residents and local businesses (Source: GP Safety Element -Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New
EQ-14 Review and provide feedback of geotechnical studies submitted by developers or applicants working in areas of the Town prone to earthquake and seismic hazards. (Source: GP Safety Element -Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	X	GF	GF	H	L	H	New
WILDFIRE ACTION ITEMS														
WF-1 Educate the public regarding defensible space for wildfire safety.	SB County FD, Disaster Preparedness	Ongoing	X	X		X	X	Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
WF-2 Continue with code compliance for weed, fire/fuel module abatement proactive outreach.	Code Enforcement	Ongoing	X	X		X		Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
WF-3 Coordinate with the appropriate agencies and service providers to assure that emergency preparedness plans include contingencies for large-scale urban and wildland fires.	SB County Fire, Disaster Preparedness	Ongoing	X			X	X		GF	GF	H	L	H	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
WF-4 Continue to implement San Bernardino County Fire Protection District standards that include wildfire safety planning measures, including buffer space and defensible space requirements (100 ft. around structures adjacent to wildland areas).	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
(Source: GP Safety Element – Implementation Actions)														
WF-5 Disseminate information on wildfire hazard zones at Town Hall and on the Town’s website by making available/ posting a link to the Wildfire Hazards Map (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
WF-6 Coordinate with the Hi-Desert Water District to monitor peak water supply to ensure adequate capacity in the event of an urban fire, wildfire, or other emergency (Source: GP Safety Element – Implementation Actions)	Community Development, Disaster Preparedness	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
WF-7 Update the Wildfire Hazards Map as needed and include the location of critical facilities and resilience hubs relative to their location within or adjacent to Very High Fire Hazard	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Severity Zones or Wildland-Urban Interface areas. (Source: GP Safety Element – Implementation Actions)														
WF-8 Review all applicant submittals to ensure that wildfire risk has been mitigated to the lowest extent for development proposals located in fire-prone areas by ensuring the proximity of fire crews and firefighting facilities, Town approval of any required landscaping plans, appropriate and minimum evacuation capacity and planning for fuel reduction. Recommend either alternative siting if development proposal is located in a fire hazard severity zone or appropriate design features to reduce fire risks. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
WF-9 Develop a fire risk reduction assessment to use for new development in Very High Fire Hazard Severity Zones or wildland-urban interface areas. The assessment should include identifying existing fire hazards on properties, describing the proposed projects, developing thresholds, and establishing guidance (e.g., fuel modification, fire breaks, etc.) to mitigate wildfire risks to these new developments. (Source: GP Safety Element – Implementation Actions)	Community Development	1 year	X	X	X	X	X	Y	GF	GF	H	L	H	New
WF-10 When reviewing long-term comprehensive fuel reduction and management programs for discretionary projects, the Town shall require these plans to include a risk analysis; fire response capabilities discussion; fire	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGF, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
safety requirements, including defensible space, infrastructure, and building ignition resistance; mitigation measures and design considerations for non-conforming fuel modification; wildfire education; and maintenance and limitations. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas and incorporated into the covenants, conditions, and restrictions (CC&Rs), as appropriate. (Source: GP Safety Element – Implementation Actions)														
WF-11 When reviewing long-term comprehensive fuel reduction and management programs for discretionary projects, the Town shall require these plans to include a risk analysis; fire	Community Development	1-3 years	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGF, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
response capabilities discussion; fire safety requirements, including defensible space, infrastructure, and building ignition resistance; mitigation measures and design considerations for non-conforming fuel modification; wildfire education; and maintenance and limitations. Fire hazard reduction measures shall be incorporated into the design of development projects in fire hazard areas and incorporated into the covenants, conditions, and restrictions (CC&Rs), as appropriate. (Source: GP Safety Element – Implementation Actions)														
WF-12 The Town shall amend or create development standards for wildfire protection and streamlining	Community Development	1 year	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
opportunities for high-density residential and affordable developments for infill locations within the WUI, SRA, or VHFHSZs with adequate access/evacuation routes and water supply infrastructure (Source: GP Safety Element – Implementation Actions)														
FLOODING ACTION ITEMS														
FLD-1 Code Compliance – Proactive clearing of wash debris to allow free flow of runoff in contained channels.	Code Enforcement	Ongoing	X					Y	GF	GF	H	L	M	Deleted – deemed impractical due to the fact clearing would be responsibility of the public.
FLD-1 Drainage Improvement Projects in Long Canyon Channel. As identified in the FY 23-24 – 28-29 Unfunded CIP, following is a description of the desired	Community Development	1-2 years	X		X		X	Y	HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	M	H	Still seeking funding. Challenges with satisfying BCA



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
<p>improvements: It is recommended the existing Long Canyon Detention Basin be enlarged to control the runoff from all of the upper Long Canyon area. Runoff from the portion of the tributary drainage area currently bypasses the basin to the west will be routed through the basin substantially reducing the flood peak downstream. All of the basin outflow will discharge into the Long Canyon Channel. From the existing basin upstream to Golden Bee, it is recommended Long Canyon be a rock lined channel. From this point upstream, it is recommended the drainage course be managed floodplain. A rock lined channel is also recommended for Long Canyon Channel between the basin and its</p>														<p>thresholds in federal grants.</p>



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
confluence with High School Channel. Long Canyon Channel from its confluence with High School Channel to Yucca Wash is currently a concrete lined channel.														
FLD-2 Drainage Improvement Projects in Long Canyon Basin. As identified in the FY 23-24 – 28-29 Unfunded CIP, following is a description of the desired improvements: The intent is to expand the existing Long Canyon Basin easterly, westerly and southerly to achieve the required capacity. The purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to	Community Development, SB County, Army Corps of Engineers	1-5 years	X	X		X	Y		HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	M	H	Still seeking funding. Challenges with satisfying BCA thresholds in federal grants.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
apply debris bulking factors. Physical and hydrologic characteristics of the expansion are: Tributary area-3.4 miles; storage capacity-130 acre-feet; debris capacity-108,000 cubic yards; peak inflow-4846 cfs; peak outflow-1462 cfs; percent peak reduction-70; basin footprint-15 acres; embankment height-26 feet.														
FLD-3 Construct Brehm Park as a component of the Town's Flood Control Master Plan to prevent downstream and upstream flood potential. As identified in the FY 23-24 – 28-29 Unfunded CIP, following is a description of the desired improvements: Replace the existing Boys & Girls Club with a new facility containing a gym, computer room, game room, meeting rooms,	Public Works	3-5 years	X			X		Y	HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	H	H	Still seeking funding. Challenges with satisfying BCA thresholds in federal grants.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
reading room/study area and administrative offices including the expansion of Brehm Park with turf areas to accommodate multi-use fields for practice and play. In the area of the existing Boys & Girls Club the development of a neighborhood park incorporating the existing Little League baseball fields and soccer field and adding picnic facilities, tot lot, commercial batting cage and food concession.														
FLD-4 Construct Kickapoo Drain and Basin in coordination with flood planning at Blue Skies area. As identified in the FY 23-24 – 28-29 Unfunded CIP, following is a description of the desired improvements:	Town of Yucca Valley	5 years	X				X	Y	HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	H	H	Still seeking funding. Challenges with satisfying BCA thresholds in federal grants.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
<p>+ The Kickapoo Drain will carry the runoff that currently flows in and adjacent to Kickapoo Trail. A detention/debris basin is recommended at the inlet to the drain to reduce the peak flow rate and remove the debris. The Kickapoo Storm Drain will confluence with the La Honda Drain and carry the flow under SR62 and discharge near the Hawks Landing Golf Course. These facilities along with the La Honda Drain will reduce the flooding of SR62 and protect the development near the Hawks Landing Golf Course.</p> <p>+ Kickapoo Basin is in need of five new detention and/or debris basins are included in the recommended Master Plan of Drainage. The purpose of these basins is to reduce peak 100-</p>														



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
year peak inflows and manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics are: Tributary area-0.8 miles; storage capacity-32 acre-feet; debris capacity-26,500 cubic yards; peak inflow-1178 cfs; peak outflow-290 cfs; percent peak reduction-75; basin footprint-8 acres; embankment height-22 feet.														
FLD-5 As identified in the FY 23-24 – 28-29 Unfunded CIP, La Honda Drain: (K01-01): The La Honda Drain is one of few underground storm drains recommended in the Master Plan. This drain will have a debris control inlet to	Town of Yucca Valley	5 years	X	X	X	X	X	Y	HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
prevent it from becoming obstructed with debris. The La Honda Drain will reduce flooding of SR62 on the west end of the Town and provide flood protection for development near the Hawks Landing Golf Course. This drain will confluence with the Kickapoo Drain and discharge near the Hawks Landing Golf Course.														
FLD-6 Continue to implement National Flood Insurance Program (NFIP) requirements for new construction and substantially improved buildings.	Community Development	Ongoing	X				X	Y	HMGP, BRIC, CIP	HMGP, BRIC, CIP	H	M	H	Still seeking funding. Challenges with satisfying BCA thresholds in federal grants.
FLD-7 Following a disaster, revise codes to help ensure mitigating against future disasters.	Community Development, Public Works	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
FLD-7 Revise the Zoning and Subdivision Ordinance to require the utilization of various pervious surfaces within the floodplain in order to reduce storm water runoff. This should include encouragement to developers to utilize the use of various pervious surfaces in parking lots in recreational areas near the floodplain. (Source: GP Safety Element)	Community Development	Ongoing	X	X	X	X	X	N	GF	GF	M	F	M	Deleted – removed during update to Safety Element
FLD-8 Continue to implement and update the Master Drainage Plan and associated maps in coordination with the County of San Bernardino.	Community Development, SBC Transportation/ Flood Control	Ongoing	X	X	X	X	X	Y	GF	GP	H	M	H	Revised – action item
FLD-9 Ongoing effort to secure a Conditional Letter of Map Amendment (CLOMA) and final map amendment recognizing the re-designation of the	Community Development Department, FEMA, and	1-5 years			X	X	X	Y	GF	GP	H	L	H	Notes – cost of updating FIRM maps. New – goals,



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
100-year floodplain within the Town boundaries.	County Flood Control													funding, benefit, cost.
FLD 10-As appropriate, the mandates set forth in the General Plan Safety Element shall be implemented through the Master Drainage Plan.	Community Development Department, County Flood Control, and Galtrans	Ongoing	X		X		X	Y	GF	GP	H	L	H	Deleted – not mitigation
FLD 10 All major drainage facilities, including debris basins and flood control washes and channels, shall be designed to maximize their enhancement as wildlife habitat, consistent with the functional requirements of these facilities. (Source: GP Safety Element)	Community Development, Community Services, SBC Flood Control District	Ongoing	X		X		X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	L	H	Deleted – removed during update to Safety Element
FLD 11 Pursue all sources of funding for local and area wide drainage improvements needed to provide flood	Community Development,	Ongoing	X		X		X	Y	GF, HMGP, BRIC, CIP	GF, HMGP,	H	L	H	Deleted – removed during update to Safety Element



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
control protection, and to achieve related General Plan goals and policies. (Source: GP Safety Element)	SBC Flood Control District									BRIC, CIP				
FLD-12 Promote the sensitive use of floodplains to reduce flood losses and protect the natural and cultural resources and functions of floodplains. (Source: GP Safety Element)	Community Development	Ongoing	X	X	X	X	X		GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	L	M	Deleted – removed during update to Safety Element
FLD-10 Acquire and implement monitoring flood warning and notification systems.	Public Works, SBC Fire, SBC Sheriff	Ongoing	X	X			X	Y	GF, HMGP, BRIC, CIP	GF, HMGP, BRIC, CIP	H	M	H	Notes – signage is complete as of 2023.
FLD-11 Maintain Floodplain Ordinance.	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	Revised – action item
FLD-12 As identified in FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Yucca Wash. This is an existing graded earth flood control channel for the majority of its length.	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



<p>Mitigation Action Item</p>	<p>Lead Department/Division</p>	<p>Timeline</p>	<p>Goal: Protect Life and Property</p>	<p>Goal: Public Awareness</p>	<p>Goal: Natural Systems</p>	<p>Goal: Partnerships and Implementation</p>	<p>Goal: Emergency Services</p>	<p>Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)</p>	<p>Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program</p>	<p>Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC</p>	<p>Benefit: L-Low, M-Medium, H-High</p>	<p>Cost: L-Low, M-Medium, H-High</p>	<p>Priority: L-Low, M-Medium, H-High</p>	<p>2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes</p>
<p>Significant changes are not proposed for the wash except for the most westerly reach, the wash would remain a soft bottom trapezoidal channel with grade stabilizers and side slope revetment. The most westerly reach between Deer Trail and Apache Trail will be a concrete lined channel with improved culverts at street crossings. Some of the soft bottom reaches would be enlarged to convey the 100-year peak flows with freeboard. All weather street crossings are proposed for SR62, Sage Ave and SR247. The proposed detention basins will reduce the peak flow rate and debris in the wash and the need for grade stabilizers will be required. Stabilization will be provided in several locations by existing street</p>														



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
crossings of the wash flow line and through improved at-grade culver crossings.														
FLD-13 As identified in FY 23-24 – 28-29 Unfunded CIP, fund and construct improvement to Hanford Avenue Drain. Soft bottom and rock lined channel with reinforced concrete box, fence and gates, street pavement and right-of way. Construct channel from Yucca Wash confluence U/S to Sunnyslope Drive and construct Hanford Avenue, and Balsa Avenue street improvements as needed.	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
FLD-14 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to West Burnt Mountain Wash. The wash will consist of soft bottom and rock lined	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



<p>Mitigation Action Item</p>	<p>Lead Department/Division</p>	<p>Timeline</p>	<p>Goal: Protect Life and Property</p>	<p>Goal: Public Awareness</p>	<p>Goal: Natural Systems</p>	<p>Goal: Partnerships and Implementation</p>	<p>Goal: Emergency Services</p>	<p>Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)</p>	<p>Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program</p>	<p>Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC</p>	<p>Benefit: L-Low, M-Medium, H-High</p>	<p>Cost: L-Low, M-Medium, H-High</p>	<p>Priority: L-Low, M-Medium, H-High</p>	<p>2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes</p>
<p>conveyances from its confluence with Yucca Wash to the detention basins. From the Yucca Wash confluence upstream to Sunnyslope Drive, a revetted soft bottom channel is recommended. From Sunnyslope Dr. to the West Burnt Mountain Detention Basin, a rock lined channel is recommended. Culvert crossings at SR62, Yucca Trail and Joshua Lane. From the basin upstream to just downstream of Warren Vista Avenue, the drainage course will be floodplain managed. For the reach from Warren Vista Avenue upstream to San Andreas Road, a rock revetted soft bottom channel and floodplain management of the local drainage course upstream of San Andreas Road.</p>														



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
FLD-15 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to East Burnt Mountain Wash. The wash will consist of concrete box and rock lined channel facilities from its confluence with West Burnt Mountain Wash to the detention basin. An underground concrete box is recommended in Lucerne Vista from the confluence to Onaga Trail to convey the 100-year desilted detention basin outflow. From Onaga Trail upstream to the detention basin, and from the detention basin upstream to Joshua Drive, a rock lined channel is recommended. From Joshua Drive upstream to San Andreas Road a rock revetted soft bottom channel is recommended. Upstream of San	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Andreas Road, floodplain management of the drainage course is recommended.														
FLD-16 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Hospital Channel. The Hospital Channel upstream of Onaga Trail is currently a soft bottom channel. Due to high velocity flows, it is recommended this channel be rock lined from its confluence with Long Canyon Channel upstream to Golden Bee Drive. From this point upstream it is recommended that the drainage course be a managed floodplain.	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
FLD-17 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Acoma	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Channel: Acoma, Deer and a local tributary to Deer are channels tributary to the proposed Acoma Basin. They run adjacent to Elk Trail, Deer Trail and Acoma Trail. These channels have been excavated and are currently unlined. It is recommended these channels be rock revetted from Golden Bee northerly to Desert Gold Drive. Upstream of Golden Bee it is recommended these drainage courses be managed floodplains.														
FLD-18 As identified in FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Water Canyon Channel: The Water Canyon Channel will carry flows from Water Canyon to Yucca Wash. Water Canyon is one of the largest tributaries to Yucca Wash. A	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
detention/debris basin at the mouth of Water Canyon just outside of the Town limits is recommended. This basin will substantially reduce the peak flows from Water Canyon. The channel will be a revetted soft bottom from a distance of approximately 3,000 feet downstream of the basin. From this point downstream, the channel will be rock lined.														
FLD-19 As identified in FY 23-24 – 28-29, fund and construct improvements to Pinon Creek. Pinon Creek is an existing graded earth flood control channel. The channel is very steep and debris is effectively transported to an area adjacent to the Hawks Landing Golf Course. Debris movement in Pinon Creek has minimized streambed scour	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
and the at-grade street crossings appear to be helping to control headcut. There is, however, evidence of lateral erosion along the banks of Pinon Creek in a few locations. The channel banks will be repaired where they have eroded and they will be revetted to prevent future erosion. Grade stabilization will be provided through improved culvert crossings and an additional intermediate stabilizer structure.														
FLD-20 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Covington Wash. Covington Wash and its tributaries, Black Rock Wash and Carmelita Wash are proposed to be maintained as managed floodplains	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
with the exception of the reach from SR62 to La Contenta Road. Within this reach a rock revetted soft bottom channel is recommended. A rock lined levee inlet structure is recommended just upstream of SR62 to collect 100 peak flows and direct them into a culvert crossing under SR62. A rock lined levee is also recommended for a short reach on the west side of Covington Wash upstream of Avalon Ave. and Arcadia Trail. This levee will protect against flow breakout during severe flood events.														
FLD-21 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to OWS Channel. The existing OWS Springs Debris Basin has a rock lined inlet	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
channel. Tributary to this inlet channel are two main washes, San Rafael Wash/OWS Wash and Farello Wash. It is recommended the upstream portion of San Rafael Wash/OWS Wash adjacent to OWS Road be a rock lined channel. The rock lined channel continues within reach until the drainage course heads north westerly away from OWS Road. From this point to approximately 1000 feet upstream, a rock revetted soft bottom channel is recommended. The drainage course upstream of this point is to be floodplain managed. The culvert under OWS Road will be enlarged to carry the 100-year peak flow.														
FLD-22 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
construct improvements to Buena Vista Wash. Buena Vista Wash will consist of soft bottom channel and street flow conveyances from the Yucca Wash confluence of Palm Avenue. From Palm Avenue upstream, a soft bottom channel and street flow conveyances are recommended. This wash will confluence with Sage Channel prior to discharging into Yucca Wash.														
FLD-23 As identified in FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Water Canyon Basin. Five new detention and/or debris basins are included in the recommended Master Plan of Drainage. The purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics are: Tributary area-3.4 miles; storage capacity-438 acre-feet; debris capacity-126,000 cubic yards; peak inflow-6398 cfs; peak outflow-1419 cfs; percent peak reduction-77; basin footprint-35 acres; embankment height-38 feet.														
FLD-24 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Acoma Basin. Five new detention and/or debris basins are included in the recommended Master Plan of Drainage. The purpose of these basins is to reduce peak 100-year peak inflows and	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics are: Tributary area-1.9 miles; storage capacity-90 acre-feet; debris capacity-57,000 cubic yards; peak inflow-2744 cfs; peak outflow-596 cfs; percent peak reduction-78; basin footprint-10 acres; embankment height-41 feet.														
FLD-25 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to Long Canyon Basin. The intent is to expand the existing Long Canyon Basin easterly, westerly and southerly to achieve the required capacity. The	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics of the expansion are: Tributary area-3.4 miles; storage capacity-130 acre-feet; debris capacity-108,000 cubic yards; peak inflow-4846 cfs; peak outflow-1462 cfs; percent peak reduction-70; basin footprint-15 acres; embankment height-26 feet.														
FLD-26 As identified in the FY 23-24 – 28-29 Unfunded CIP, fund and construct improvements to West Burnt	Public Works	1-5 years	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Mountain Basin. Five new detention and/or debris basins are included in the recommended Master Plan of Drainage. The purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics are: Tributary area-1.7 miles; storage capacity-96 acre-feet; debris capacity-50,000 cubic yards; peak inflow-2309 cfs; peak outflow-284 cfs; percent peak reduction-88; basin footprint-20 acres; embankment height-23 feet.														
FLD-27 Work with the San Bernardino County Flood Control District to update	Public Works	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
and implement the Master Plan of Drainage for the near and long-term protection of the community and its residents. Encourage the county to develop and include strategies to address local drainage issues unique to Yucca Valley's desert environment, such as drainage over private properties in semi developed areas and unpaved roads that cross natural drainage areas that cannot be remedied by standard measures in the existing Master Plan, which typically applies to more urbanized areas. (Source: GP Safety Element – Implementation Actions)														
FLD-28 Continue to disseminate information on flooding, flood control on private property, floodplains, and flood	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
preparedness to the public at Town Hall and on the Town's website (Source: GP Safety Element – Implementation Actions)														
FLD-29 Periodically review county, state, and federal flood control best practices and incorporate appropriate standards into the Municipal Code. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
FLD-30 Map areas that frequently flood to track priority places for infrastructure improvements. Use this data to apply for grant funding that will finance local drainage controls. CalEPA and the CA State Water Resources Control Board both offer grants to municipalities throughout California (Source: GP	Community Development, Public Works	5 years	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Safety Element – Implementation Actions)														
FLD-31 Enforce on-site retention of stormwater and runoff, plus a minimum of 10 percent above the incremental increase, through the development review process and routine site inspections. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
FLD-32 Communicate with FEMA regarding Flood Insurance Rate Maps to keep these documents updated on a regular basis. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
EXTREME WEATHER ACTION ITEMS														
EXW-1 Purchase snow blade attachments for use on existing Town-owned vehicles.	Public Works	1 year	X	X	X	X	X		GF	GF	H	M	H	New – all information.



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EXW-2 Design and construct an Aquatics Center/Town Gymnasium for use in evacuations, and cooling station.	Community Development, Disaster Preparedness	1 year	X	X	X	X	X		GF	GF	H	H	H	Revised – action item
EXW-3 Develop a guide for protecting homes and businesses from extreme weather conditions. Include ideas for protective architectural features, wind barriers, and drought-resistant landscaping (Source: GP Safety Element – Implementation Actions)	Community Development	1-5 years	X	X	X	X	X	Y	GF, HMGP, BRIC, Fire-related grants	GF, HMGP, BRIC, Fire-related grants	H	M	H	New
EXW-4 Encourage surrounding jurisdictions to participate in more efficient water-storage technologies and methods. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
EXW-5 Pursue SCAG Active Transportation Planning and Fixed Guide Way Capital Investment Grants	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
to improve public transit infrastructure in Yucca Valley and the surrounding region. (Source: GP Safety Element – Implementation Actions)														
EXW-6 Collaborate with the San Bernardino County Housing Authority to identify lower-income households in Yucca Valley to send news about housing assistance, programs, and resources. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
EXW-7 Encourage development of new master-planned communities, mobile home parks, parks or recreation facilities, or shopping centers to pursue LEED, Energy Star, Living Building Challenge, National Green Building Standard, or other sustainable environmental design certification.	Community Development, Building & Safety	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
(Source: GP Safety Element – Implementation Actions)														
EXW-8 Provide access to occupational safety information and trainings as well as materials (such as re-usable water bottles, face masks, and low-cost vaccines) to workers in Yucca Valley through their employers to protect workers from natural hazards and climate-related impacts. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	L	H	New
EXW-9 Commission a study to preserve existing tree cover in the town and adopt an urban forest management plan. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF, HMGP, BRIC	GF, HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EXW-10 Update climate change projections and data on a regular basis to plan appropriately for emergency response efforts. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	GF, HMGP, BRIC	GF, HMGP, BRIC	H	H	H	New
EPIDEMIC, PANDEMIC, VECTOR-BORNE ACTION ITEMS														
EPV-1 Research and establish a Mosquito Abatement Program through a local vendor.	Public Works	1 year	X	X	X	X	X		GF, HMGP, BRIC	GF, HMGP, BRIC	H	M	H	New
EPV-2 Continue to monitor epidemic, pandemic, and vector-borne threats. Develop public awareness materials now to reduce time required to guide the public.	Disaster Preparedness	Ongoing	X	X	X	X	X	N	GF	GF	H	L	H	New
EPV-3 Identify and remedy poor drainage areas to reduce risk from stagnant water. Expand outreach programs to educate communities	Community Development	Ongoing	X	X	X	X	X	N	GF	GF	H	L	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
about potential increases in vector-borne diseases from stagnant water. (Source: GP Safety Element – Implementation Actions)														
UTILITY RELATED ACTION ITEMS														
UR-1 Research and purchase satellite internet service for the Community Center for use by the public during internet outages and emergencies.	Disaster Preparedness	1-3 years	X	X			X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
UR-2 Upgrade existing internet service with Frontier to Spectrum for Senior Center and Welcome Center to fiber optic.	Disaster Preparedness	1-3 years	X	X			X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
UR-3 Upgrade phone service to Community Development and Animal Shelter from Frontier to Spectrum to ensure stability and reliability during emergencies.	Disaster Preparedness	1-3 years	X	X			X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
UR-4 Pursue grant funding to harden existing Town facilities in identified hazard-prone areas as well as funding to finance the operation of redundant communications systems. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
UR-5 Identify and map cooling centers and resilience hubs in locations accessible to vulnerable populations and established temperature triggers for when they will be used. (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New
UR-6 Establish backup power and water resources in case of power outages and emergencies at resilience hubs (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New



Mitigation Action Item	Lead Department/Division	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y), No (N)	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, GR-Other Grant, CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, GF, CIP, HMGP, BRIC	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2023 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
UR-7 Work with water utilities to ensure continuity of water provision during wildfire and other hazards through improved electricity reliability (Source: GP Safety Element – Implementation Actions)	Community Development	Ongoing	X	X	X	X	X	Y	HMGP, BRIC	HMGP, BRIC	H	H	H	New

Plan Maintenance

The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years. This section describes how the Town of Yucca Valley will integrate public participation throughout the plan maintenance process.

Q&A ELEMENT D: PLAN MAINTENANCE D2-a.
<p>Q: Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i))</p> <p>A: See Local Mitigation Officer, Method and Scheduling of Plan Implementation, Monitoring and Implementing the Plan below.</p>

Local Mitigation Officer

The Planning Team that was involved in research and writing of the Plan will also be responsible for implementation. The Planning Team will be led by the Planning Team Chair Jessica Rice who will be referred to as the Local Mitigation Officer. Under the direction of the Local Mitigation Officer, the Planning Team will take responsibility for plan maintenance and implementation. The Local Mitigation Officer will facilitate the Planning Team meetings and will assign tasks such as updating and presenting the Plan to the members of the Planning Team. Plan implementation and evaluation will be a shared responsibility among all of the Planning Team members. The Local Mitigation Officer will coordinate with the Town of Yucca Valley leadership to ensure funding for 5-year updates to Plan as required by FEMA. The Planning Team will be responsible for coordinating the implementation of the Plan’s action items and undertaking the formal review process. The Local Mitigation Officer will be authorized to make changes in assignments to the current Planning Team.

The Planning Team will meet **no less than annually**. Meeting dates will be scheduled once the final Planning Team has been established. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. The Local Mitigation Officer or designee will be responsible for contacting the Planning Team members and organizing the annual meetings.

Plan updates will need to be approved by FEMA every 5 years. However adequate time should be allowed to secure grant funding (if necessary), allow adequate time for a thorough planning process, and time for the formal review by Cal OES and FEMA. All said, if grant funding is going to be needed, the update timeline should begin 3 years prior to the plan’s due date to FEMA.

Method and Scheduling of Plan Implementation

	Year 1	Year 2	Year 3	Year 4	Year 5
Monitoring	X	X	X	X	X
Evaluating					
Internal Planning Team Evaluation	X	X	X	X	X
Cal OES and FEMA Evaluation					X
Updating					X

Monitoring and Implementing the Plan

Monitoring the Plan

The Local Mitigation Officer will hold annual meetings with representatives from the coordinating agencies (as identified in the Mitigation Actions Matrix) in order to gather status updates on the mitigation action items. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. See the **Annual Implementation Report** discussed below which will be a valuable tool for the Planning Team to measure the success of the Hazard Mitigation Plan. The focus of the annual meeting will be on the progress and changes to the Mitigation Action Items.

Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.

Q: Does the plan describe each community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))

A: See **Integration into other Planning Mechanisms** below.

Integration into other Planning Mechanisms

The Town of Yucca Valley addresses statewide planning goals and legislative requirements through the General Fund, Capital Projects, and Grants. The Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs. The Town of Yucca Valley will implement recommended mitigation action items through existing programs and procedures.

The Town of Yucca Valley is responsible for adhering to the State of California's Building and Safety Codes. In addition, the Town of Yucca Valley may work with other agencies at the state level to review, develop and ensure Building and Safety Codes are adequate to mitigate or prevent damage by hazards. This is to ensure that life-safety criteria are met for new construction.

Some of the goals and action items in the Mitigation Plan will be achieved through activities recommended in the strategic and other budget documents. The various departments involved in developing the Plan will review it on an annual basis. Upon annual review, the Planning Team will work with the departments to identify areas that the Mitigation Plan action items are consistent with the strategic and budget documents to ensure the Mitigation Plan goals and action items are implemented in a timely fashion.

Upon FEMA approval, the Planning Team will begin the process of incorporating risk information and mitigation action items into existing planning mechanisms including the General Fund (Operating Budget and Capital Projects - see Mitigation Actions Matrix for links between individual action items and associated planning mechanism). The quarterly meetings of the Planning Team will provide an opportunity for Planning Team members to report back on the progress made on the integration of mitigation planning elements into the Town of Yucca Valley's planning documents and procedures.

Specifically, the Planning Team will utilize the updates of the following documents to implement the Mitigation Plan:

- ✓ Risk Assessment, Community Profile, Planning Process (stakeholders) – Emergency Operations Plan, etc.
- ✓ Mitigation Actions Matrix – General Fund, Capital Improvement Program, Grants

Annual Implementation Report

The Annual Implementation Matrix is the same as the Mitigation Actions Matrix but with a column added to track the quarterly status of each Action Item. Upon approval and adoption of the Plan, the Annual Implementation Reports will be added to the Plan's **Attachments**. Following is a view of the Annual Implementation Matrix:

Annual Implementation Matrix will be inserted here following FEMA approval

An equal part of the monitoring process is the need to maintain a strategic planning process which needs to include funding and organizational support. In that light, at least one year in advance of the FEMA-mandated 5-year submission of an update, the Local Mitigation Officer will convene the Planning Team (as well as any other departments with responsibilities on the Mitigation Actions Matrix) to discuss funding and timing of the update planning process. On the fifth year of the planning cycles, the Planning Team will broaden its scope to include discussions and research on all of the sections within the Plan with particular attention given to goal achievement and public participation.

Economic Analysis of Mitigation Projects

FEMA's approach to identifying the costs and benefits associated with hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis.

Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

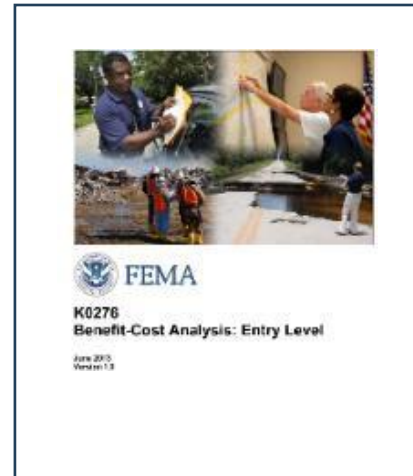
Given federal funding, the Planning Team will use a FEMA-approved benefit/cost analysis approach to identify and prioritize mitigation action items. For other projects and funding sources, the Planning Team will use other approaches to understand the costs and benefits of each action item and develop a prioritized list.

The "benefit", "cost", and overall "priority" of each mitigation action item was included in the Mitigation Actions Matrix located in Part III: Mitigation Strategies. A more technical assessment will be required in the event grant funding is pursued through the Hazard Mitigation Grant Program. FEMA Benefit-Cost Analysis Guidelines are discussed below.

FEMA Benefit-Cost Analysis Guidelines

The Stafford Act authorizes the President to establish a program to provide technical and financial assistance to state and local governments to assist in the implementation of hazard mitigation measures that are cost effective and designed to substantially reduce injuries, loss of life, hardship, or the risk of future damage and destruction of property. To evaluate proposed hazard mitigation projects prior to funding FEMA requires a Benefit-Cost Analysis (BCA) to validate cost

effectiveness. BCA is the method by which the future benefits of a mitigation project are estimated and compared to its cost. The end result is a benefit-cost ratio (BCR), which is derived from a project's total net benefits divided by its total project cost. The BCR is a numerical expression of the cost effectiveness of a project. A project is considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs.



Although the preparation of a BCA is a technical process, FEMA has developed software, written materials, and training to support the effort and assist with estimating the expected future benefits over the useful life of a retrofit project. It is imperative to conduct a BCA early in the project development process to ensure the likelihood of meeting the cost-effective eligibility requirement in the Stafford Act.

The BCA program consists of guidelines, methodologies, and software modules for a range of major natural hazards including:

- ✓ Flood (Riverine, Coastal Zone A, Coastal Zone V)
- ✓ Hurricane Wind
- ✓ Hurricane Safe Room
- ✓ Damage-Frequency Assessment
- ✓ Tornado Safe Room
- ✓ Earthquake
- ✓ Wildfire

The BCA program provides up to date program data, up to date default and standard values, user manuals and training. Overall, the program makes it easier for users and evaluators to conduct and review BCAs and to address multiple buildings and hazards in a single BCA module run.

Evaluating and Updating the Plan

Q&A | ELEMENT D: PLAN MAINTENANCE | D2-b.

Q: Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible. (Requirement 44 CFR § 201.6(c)(4)(i))

A: See **Evaluation** below.

Evaluation

As discussed at the beginning of this section, the representatives from the coordinating agencies (as identified in the Mitigation Actions Matrix) will meet annually to gather status updates on the mitigation action items. During that meeting, the Local Mitigation Officer will lead a discussion with the coordinating agencies on the success (or failure) of the Mitigation Plan to be effective and to meet the plan goals. Examples of measuring the plan's effectiveness will include assessing effectiveness include evaluating whether new hazards have emerged, whether community vulnerability has shifted, and whether stated mitigation strategies are still appropriate for the

community's circumstances. The plan goals are defined in the beginning of the Mitigation Strategies Section and each of the mitigation action items is aligned with a goal or goals.

The results of that discussion will be added to the Evaluation portion of the Annual Implementation Report and inclusion in the 5-year update to the Plan. Efforts will be made immediately by the Local Mitigation Officer to address any failed plan goals.

Q&A | ELEMENT D: PLAN MAINTENANCE | D2-c.

Q: Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i)) **A:** See **Formal Update Process** below.

Formal Update Process

As identified above, the Mitigation Action Items will be monitored for status on a bi-annual basis as well as an evaluation of the Plan's goals. The Local Mitigation Officer or designee will be responsible for contacting the coordinating agency members and organizing the annual meeting which will take place based on the month of the Plan's approval. Planning Team members will also be responsible for participating in the formal update to the Plan every fifth year of the planning cycle. In the event the Town desires to seek grant funding for the update, the application process should begin 2 years in advance of the plan's expiration. Even without grant funding, the planning process should begin at least 1.5 years ahead of the plan's expiration.

The Planning Team will begin the update process with a review the goals and mitigation action items to determine their relevance to changing situations within the Town of Yucca Valley as well as changes in state or federal policy, and to ensure they are addressing current and expected conditions. The Planning Team will also review the Plan's **Risk Assessment** portion of the Plan to determine if this information should be updated or modified, given any new available data. The lead department/division is responsible for the various action items will report on the status of their projects, including the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised. Amending will be made to the Mitigation Actions Matrix and other sections in the Plan as deemed necessary by the Planning Team.

Q&A | ELEMENT D: PLAN MAINTENANCE | D1-a.

Q: Does the plan describe how communities will continue to seek future public participation after the plan has been approved? (Requirement 44 CFR § 201.6(c)(4)(iii)) **A:** See **Continued Public Involvement** below.

Continued Public Involvement

The Town of Yucca Valley is dedicated to involving the public directly in the continual review and updates to the Mitigation Plan. Copies of the plan will be made available at Town Hall and the Town's website. **The existence and location of these copies will be publicized in the Town's newsletter and on the website.** This site will also contain an email address and phone number where people can direct their comments and concerns. At the discretion of the Local Mitigation Officer, a public meeting may be held after the Annual Implementation Meeting. The meeting would provide a public forum in which interested individuals and/or agencies could express their concerns, opinions, or ideas about the plan.

The Local Mitigation Officer will be responsible for using the Town's resources to publicize any public meetings and always free to maintain public involvement through the public access channel, web page, and newspapers.

Plan Review, Adoption, and Approval

The plan is required to go through a formal review with Cal OES and FEMA. Once the Planning Team has reviewed the First Draft Plan and revisions made, the Second Draft Plan will be made available to the general public and external agencies. The plan will be posted and notices distributed advertising the plan's available for input. See **Planning Process** for details.

Comments gathered on the Second Draft Plan were incorporated into the Third Draft Plan which will be submitted to Cal OES along with a completed FEMA Plan Review Tool. In the event changes are required, Cal OES will update the Plan Review Tool and mandated changes will be incorporated into the Fourth Draft Plan. Once Cal OES deems the plan compliant with the mitigation planning regulations, the document will be forwarded to FEMA for a final review. Upon acceptance by FEMA, an Approvable Pending Adoption notice will be sent to the Town requesting that the Final Draft Plan be submitted to the Town Council for adoption. Once proof of adoption is forwarded to FEMA, a Letter of Approval will be issued. The Letter of Approval will be entered into the Final Plan.

Q&A | ELEMENT F: PLAN ADOPTION | F1-a.

Q: Does the participant include documentation of adoption? (Requirement 44 CFR § 201.6(c)(5))

A: See **Plan Adoption Process** below.

Plan Adoption Process

Adoption of the plan by the local governing body demonstrates the Town of Yucca Valley's commitment to meeting mitigation goals and objectives. Governing body approval legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The Town Council must adopt the Hazard Mitigation Plan before the Plan can be approved by FEMA.

The Third Draft Plan was submitted to Cal OES and FEMA for review and approval. FEMA issued an Approvable Pending Adoption notice on [REDACTED] requiring the adoption of the Plan by the Town Council. The adoption resolution was submitted to FEMA along with a request for a FEMA Letter of Approval.

In preparation for the public meeting with the Town Council, the Planning Team posted the Third Draft Plan on the Town's website. Notification of the Plan's availability was also distributed via the mediums utilized during the community outreach phase. Also, the Team prepared a Staff Report including an overview of the Planning Process, Risk Assessment, Mitigation Goals, and Mitigation Actions. The staff presentation concluded with a summary of the input received during the public review of the document. The meeting participants were encouraged to present their views and make suggestions on possible mitigation actions.

The Town Council heard the item on [REDACTED]. The Town Council voted to adopt the Hazard Mitigation Plan. The Resolution of adoption by the Town Council is below:

Plan Approval

Upon adoption by the Town Council, the resolution was forwarded to FEMA. The FEMA Letter of Approval was issued on _____. FEMA issued a Letter of Approval on _____ and is below:

Attachments

Web Posting and Notifications

Secondary Stakeholders Involvement

Date Invited to Provide Input or Input Gathered	Agency, Recipient's Name, Position Title, Email Address	Information Received and Incorporated
September 18, 2023	Agency: San Bernardino County Fire Department Name: Scott Tuttle Position Title: Interim Deputy Chief of Operations Email: stuttle@sbcfire.org	
	Agency: San Bernardino County Sheriff's Department Name: Robert Warrick Position Title: Captain Email: rwarrick@sbcasd.org	
	Agency: San Bernardino County Department of Public Works Name: James Addison Position Title: District Supervisor Email: james.addison@dpw.sbcounty.gov	
	Agency: Burrtec Waste Name: Frank Orlett Position Title: Vice President Email: forlett@burrtecdesert.com	
	Agency: San Bernardino County Department of Public Health Name: Ashley Flores Position Title: Supervising Medical Emergency Planning Specialist Email: Ashley.flores@dph.sbcounty.gov	
	Agency: San Bernardino County Department of Public Works/Solid Waste Management Name: Sharon Mitchell Position Title: Staff Analyst II Email: Sharon.Mitchell@dpw.sbcounty.gov	
	Agency: SCE Name: Shane Massoud Position Title: Government Relations Manager Email: shane.massoud@sce.com	
	Agency: SoCal Gas Name: Deborah McGarrey Position Title: Public Affairs Manager Email: dmcgarrey@semprautilities.com	
	Agency: Hi Desert Water District Name: Ron Wortham Position Title: Director of District Services Email: ronw@hdwd.com	
	Agency: Joshua Basin Water District Name: Kathleen Radnich Position Title: Public Outreach, Education & Marketing Mgr. Email: kjradnich@gmail.com	
	Agency: Morongo Unified School District Name: David Daniels Position Title: Director of Maintenance and Operations, Facilities, and Risk Management Email: David_daniels@morongo.k12.ca.us	

Date Invited to Provide Input or Input Gathered	Agency, Recipient's Name, Position Title, Email Address	Information Received and Incorporated
	Agency: Joshua Tree National Park Name: Myles Landry Position Title: Emergency Manager Email: myles_landry@nps.gov	
	Agency: Copper Mountain College Name: Daren Otten Position Title: President Email: dotten@cmccd.edu	
	Agency: California Highway Patrol Name: Michael Radford Position Title: PIO Officer Email: mradford@chp.ca.gov	
	Agency: MAGTFTC, MCAGCC (29 Palms Marine Base) Name: Michael Burns Position Title: Deputy Director, Mission Assurance Division Email: michael.f.burns1@usmc.mil	
	Agency: City of 29 Palms Name: Frank Luckino Position Title: City Manager Email: fluckino@29palms.org	
	Agency: City of 29 Palms Name: Elijah Marshall Position Title: Emergency Manager Email: emarshall@29palms.org	
	Agency: Joshua Springs Calvary Chapel Name: Mike Kellier Position Title: Pastor Email: grumpy@joshuasprings.org	
	Agency: At the Cross Christian Fellowship Name: Alfred Aceves Position Title: Pastor Email: aaceves.atc@gmail.com	
	Agency: Calvary Baptist Church Name: Casey Kuhlman Position Title: Pastor Email: cbcyucca@gmail.com	
	Agency: Church of Jesus Christ of Latter-Day Saints Name: Suzy Dick Position Title: Public Affairs Email: suzydick12@gmail.com	
	Agency: Crossview Bible Church Name: Dan Hanna Position Title: Pastor Email: drhanna24@gmail.com	
	Agency: Desert Hills Presbyterian Church Name: Wayne Morrow Position Title: Pastor Email: deserthillspastor@gmail.com	

Date Invited to Provide Input or Input Gathered	Agency, Recipient's Name, Position Title, Email Address	Information Received and Incorporated
	Agency: Living Hope Church Name: Bill Wilcox Position Title: Pastor Email: sheprdbidr@hotmail.com	
	Agency: First Christian Church Name: Mark Tometz Position Title: Pastor Email: yuccamark@gmail.com	
	Agency: Seventh-Day Adventist Church Name: Curtis Wright Position Title: Pastor Email: borneoglenn@hotmail.com	
	Agency: St. Joseph of Arimathea Episcopal Church Name: Bishops Warden Position Title: Pastor Email: stjosephyv@gmail.com	
	Agency: St. Mary of the Valley Catholic Church Name: Mark Kotlarczyk Position Title: Pastor Email: magre@sbdiocese.org	
	Agency: The Door Christian Fellowship Name: Louie Lobato Position Title: Pastor Email: louie.lobato.ir@gmail.com	
	Agency: Valley Community Chapel Name: Jeff Huntington Position Title: Pastor Email: jake@vcchapel.org	
	Agency: Yucca Valley United Methodist Church Name: Thomas Ziegert Position Title: Pastor Email: pastornesi@gmail.com	
	Agency: Gateway Assembly of God Name: Jerry Adams Position Title: Pastor Email: pastor.gateway@gmail.com	
	Agency: Morongo Basin ARCH Name: Astrid Johnson Position Title: Executive Director Email: Skyviewfarm29@gmail.com	
	Agency: Morongo Unified School District Name: Wayne Hamilton Position Title: Community Outreach Coordinator Email: Wayne.Hamilton@morongo.k12.ca.us	

External Agencies Letter of Invitation

External agencies listed above were invited via email and provided with an electronic link to the Town of Yucca Valley's website posting of the Second Draft Plan. Following is the email distributed to the external agencies. A pdf of the Plan was attached.

Planning Team Agenda: Meeting #1 – July 27, 2023

Agenda

Town of Yucca Valley

Planning Team Meeting #1 (Live)

July 27, 2023

1. Review the purpose of hazard mitigation.
2. Discuss the concepts and terms related to hazard mitigation planning.
3. Review the project schedule and public involvement during the plan writing phase.
4. Discuss results of the Initial Risk Assessment.
5. Gather Updated Community Profile Data
 - a. History, Geography, Land Use, Demographics, CIP

Planning Team Agenda: Meeting #2 – August 2, 2023

Agenda

Town of Yucca Valley

Planning Team Meeting #2 (Live)

August 2, 2023

1. Review examples of hazard mitigation activities.
2. Discuss changes in FEMA DMA 2000 Regulations (effective April 19, 2023).
3. Review mitigation action items from 2018 HMP and update status.

Planning Team Agenda: Meeting #3 – August 9, 2023

Agenda

Town of Yucca Valley

Planning Team Meeting #3 (Virtual)

August 9, 2023

1. Reviewed updated Mitigation Action Matrix based on Planning Team Meeting #2.
2. Develop additional mitigation action items.
3. Gather and develop mitigation action item information including:
 - a. Status of Mitigation Action Item: Completed, Deleted, Revised, Ongoing, New, Deferred
 - b. Ratings: Priority, Benefit, Cost
 - c. Funding Source and Planning Mechanism
 - d. Impact to Buildings/Infrastructure
 - e. Lead Department/Division
 - f. Timeline
 - g. Plan Goals



Planning Team Agenda: Meeting #4 – August 30, 2023

Agenda

Town of Yucca Valley

Planning Team Meeting #4 (Live)

August 30, 2023

- I. **First Draft Plan was distributed in advance to the members of the Planning Team.**
 - a. **EPC provided an overview of the First Draft Plan.**
 - b. **Gaps identified and questions answered.**
 - c. **Discussed strategy for community outreach, formal plan review, adoption, approval**
 - i. **Order of gathering input to the First Draft Plan**
 1. **Planning Team members**
 - ii. **Changes incorporated into Second Draft Plan**
 1. **General Public and External Agencies**
 - a. **Public (notice of plan availability)**
 - b. **New outreach requirements: underserved communities and socially vulnerable populations**
 - c. **External Agencies (Special Districts, Community Lifelines, and Adjoining Jurisdictions)**