



Local Hazard Mitigation Plan

San Mateo County, California

**Silicon Valley
Clean Water Annex**

2026

DRAFT



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This Annex details the hazard mitigation elements specific to Silicon Valley Clean Water (SVCW), a participating jurisdiction of the 2026 San Mateo County Local Hazard Mitigation Plan (LHMP or the Plan) update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Countywide Planning Elements)**. Therefore, all sections of **Volume 1**, including the planning process, hazard identification and risk assessment, mitigation strategy (includes mitigation goals and objectives), and plan maintenance, apply to and were met by SVCW. This Annex provides additional information specific to the District, with a focus on providing further details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

1. HAZARD MITIGATION LOCAL PLANNING TEAM

The following individuals have been identified as the SVCW Local Planning Team for the 2026 LHMP. These individuals participated in all aspects of the planning process and developed a risk and vulnerability assessment, capability assessment, and mitigation strategy (including mitigation actions) specific to the jurisdiction.

Name	Title	Department
Matthew Zucca	Authority Manager	Management
Jane Kao	Senior Engineer	Engineering
Arvind Akela	Director of Engineering	Engineering
David Lee	Health & Safety Director	Safety

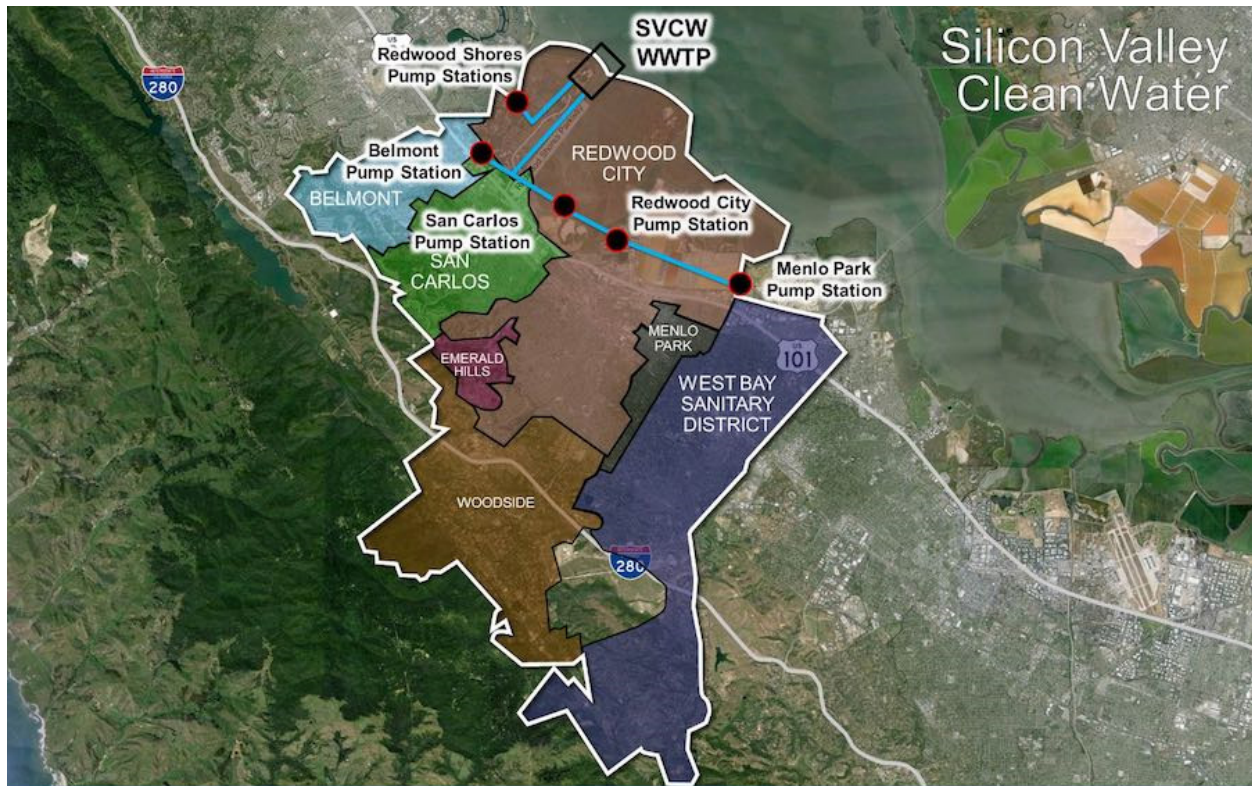
2. JURISDICTION PROFILE

SVCW conveys and treats wastewater for more than 300,000 residents and businesses in its service area. It is a Joint Powers Authority (JPA) serving the cities of Belmont, Redwood City, and San Carlos, as well as the West Bay Sanitary District, which includes Menlo Park, Atherton, Portola Valley, and parts of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara counties. SVCW values environmental stewardship and innovation and, by effectively treating wastewater at its advanced treatment facility, helps keep San Francisco Bay clean and environmentally healthy.

The Authority is led by an executive team of scientists, engineers, and management professionals in the wastewater industry, overseeing the operations of the nine (9) divisions - Operations, Maintenance, Safety, Laboratory, Environmental Services, Engineering, Information Services, Accounting, and Human Resources. The Authority's jurisdictional area is displayed in **Figure 1**.



Figure 1. Silicon Valley Clean Water Area Map



2.1. Governing Body Format

SVCW is governed by the four (4) member jurisdictions. Each agency appoints a member of its council or board to represent its jurisdiction on the SVCW Commission. The Commission is responsible for, among other regulatory and financial decisions, appointing the SVCW Manager. Furthermore, SVCW employs 85 people from a broad range of backgrounds.

The Commission assumes responsibility for adopting this Plan, and the Manager will oversee its implementation.

2.2. Population

SVCW serves a total of approximately 300,000 customers.

2.3. Assets

SVCW has one (1) wastewater treatment facility, located on San Francisco Bay in Redwood City, and three (3) pump stations throughout the Authority. **Table 1** summarizes the Authority's critical assets and their values.



Table 1. Silicon Valley Clean Water Assets

Asset	Value
<i>Property</i>	
63 Acres of Land	\$1,282,081
<i>Critical Facilities and Infrastructure</i>	
Belmont Pump Station	\$92,000,000
Wastewater Treatment Plant	\$310,000,000
Conveyance Pipeline	\$363,000,000
San Carlos Pump Station	\$1,200,000
Redwood City Pump Station	\$19,000,000
Menlo Park Pump Station	\$27,000,000
TOTAL	\$813,482,081

3. CHANGES IN DEVELOPMENT

During the last five (5) years, SVCW completed its Front of Plant Project, a significant initiative to modernize and upgrade the Authority’s wastewater treatment infrastructure in the Redwood Shores neighborhood of Redwood City. The project included a new headworks facility, receiving lift station, conveyance tunnel, and pump station. These new assets will generally carry the same types of risks as existing assets. However, they were built in accordance with current building and seismic codes, and the electrical components were installed above the current FEMA base flood elevation.

SVCW is currently developing a new gas treatment facility and food waste facility at its wastewater treatment plant and is acquiring new linear generators, which will be put into service in the next year. In the next five (5) years, SVCW has no plans to annex any areas; however, the City of Belmont does, which will increase flows and loads to SVCW. The risks of natural hazards remain the same.

3.1. Changes in Priority

SVCW did not participate in the previous iteration of the LHMP; consequently, a change in priority for the Authority includes ensuring participation in hazard mitigation initiatives and implementation of this Plan throughout other Authority planning mechanisms. New process units and associated infrastructure must incorporate comprehensive hazard identification and risk assessment protocols, including seismic vulnerability analysis, process safety considerations, electrical and mechanical redundancy, and resilience to climate-driven impacts such as sea level rise and extreme storm events. Furthermore, to comply with the Third Nutrient Watershed Permit, SVCW is prioritizing upgrades to reduce nutrient loading in treated effluent to meet increasingly stringent total inorganic nitrogen (TIN) discharge limits and is potentially integrating advanced treatment technologies to enable indirect or direct potable reuse (IPR/DPR).



4. CAPABILITY ASSESSMENT

Federal regulations require hazard mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)). A critical step in developing specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities, and using or modifying local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for SVCW's authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment.

The Local Planning Team assessed SVCW's capabilities that can contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include the following categories:

- Planning and Regulatory Capabilities
- Administrative and Technical Capabilities
- Fiscal Capabilities
- Education and Outreach Capabilities

Additionally, ways to expand and improve these existing policies and programs to integrate hazard mitigation into the Authority's day-to-day activities were considered.

4.1. Planning and Regulatory Capabilities

SVCW relies on San Mateo County and the cities of Belmont, Redwood City, and San Carlos to maintain a strong framework of codes, ordinances, and requirements to help mitigate the impacts of the hazards identified in this Plan. **Table 2** includes local ordinances, policies, and laws to manage growth and development (e.g., land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes, and zoning ordinances).

Table 2. Planning and Regulatory Capabilities

Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Planning Capacity				
Comprehensive Plan / General Plan	Yes	Local	Operations Division	2024-2029 Strategic Plan
Capital Improvement Plan	Yes	Local	Operations Division	FY 24-25 to FY 34-35 Capital Improvement Program, updated every one (1) to two (2) years
Floodplain Management / Basin Plan	No	n/a	n/a	n/a
Stormwater Management Plan	No	n/a	n/a	n/a



Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Open Space Plan	No	n/a	n/a	n/a
Stream Corridor Management Plan	No	n/a	n/a	n/a
Watershed Management or Protection Plan	No	n/a	n/a	n/a
Economic Development Plan	No	n/a	n/a	n/a
Comprehensive Emergency Management Plan	No	n/a	n/a	n/a
Emergency Operations Plan	Yes	Local	Operations Division	Emergency Response Plan
Evacuation Plan	No	n/a	n/a	n/a
Post-Disaster Recovery Plan	No	n/a	n/a	n/a
Transportation Plan	No	n/a	n/a	n/a
Strategic Recovery Planning Report	No	n/a	n/a	n/a
Climate Adaptation Plan	No	n/a	n/a	n/a
Resilience Plan	No	n/a	n/a	n/a
Regulatory Capability				
Building Code	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Zoning Code	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Subdivision Code	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Flood Damage Prevention Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Cumulative Substantial Damage Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Freeboard	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Growth Management Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Site Plan Review	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Stormwater Management Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Municipal Separate Storm Sewer System (MS4)	No	n/a	n/a	Responsibility of the County and municipalities, accordingly



Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Natural Hazard Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Post-Disaster Recovery Ordinance	No	n/a	n/a	Responsibility of the County and municipalities, accordingly
Real Estate Disclosure Requirement	Yes	State	California Department of Real Estate	Section 1102 of the California Civil Code

4.2. Administrative and Technical Capabilities

The administrative and technical capabilities listed in **Table 3** include community (i.e., public and private) staff, their skills, and tools that can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, Geographic Information System (GIS) analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities, such as counties or special districts, for resources.

Table 3. Administration and Technical Capabilities

Capability	Yes/No	Comments (e.g., position, department, agency, explanation)
Administrative Capabilities		
Planning Board	Yes	Commission
Mitigation Planning Committee	No	n/a
Environmental Board/Commission	No	n/a
Open Space Board/Committee	No	n/a
Economic Development Commission/Committee	No	n/a
Maintenance programs to reduce risk	No	n/a
Mutual Aid Agreements	No	n/a
Technical/Staffing Capabilities		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Engineering Division Consultants
Engineer(s) or professional(s) trained in building or infrastructure construction practices	Yes	Engineering Division Consultants
Planners or engineers with an understanding of natural hazards	Yes	Engineering Division Consultants
NFIP Floodplain Administrator	No	n/a
Surveyor(s)	Yes	Consultants
Personnel skilled or trained in GIS applications	Yes	Consultants
A scientist familiar with natural hazards	Yes	Consultants



Capability	Yes/No	Comments <i>(e.g., position, department, agency, explanation)</i>
Warning systems/services	Yes	SMC Alert, in partnership with the San Mateo County Department of Emergency Management
Emergency manager	Yes	General Manager
Grantwriter(s)	Yes	Consultant
Staff with expertise or training in benefit cost analysis	Yes	Engineering Division Consultants
Professionals trained in conducting damage assessments	No	n/a

4.3. Fiscal Capabilities

Table 4 lists fiscal capabilities available to SVCW that may be used to implement mitigation activities to reduce risk and enhance resiliency. This capability includes available funding sources from local budgets, state and federal grants, potential cost-sharing arrangements with private entities, existing insurance policies, and the ability to generate additional revenue through mitigation-related fees and bonds.

Table 4. Financial Capabilities

Capability	Accessible or Eligible to Use
Community Development Block Grants (CDBG, CDBG-DR)	No
Federal Hazard Mitigation Assistance Program <i>(i.e., Hazard Mitigation Grant Program (HMGP), HMGP Post Fire, Flood Mitigation Assistance (FMA) Program)</i>	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open space acquisition funding programs	No

4.4. Education and Outreach Capabilities

Table 5 lists the Authority’s education and public outreach capabilities that can be used to inform residents about potential hazards, educate on mitigation strategies, and encourage proactive actions to



reduce the community’s impacts to disasters. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices.

Table 5. Education and Outreach Capabilities

Capability	Yes/No	Comments <i>(e.g., position, department, agency, explanation)</i>
Public Information Officer	Yes	General Manager
Personnel skilled or trained in website development	Yes	Business Operations Associate
Hazard mitigation information is available on the jurisdiction’s website	No	n/a
Utilize social media for hazard mitigation education and outreach	Yes	Facebook: Facebook.com/siliconvalleycleanwater/ X: X.com/SVCWNews
Citizen boards or commissions that address issues related to hazard mitigation	No	n/a
Other programs already in place that could be used to communicate hazard-related information	No	n/a
An established warning system for hazard events	Yes	SMC Alert, in partnership with the San Mateo County Department of Emergency Management

4.5. Community Classifications

The community classification relates to the community’s ability to provide effective services to reduce its vulnerability to the identified hazards. These classifications can be viewed as indicators of the community’s capabilities across all phases of emergency management (i.e., preparedness, response, recovery, and mitigation) and are used as underwriting parameters to determine the costs of various forms of insurance. **Table 6** summarizes the classifications of community programs available to SVCW.

Table 6. Community Classifications

Program	Yes/No	Classification <i>(if applicable)</i>	Date Classified <i>(if applicable)</i>
Community Rating System (CRS)	No	n/a	n/a
Building Code Effectiveness Grading Schedule (BCEGS)	No	n/a	n/a
Public Protection (ISO Fire Protection Classes 1 to 10)	No	n/a	n/a
NWS StormReady®	No	n/a	n/a
NWS TsunamiReady®	No	n/a	n/a
Firewise USA®	No	n/a	n/a

4.6. Needs to Expand/Improve Capabilities

SVCW identified existing authorities, policies, programs, funding, and/or resources that need to be expanded and/or improved to support the implementation of the hazard mitigation initiatives identified in this Plan (e.g., mitigation actions).



- Engineering standards should be expanded and improved based on developing trends in identified hazards and mitigation measures.
- To increase the Authority's capability to identify and apply for hazard mitigation grants and fund the local match for hazard mitigation grants, the Authority needs to expand its grant writing capabilities by potentially hiring more grant writers. This would help the Authority implement more improvement projects.
- Expand consideration of mitigation strategies in all improvement projects to ensure projects are the most protected from hazards to prevent losses.
- Complete a yearly review to expand and improve the Emergency Action Plan and Contingency Plan to ensure they are up to date with the most recent hazards and mitigation trends.

5. NATIONAL FLOOD INSURANCE PROGRAM

As a special district, SVCW is not eligible to participate in FEMA's National Flood Insurance Program (NFIP). Further information on San Mateo County's NFIP and Community Rating System (CRS) participation is available in **Volume 1** of this Plan and under each jurisdictional annex (**Volume 2**).

6. HAZARD MITIGATION PLAN INTEGRATION

For a community to successfully reduce long-term risk, hazard mitigation must be integrated into day-to-day planning mechanisms and initiatives. Plan integration is the process by which communities critically assess the existing planning framework and align efforts to reduce long-term risks and build a more resilient community. It involves a two (2) way exchange of information and incorporation of ideas and concepts between hazard mitigation plans and other community plans. In particular, plan integration involves incorporating hazard mitigation principles and actions into other plans and integrating planning mechanisms into hazard mitigation plans. Plan integration involves community plans, policies, codes, and programs that guide development and define roles and responsibilities for implementing these capabilities. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative hazard mitigation planning.

6.1. Existing Plan Integration

While the SVCW did not participate in the previous LHMP cycle, its inclusion in the 2026 update establishes a foundational framework for cross-functional planning. The Authority has identified opportunities to align the LHMP with its broader planning framework, ensuring mitigation is a core component of future advancements (**Table 7**).

6.2. Potential Future Integration

A hazard mitigation plan must explain how the jurisdiction intends to incorporate this Plan update into planning mechanisms over the next five (5) years. The capability assessment presented in Section 4 of this Annex identifies codes, plans, and programs that provide opportunities for integration. **Table 7**



outlines planning mechanisms/initiatives that do not currently integrate the goals and recommendations of this Plan but provide opportunities to do so in the future.

Table 7. Potential Future Integration

Planning Initiative	Current Integration Description
Long-Range Facility Plan and Condition Assessment	The Long-Range Facility Plan will be developed based on the findings of the Condition Assessment, which has been identified as a mitigation action. The Condition Assessment will evaluate the condition of assets, system vulnerabilities, and resilience needs. Its results will guide future capital improvements and funding priorities that can be aligned with the LHMP. The Long-Range Facility Plan will also provide a pathway for integrating hazard mitigation goals into long-term infrastructure planning.
Engineering Standards	Mitigation actions and the hazard risk assessment in this LHMP can inform updates and revisions to Engineering Standards. Portions of this LHMP will be reviewed to consider any future improvements to the Standards, if appropriate.
Capital Improvement Program	The Authority will ensure consistency between this LHMP and future updates of the Capital Improvement Program (CIP). Many of the projects outlined in the CIP already relate to hazard mitigation. The LHMP may also identify new funding sources for capital improvement projects, potentially leading to modifications to proposed projects based on the risk assessment results.
Emergency Response Plan / Operations Contingency Plan	This LHMP will continue to be an essential tool for updating the Emergency Response Plan and the Operations Contingency Plan. The latest hazard descriptions in this LHMP could be included in both plans, as appropriate. Mitigation actions that are of a preparedness and response nature will be analyzed for applicability and inclusion in the description of plan processes and procedures. Additionally, integrating mitigation considerations into response actions to reduce risk exposure to staff and the community is possible. The LHMP will be used as an essential tool during plan updates.

The Authority's Local Planning Team will identify all relevant planning initiatives scheduled for update in the next year and during the annual update process of the LHMP. Additionally, the Local Planning Team will identify opportunities to integrate key elements of the LHMP, specifically relevant strategies, into the planning initiatives. Mitigation actions were identified to promote plan integration in future revisions of this Plan.

7. SIGNIFICANT PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern, can be found in **Volume 1** of this Plan. A summary of past events is provided under each hazard profile and includes a chronology of events that have affected the County and its municipalities.

8. HAZARD VULNERABILITY AND IMPACT ASSESSMENT

Exposure and vulnerability to certain hazards affect the entire County, and others are geographically defined. Although the entire County may be vulnerable to these hazards, their impacts may vary



depending on existing community conditions (e.g., underserved populations or those with access and functional needs may be more susceptible under certain conditions).

The Local Planning Team identified **unique vulnerabilities and impacts** to the following natural hazards, based on the hazards profiled in **Volume 1**.

- Flood (riverine flooding, urban/flash flooding, coastal flooding)
- Sea Level Rise
- Severe Weather (heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog)
- Tsunami

It was determined that the planning area did not have unique vulnerabilities or impacts from the following natural hazards; rather, its vulnerabilities and impacts are consistent with those experienced throughout the County.

- Dam Failure
- Drought
- Earthquake
- Landslide
- Wildfire

Note: Severe weather and flood are profiled as the two (2) hazards. However, to conduct a more thorough risk assessment, the sub-hazards (i.e., heavy rainfall, heat wave/extreme heat, fog, severe thunderstorms, tornadoes, strong winds, riverine flooding, urban/flash flooding, and coastal flooding) were ranked individually. The hazard risk assessment methodology can be found in Chapter 4 of **Volume 1** of this Plan.

Table 8 outlines the **unique vulnerabilities and impacts** for SVCW and addresses only the hazards relevant to the jurisdiction. A complete risk assessment for each identified hazard of concern is in **Volume 1** of this Plan. Hazard mapping can be found in Appendix A of this Annex.

Table 8. Hazard Vulnerability and Impact Assessment

Hazard	Vulnerability and Impacts
Dam Failure	The Local Planning Team determined that the Authority does not have unique vulnerabilities or impacts from dam failure; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Drought	The Local Planning Team determined that the Authority does not have unique vulnerabilities or impacts from drought; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.



Hazard	Vulnerability and Impacts
Earthquake	The Local Planning Team determined that the Authority does not have unique vulnerabilities or impacts from earthquakes; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	SVCW is surrounded and protected by the existing levee system. However, if the levee fails, SVCW will be inundated with seawater. Buildings are typically below FEMA floodplain elevations. Electrical and mechanical systems would be affected, as would the Authority's ability to treat wastewater, potentially leading to permit violations due to overflows.
Landslide	The Local Planning Team determined that the Authority does not have unique vulnerabilities or impacts from landslides; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Sea Level Rise	<p>SVCW is surrounded and protected by the existing levee system. If sea level rise exceeds the levee elevation, SVCW would be inundated. Buildings are typically below FEMA floodplain elevations. Electrical and mechanical systems would be affected, as would the Authority's ability to treat wastewater, leading to potential permit violations due to overflows.</p> <p>The treated effluent outfall will also be affected by sea level rise. Sea level rise has increased wave runup. SVCW outfall runs under the existing vinyl sheet pile and outboard levee. The outboard levee has been severely eroded, increasing the risk of wave impacts on the outfall.</p>
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Heavy rainfall can pose overflow risks at the treatment plant if the flow exceeds treatment capacity, leading to permit violations and potential discharge of untreated flows into the Bay.
Tsunami	<p>SVCW is surrounded and protected by the existing levee system. If the tsunami's height exceeds the levee height, SVCW will be inundated by sea water. Buildings are typically below FEMA floodplain elevations. Electrical and mechanical systems would be affected, in addition to the Authority's ability to treat wastewater.</p> <p>SVCW outfall runs under the existing vinyl sheet pile flood protection system and outboard levee. The outboard levee has been severely eroded, increasing the risk of wave impacts on the outfall, as well.</p>
Wildfire	The Local Planning Team determined that the Authority does not have unique vulnerabilities or impacts from wildfires; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.

The Authority evaluated whether vulnerability in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this LHMP. Climate change, changes in population, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community’s vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics (e.g., underserved population) were taken into consideration.



Table 9 outlines whether climate change has increased or decreased the Authority’s vulnerability (i.e., exposure) and impact to each natural hazard over the past five (5) years, and the effect of climate change on the future probability of occurrence and impacts from each natural hazard

Table 9. Climate Change: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increased
Landslide	Remained the Same
Sea Level Rise	Increased
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increased
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Dam Failure	No Change Anticipated
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increase
Landslide	No Change Anticipated
Sea Level Rise	Increase
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increase
Tsunami	No Change Anticipated
Wildfire	No Change Anticipated

Table 10 outlines whether changes in population within the Authority over the past five (5) years have increased or decreased the vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in population may have on the future probability of occurrence and impacts from these natural hazards.

Table 10. Changes in Population: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Remained the Same



Hazard	Vulnerability and Impact
Drought	Remained the Same
Earthquake	Remained the Same
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Remained the Same
Landslide	Remained the Same
Sea Level Rise	Remained the Same
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Remained the Same
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Dam Failure	No Change Anticipated
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	No Change Anticipated
Landslide	No Change Anticipated
Sea Level Rise	No Change Anticipated
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	No Change Anticipated
Tsunami	No Change Anticipated
Wildfire	No Change Anticipated

Table 11 outlines whether development over the past five (5) years has increased or decreased the Authority’s vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts from these natural hazards.

Table 11. Changes in Development: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increased
Landslide	Remained the Same
Sea Level Rise	Increased
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increased



Hazard	Vulnerability and Impact
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Dam Failure	No Change Anticipated
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increase
Landslide	No Change Anticipated
Sea Level Rise	Increase
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increase
Tsunami	No Change Anticipated
Wildfire	No Change Anticipated

8.1. Future Major Assets

Community assets should include anything that is important to a community's character and function. Assets include people (i.e., underserved population); structures (i.e., new and existing buildings); community lifelines and other critical facilities; natural, historic, and cultural resources; and the economy and other activities that have value to the community. For SVCW, future major assets include new linear generators, a new gas treatment facility, and a new food waste facility. A levee system protects the Authority from coastal flooding and sea-level rise; however, if the levee were to fail or coastal flooding were to overtop it, all of the Authority's assets would be impacted.

Any new assets (e.g., new construction in hazard-prone areas) will be built to comply with the latest building codes and standards and will be mitigated to protect them from identified and anticipated hazards, especially those expected to increase due to climate change.

9. HAZARD RISK RANKING

Table 12 presents the local hazard ranking for SVCW of all hazards of concern listed in **Volume 1** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As thoroughly described in **Volume 1** of this Plan, 14 factors were evaluated to provide an informed and comprehensive analysis and ranking of the hazards included in this LHMP.

- **Probability** (likelihood of annual occurrence)
- **Extent** of the hazard, including catastrophic potential
- **Vulnerability** (i.e., exposure) of the population, property (including critical infrastructure), and changes in the development (over the past five (5) years)



- **Impacts** on population and life safety, underserved population, property (including critical infrastructure), the economy, the environment, continuity of operations/delivery of services, future development, and climate change

The scores for extent, vulnerability, and impact were weighted and combined to produce a consequence score. This consequence score was then multiplied by the probability score to calculate the total risk score for each hazard. At the fundamental level, the consequence is an assessment of the potential impact(s) if the hazards incident were to occur. In this assessment, the consequence score (i.e., the consequence of an event) will be independent of the extent, vulnerability, and impacts. The probability of the hazards is not included in assessing the consequence because, without an event, there is no consequence or impact. For further details on how the probability, extent, vulnerability, and impact factors in **Table 12** were calculated, please refer to Chapter 4 in **Volume 1** of this Plan. Details of the hazard ranking results are provided in Appendix C of this Annex.

It is important to note that the sub-hazards for severe weather (i.e., heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, and fog) and flood (i.e., riverine flooding, urban/flash flooding, coastal flooding) were individually ranked in the hazard risk ranking; however, severe weather and flood are each considered as the main hazard throughout this Annex and **Volume 1**.



Table 12. Silicon Valley Clean Water Hazard Risk Ranking

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score*
Urban/Flash Flooding (Flood)	3	18	14	34	66	92
Heavy Rainfall (Severe Weather)	3	12	13	25	50	69
Earthquake	2	18	14	35	67	62
Strong Winds (Severe Weather)	3	9	13	22	44	61
Sea Level Rise	3	9	8	26	43	60
Riverine Flooding (Flood)	2	18	7	33	58	54
Coastal Flooding (Flood)	2	18	7	27	52	48
Wildfire	2	15	6	30	51	47
Heat Wave/Extreme Heat (Severe Weather)	3	9	10	15	34	47
Severe Thunderstorm (Severe Weather)	2	12	13	21	46	43
Drought	2	6	11	22	39	36
Dam Failure	1	12	8	28	48	22
Tsunami	1	15	7	20	42	19
Landslide	1	6	6	29	41	19
Tornado (Severe Weather)	1	6	13	13	32	15
Fog (Severe Weather)	1	6	9	11	26	12

Extent: Sum of the weighted Extent factors.
Vulnerability: Sum of the weighted Vulnerability factors.
Impact: Sum of the weighted Impact factors.

Consequence Score: Extent + Vulnerability + Impact
(Sum of all weighted factors).
Total Risk Score = Probability x Consequence
* Normalized to 100

Total Risk Score Legend

Classification	Probability	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 4	0 – 12	0 – 24	0 – 32
Medium (M)	2	7 – 12	5 – 10	13 – 26	25 – 48	33 – 66
High (H)	3	13 – 18	11 – 15	27 – 39	49 – 72	67 – 100

The **legend**—specifically the assignment of low, medium, and high—provides an additional means to qualitatively assess the probability factor, sum of weighted factors, and the total risk scores for each hazard. The **Consequence Score** represents the sum of the Extent, Vulnerability, and Impact Factors. The **Total Risk Score** is a measure of Probability and Consequence.



10. MITIGATION ACTIONS

This section includes the mitigation actions developed to address the risks and vulnerabilities to the hazards identified in this Plan. This Plan serves only to recommend mitigation measures based on the potential for risk reduction and available funding. Implementation of mitigation actions is dependent on risk reduction priorities, feasibility, and available funding. It is also dependent on the cooperation and support of the jurisdiction and/or department responsible for each action item. Additionally, all mitigation actions identified in the 2021 update or before were updated accordingly. Any new mitigation actions are listed as *New* (under Project Status).

SVCW agreed to **five (5)** mitigation actions that apply to the jurisdiction’s properties for which it has jurisdictional responsibility and authority. A summary of the Authority’s mitigation actions status is listed in **Table 13**.

Note: The mitigation actions outlined in this Plan are designed only to address those natural hazards that received a risk ranking of *medium* or *high* during the hazard risk assessment (**Table 12**). Hazards that ranked *low* (dam failure, landslide, and tsunami) may not have specific mitigation actions detailed in this document.

Table 13. Silicon Valley Clean Water Mitigation Actions Summary

Status		Mitigation Action Total	
Continuing		0	
In Progress		0	
Not Yet Started		0	
New		5	
TOTAL		5	
Completed		0	
No Longer Needed		0	
Mitigation Actions per Hazard			
Dam Failure	3	Sea Level Rise	4
Drought	2	Severe Weather <i>(heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog)</i>	4
Earthquake	5	Tsunami	4
Flood <i>(riverine flooding, urban/flash flooding, coastal flooding)</i>	4	Wildfire	3
Landslide	2		

A detailed explanation of the Mitigation Strategy can be found in Chapter 5 of **Volume 1**.



Mitigation Action	Rehabilitate or replace the existing 33-inch force main from the Redwood City Pump Station to the Menlo Park Pump Station. The original force main, built in the 1980s, is prone to leaks. Because of its age and the fact that it has exceeded its expected service life, the force main is very vulnerable to structural failure during earthquakes and increases the risk of sanitary sewer overflows.				
Action Number	SVCW-1	Goal(s) Addressed	1	Prioritization Score	30/40
Year Added to the Plan	2026	Timeline (estimated)	4 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Earthquake				
Project Status	New	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	Silicon Valley Clean Water (Engineering Division)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), Collected Fees, Water Infrastructure Finance and Innovation Act funds, Drinking Water State Revolving Fund		
Additional Details (optional)					



Mitigation Action	Repair the existing levee protecting the Silicon Valley Clean Water Wastewater Treatment Plant (WWTP) and implement structural enhancements to raise its elevation and mitigate long-term risks from sea level rise and coastal flooding. The levee currently protecting the WWTP and the Redwood Shores neighborhood does not meet FEMA accreditation requirements. In addition, a portion of the levee has experienced extensive erosion, allowing water from the Bay to intrude into the Wastewater Treatment Plant.				
Action Number	SVCW-2	Goal(s) Addressed	1, 3	Prioritization Score	30/40
Year Added to the Plan	2026	Timeline (estimated)	4 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Earthquake, Flood, Sea Level Rise, Severe Weather, Tsunami				
Project Status	New	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	Silicon Valley Clean Water (Engineering Division), City of Redwood City Engineering and Transportation Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), Collected Fees, HMGP		
Additional Details (optional)					



Mitigation Action	Assess the condition and remaining useful life of existing assets and identify pathways for their rehabilitation or replacement. Silicon Valley Clean Water was constructed in the late 1970s. Many assets have not been rehabilitated or replaced, have exceeded their service life, and may be vulnerable to numerous natural hazards and non-compliant with current seismic and building codes. This planning project will assess the condition and remaining useful life of existing assets and identify pathways for their rehabilitation or replacement.				
Action Number	SVCW-3	Goal(s) Addressed	1, 3, 4	Prioritization Score	36/40
Year Added to the Plan	2026	Timeline (estimated)	4 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Dam Failure, Earthquake, Flood, Sea Level Rise, Severe Weather, Tsunami, Wildfire				
Project Status	New	If No Longer Needed, provide reason.	n/a		
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	Silicon Valley Clean Water (Engineering Division)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), Collected Fees		
Additional Details (optional)					



Mitigation Action	Integrate the San Mateo County Local Hazard Mitigation Plan into other Authority plans, ordinances, and programs, including, but not limited to, the Capital Improvement Program and the RESCU Program.				
Action Number	SVCW-4	Goal(s) Addressed	1, 5	Prioritization Score	32/40
Year Added to the Plan	2026	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire				
Project Status	New	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	Silicon Valley Clean Water (Engineering Division)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					

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Mitigation Action	Actively participate in the Hazard Mitigation Plan maintenance protocols outlined in Volume 1 of the San Mateo County Local Hazard Mitigation Plan.				
Action Number	SVCW-5	Goal(s) Addressed	1, 2, 3, 4, 5	Prioritization Score	38/40
Year Added to the Plan	2026	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire				
Project Status	New	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	Silicon Valley Clean Water (Engineering Division)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					



APPENDIX A. HAZARD MAPS

[Maps are under development...]



APPENDIX B. STAKEHOLDER AND PUBLIC ENGAGEMENT

[Information and supporting documentation will be added after the Public Comment Period concludes.]



APPENDIX C. HAZARD RISK RANKING DETAILS

This appendix provides the details of the hazard ranking results presented in Section 9 of this Annex. For a comprehensive explanation of the risk assessment methodology used for the 2026 LHMP rankings, refer to Chapter 4 in **Volume 1** of this Plan.

C.1. Probability of Occurrence

Hazard Event	Probability of Occurrence		Probability Factor	Weighted Factor
Dam Failure	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Drought	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Earthquake	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Riverine Flooding (<i>Flood</i>)	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Urban/Flash Flooding (<i>Flood</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Coastal Flooding (<i>Flood</i>)	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Landslide	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Sea Level Rise	High	A significant hazard event is likely to occur annually.	3	N/A
Heavy Rainfall (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Heat Wave/Extreme Heat (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Fog (<i>Severe Weather</i>)	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Severe Thunderstorm (<i>Severe Weather</i>)	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Tornado (<i>Severe Weather</i>)	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Strong Winds (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Tsunami	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Wildfire	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A



C.2. Extent Factors

Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Dam Failure	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Drought	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Earthquake	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Riverine Flooding (Flood)	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Urban/Flash Flooding (Flood)	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Coastal Flooding (Flood)	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Landslide	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3



Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Sea Level Rise	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Heavy Rainfall (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Heat Wave/Extreme Heat (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Fog (Severe Weather)	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Severe Thunderstorm (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Tornado (Severe Weather)	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Strong Winds (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3



Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Tsunami	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Wildfire	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9

C.3. Vulnerability Factors

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Dam Failure	Population Exposure	Medium	15% to 29% of the population is exposed to the hazard.	2	3	6
	Property Exposure	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Drought	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Earthquake	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Medium	Changes in development have increased the community's exposure to the hazard between 5% and 9%.	2	1	2



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Riverine Flooding (Flood)	Population Exposure	Low	14% or less of the population is exposed to the hazard.	1	3	3
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Urban/Flash Flooding (Flood)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Medium	Changes in development have increased the community's exposure to the hazard between 5% and 9%.	2	1	2
Coastal Flooding (Flood)	Population Exposure	Low	14% or less of the population is exposed to the hazard.	1	3	3
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Landslide	Population Exposure	Low	14% or less of the population is exposed to the hazard.	1	3	3
	Property Exposure	Medium	10% to 24% of the total assessed property value is exposed to a hazard.	2	1	2
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Sea Level Rise	Population Exposure	Low	14% or less of the population is exposed to the hazard.	1	3	3
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Medium	Changes in development have increased the community's exposure to the hazard between 5% and 9%.	2	1	2



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Heavy Rainfall (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Heat Wave/Extreme Heat (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	1	0
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Fog (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	1	0
	Changes in Development	No Vulnerability	Changes in development have had no effect and/or have decreased the community's exposure to the hazard.	0	1	0
Severe Thunderstorm (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Tornado (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Strong Winds (Severe Weather)	<i>Population Exposure</i>	High	30% or more of the population is exposed to the hazard.	3	3	9
	<i>Property Exposure</i>	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Tsunami	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Wildfire	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Medium	Changes in development have increased the community's exposure to the hazard between 5% and 9%.	2	1	2



C.4. Impact Factors

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Dam Failure	<i>Population and Life Safety</i>	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	<i>Underserved Population</i>	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	<i>Property, Facilities, and Critical Infrastructure</i>	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	<i>Economic</i>	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	<i>Environmental</i>	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	<i>Continuity of Operations/Delivery of Services</i>	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	<i>Future Development</i>	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	<i>Climate Change</i>	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Drought	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Earthquake	Population and Life Safety	High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3	3	9
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	High	Total economic impact is likely to be greater than \$10 million.	3	1	3
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Riverine Flooding (Flood)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Urban/Flash Flooding (Flood)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Coastal Flooding (Flood)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Landslide	Population and Life Safety	High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3	3	9
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Medium	Climate Change trends will increase the impacts of this hazard, but not significantly.	2	1	2



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Sea Level Rise	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Heavy Rainfall (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	Medium	Climate Change trends will increase the impacts of this hazard, but not significantly.	2	1	2



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Heat Wave/Extreme Heat (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	No Impact	Little to no property, facilities, and infrastructure damage is expected from a single significant event.	0	2	0
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	No Impact	No impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	0	1	0
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Fog (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	No Impact	Future development trends will not increase the impacts of this hazard, and/or may even decrease it.	0	1	0
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Severe Thunderstorm (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Tornado (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Strong Winds (Severe Weather)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Tsunami	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Wildfire	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



APPENDIX D. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA approval]