

# ROBINSON RANCHERIA ANNEX



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## 1. Changes in the Plan

The 2005 Robinson Rancheria Hazard Mitigation Plan (2005 Plan) was approved by FEMA as an individual community plan. Because five Pomo Tribes partnered to develop this Multi-Tribal Hazard Mitigation Plan (MTHMP) designed to function as one document with separate annexes for each Tribe, the organization, structure, and process of the 2005 Plan was modified to fit and honor this request from the Tribes and to comply with current requirements.

### Plan Reorganization

The 2020 plan is organized around the MTHMP and five separate Annexes. While each individual annex contains specific information about each Tribe, the MTHMP includes elements that apply to all five Tribes. Table 1 below illustrates the distribution of the content between the MTHMP and the Annexes. Also, some information is found in both the MTHMP and the individual annexes. This redundancy is meant to support the functionality of the overall plan and the vision of the participating Tribes.

**TABLE 1: LOCATION OF ELEMENTS IN MAIN PLAN AND ANNEXES**

Element	Location
Element A1. Documenting the planning process	Scotts Valley Multi-Tribal Hazard Mitigation Plan (MTHMP)
Element A2. Documenting public involvement and the Tribal definition of public	MTHMP
Element A3. Involvement of partners (local, regional, county, state, and federal)	MTHMP
Element A4. Review and incorporation of existing plans	Robinson Rancheria Annex
Element A5. Integration of the planning process into ongoing Tribal planning efforts	Robinson Rancheria Annex
Element A6. Monitoring, evaluation, updating and updating the plan	Robinson Rancheria Annex
Element A7. Continued public participation	Robinson Rancheria Annex

Element B1 & B2. Hazard type, location, and extent, previous occurrences, and probability of future events	MTHMP
Element B3. Description of the overall summary of the vulnerability of the Tribal area for the Very High ranked hazards by each Tribe	Robinson Rancheria Annex
Element C1, C2, C3, C4, C5, C6, C7 – Mitigation Strategy	Robinson Rancheria Annex
Element D1. Changes in Development	Robinson Rancheria Annex
Element D2. Reflect progress in Tribal mitigation efforts	Robinson Rancheria Annex
Element D3. Changes in priorities	Robinson Rancheria Annex
Element E1. Assurances of compliance with federal statutes and regulations Plan Adoption	Robinson Rancheria Annex
Element E2. Documentation of a formal adoption by the governing body	Robinson Rancheria Annex

### Review and update of Hazard Profiles

At the August 2019 meeting, the Planning Team identified power outages and cybersecurity as additional hazards for inclusion in the MTHMP. Several participants also expressed concern about evaluating each hazard in isolation without acknowledging the interconnectedness between these hazards. At the December meeting, the Planning Team emphasized the importance of evaluating the cultural impacts of each hazard. As a result of these comments and requests, cybersecurity was added as a hazard and each hazard was evaluated for its impact on Tribal culture, its impact on (or from) power outages, and its impact on (or from) other hazards.

As a result, each hazard profile includes the following new subsections.

- Power Outages
- Cultural Impacts
- Secondary Effects
- Frequency of Events Due to Climate Change

### **Review and Update Goals and Action Items**

The process for developing goals and action items differed among the Tribes. The meeting limitations caused by COVID during key months of the process eliminated in-person meetings, forcing coordination to rely on individual calls with Tribal representatives and conference calls with select representatives of Tribal communities.

Despite these setbacks, the strategy for each Tribe was drafted, reviewed, revised, and finalized. The Steering Committee (SC) representatives for Scotts Valley and Robinson Rancheria evaluated each of the action items in the previous plan and completed evaluation forms to determine the status of each action found in the previous plan. Copies of these completed forms are available in Appendix A: Tribe Specific Documents in the respective Tribal folder.

### **Plan Maintenance Updates**

Appendix E is dedicated to forms for monitoring the plan, documenting events, and evaluating the plan during each meeting. The forms intend to make the evaluation of the plan and its annexes easy for all participants.

Scotts Valley Band was selected as the lead Tribe for the timely update of the plan. Meetings to monitor and evaluate the plan and its contents as well as progress in its implementation will take place semi-annually.

## 2. Robinson Rancheria Community Profile



FIGURE 1: VIEW FROM THE HILLS ABOVE THE ROBINSON RANCHERIA

### 2.1. Geography: Location, Climate, Terrain

#### Location

The Robinson Rancheria of Pomo Indians is a federally recognized Indian Tribe located in Lake County, California, approximately 110 miles northwest of Sacramento, California. The Rancheria is located at 1545 E. Highway 20, on the north shore of Clear Lake, between the small communities of Nice and Upper Lake. The Rancheria is comprised of 830 acres (107 trust acres and 723 fee acres). Figure 2 below identifies the parcels addressed by this MTHMP.

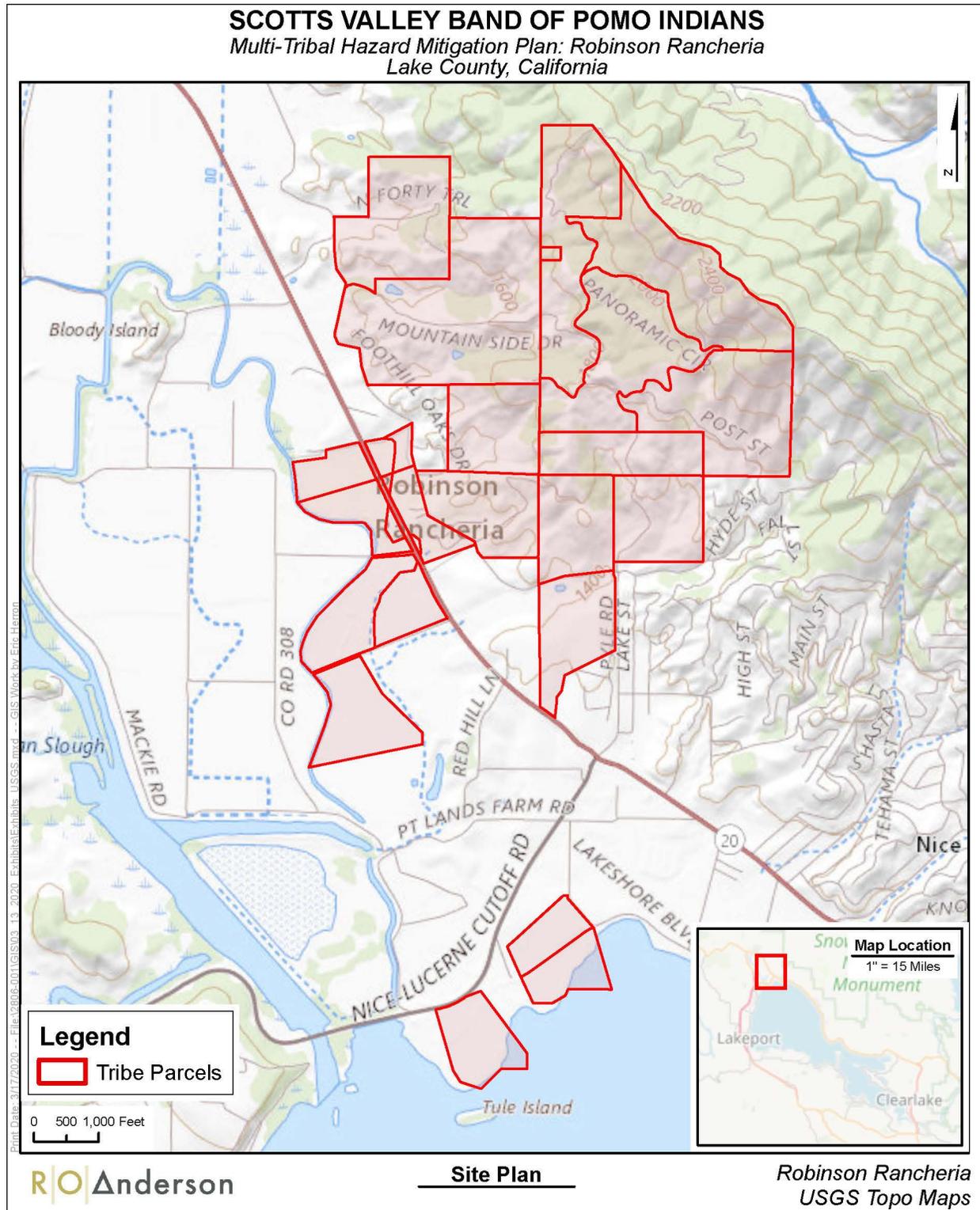


FIGURE 2: LOCATION OF ROBINSON RANCHERIA

## Climate

Lake County has a modified Mediterranean climate, typified by warm, dry summers and moist, cool winters. The climate on the Rancheria is moderately influenced by the Pacific Ocean because of its distance from the ocean and the intervening coastal mountains. In the summer, high daytime and moderate nighttime temperatures are the result of a continual tropical airmass hovering above the Clear Lake region. Winter temperatures are moderated by a marine air mass that prevents the temperature from dropping below 20 degrees Fahrenheit (°F). Most of the rainfall is precipitated between November and March, with lesser amounts occasionally in October and April. However, with Climate Change the world is experiencing changes in long-term average temperature, precipitation, wind, or other variables in a specific region.

**TABLE 2: LAKE COUNTY CLIMATE DATA**

	<b>Avg Rainfall</b>	<b>Avg Snowfall</b>	<b>Avg High</b>	<b>Avg Low</b>	<b>Blue Sky</b>
<b>Lake County, CA</b>	31.5"	1.3"	71.7° F	41.9° F	262 days/year

## Terrain

Located within the Clear Lake Watershed in the northern Coast Range geomorphic province of California, the topography on the Rancheria is generally steep and rugged, but the watershed includes some gently sloping valleys and terrace remnants. Elevations range from 4,299 feet at the top of Mt. Konocti to 1,318 feet at the level of Clear Lake. The Clear Lake basin was created by a combination of geologic faulting and subsidence between 1 and 2 million years ago.

The terrain of the Rancheria is comprised mainly of open grasslands, oak woodlands (valley, blue and live oaks), chaparral (brush species), manzanita, bay laurel, madrone, mixed conifers, and other native and invasive species. An understory of grasses, herbs, and California native plants are also found. In the upslope areas of the reservation, higher in elevation and on steeper hills, there are fewer oaks and more chaparral, manzanita, and chemise.

Approximately 21 acres of delineated wetlands are located on the Rancheria's trust lands on the south side of State Highway 20. Located two miles east of the Rancheria's fee land is approximately 20 acres of delineated wetlands along the north shores of Clear Lake. These wetlands have extensive tule marshes, riparian habitats, cattail marshes, willow riparian woodlands, mixed riparian woodlands, and open grasslands.

Since 1996 to present day, the County of Lake, CA Department of Water Resources, and the Army Corps of Engineers have proposed to restore the Middle Creek flood plain to a natural wetland ecosystem and provide flood damage reduction to the study area, located between Highway 20 and Middle Creek immediately northwest of Clear Lake. Funding for the project, called the Middle Creek Restoration, has already purchased most privately owned land. Efforts to purchase the remaining properties in the project area are underway.

Approximately 40 acres of Robinson Rancheria's trust land is located in the project area. Tribal Consultation has taken place throughout the years to negotiate the exchange of Tribal trust wetlands. The U.S. Army Corp of Engineers (USACE), the State of California, and County of Lake

have been negotiating with the Tribe to agree upon compensation for the Tribal lands that will be flooded under the project. One of the main options the Tribe has negotiated is to fill-in approximately 10 acres of wetland next to our current gas station business. This fill-in land would be used for future socio-economic development for the Tribe. To date, the Tribe's request for this phase of the project has been approved by key Middle Creek Committee members.

## 2.2. Population and Governance

Approximately 473 members, including children, comprise the Robinson Rancheria of Pomo Indians. The 2010 U.S. Census reported 203 total members of American Indian and/or Alaska Native origin. The 2013 American Indian Population and Labor Force Report (Table 15 below) shows the following distribution by age and gender for the Robinson Rancheria of Pomo Indians.

**TABLE 3: ROBINSON RANCHERIA U.S. CENSUS POPULATION DISTRIBUTION**

Federally Recognized Tribe	% Distribution					
	Service Population under 16		Service Population over 15 & under 65		Service Population 65 and older	
	Male	Female	Male	Female	Male	Female
Robinson Rancheria of Pomo Indians	13.1	12.5	33.1	33.7	3.3	4.2

The governing body of the Robinson Rancheria of Pomo Indians is the Robinson Rancheria Citizens Business Council (RRCBC). The RRCBC consists of six members elected at large from the Robinson Rancheria Tribal membership and includes a chairperson, vice-chairperson, secretary-treasurer, and three members-at-large.

The RRCBC oversees the Tribal government, Tribal businesses, and a staff of 46 employees to operate the Tribal Administrative Offices, Recycle CRV Buy-Back Center, Environmental Department, Elders Program, Education Department, Enrollment Department, Housing and Maintenance Department, Tribal Court, and Police Department. The Tribal Businesses include the Casino/Hotel (220 employees), Smoke Shop (2 employees), and Gas Station (13 employees).

### Organizational Chart

The Robinson Rancheria Citizens Business Council Tribal Council (RRCBC) is the governing body for all the branches. Each branch will establish a committee which in turn will guide the committee's function/goals/objectives for that branch. The committee chair will be elected by the Tribal Council, and the chair must be from the Tribal Council. The chair will recommend who will sit on the committee. The Robinson Rancheria Nation Organization Chart is found in Figure 29 below.

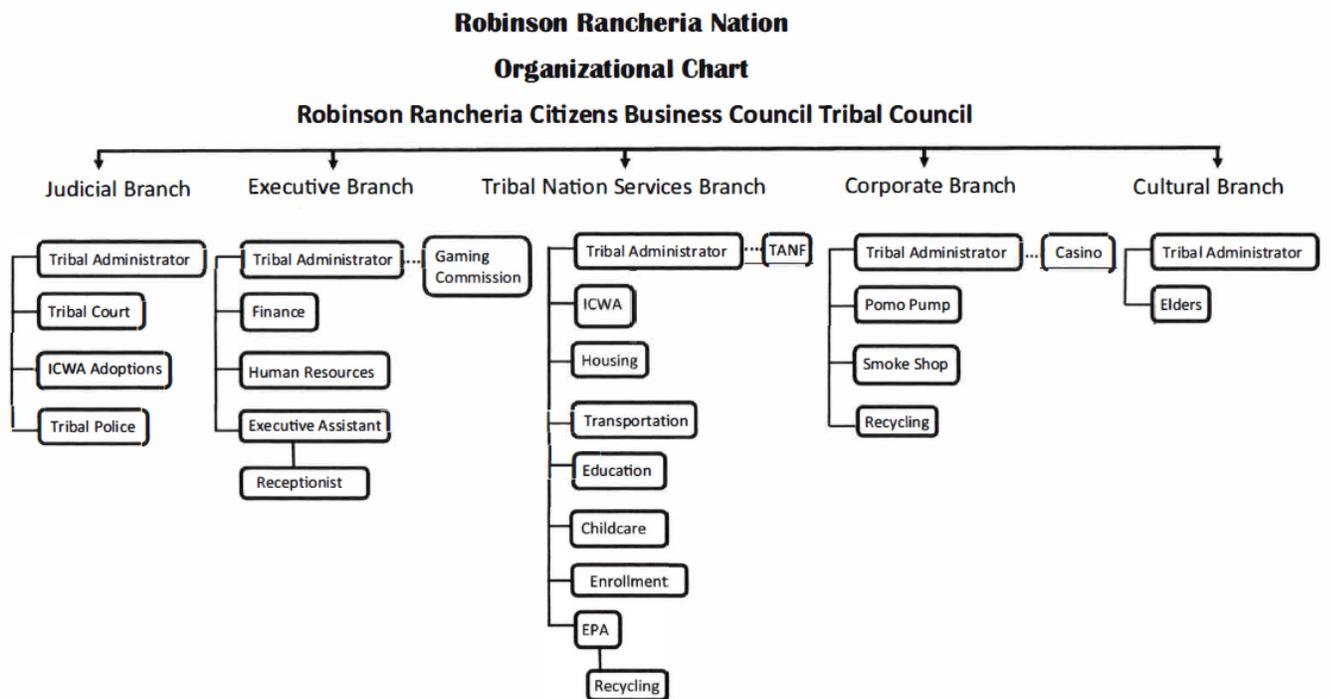


FIGURE 3: ROBINSON RANCHERIA NATION ORGANIZATIONAL CHART

### 2.3. History

Historically, this area was the center of the traditional homeland of the Eastern Pomo, descendants of whom represent the significant majority of our present-day Tribal membership. The Eastern Pomo were hunters and gatherers who lived in the area because of the abundance of natural resources available to sustain them.

Robinson Rancheria was formally established in 1908 when the U.S. government purchased 88 acres of land for the Robinson Rancheria Band of Pomo Indians (today referred to as “Robinson Rancheria of Pomo Indians”). Later, in the early 1920’s an additional 80 acres was acquired, expanding the Rancheria holdings to 168 acres. The original Rancheria property was located approximately 1.5 miles south of the current intersection of State Hwy 29 and State Hwy 20. Under the terms of the California Rancheria Act of 1958, the original Tribal land holdings were allotted to individual Tribal members, and the Tribe was officially terminated in 1965. Most of the original land holdings (with the exception of a 6.4-acre piece, which became known as “Old Robinson”) were lost due to defaults on property taxes by owners of the individually distributed Tribal lands. All that remains of the Old Rancheria is the Tribal Cemetery and seven individual trust allotments.

In 1975, an individual Tribal member filed suit in federal court for wrongful termination of the Tribe, and the termination was revoked. With the assistance of an HUD Indian Community Block Grant, the Tribe was able to purchase 107 additional acres on non-contiguous land to establish a new community land base for its Tribal members (today, known as “New Robinson Rancheria”). The existing trust property was accepted by the United States of America for federal trust status in 1981.

The community is situated near the shores of Clear Lake, the oldest lake in North America, and one of the oldest lakes on earth. Evidence of human occupation on its shores goes back nearly 11,000 years. At the time of European settlement, Clear Lake had one of the highest densities of aboriginal presence in the state. Early European settlers learned and adopted Pomo management techniques for forests and wildlands surrounding the Lake, particularly prescribed burning. Other life sustaining activities such as pruning and care of plants used for basket making, native fishing techniques, and local legends and stories have passed through the generations and are still an important historical account of the natural resources surrounding the lake.

Since the New Robinson Rancheria was established in 1981, the Tribe has continued to expand and make improvements in all areas of social and economic development. Housing units were built in the 1980's and every year the Tribe applies for housing grants to fund their growing Tribal population. Other improvements included construction of a gym and education center, expanded Tribal administration offices, Tribal court circuit system, and environmental and cultural resource programs.

Since 1993, the Tribe has had a casino gaming enterprise, which started out as a bingo operation. In 1993, the Tribe signed a Gaming Compact with the State of California. Since then, the Tribe has managed to make a profit from its business ventures, including a hotel, restaurant, and RV Park. To aid the Tribe in decision-making, an Economic Development Corporation was re-established in 2006 to assist in business ventures. The Corporation consisted of Tribal members whose main role was to assist the Tribal Council in business-related matters.

## 2.4. Economy

The Tribe operates the Robinson Rancheria Resort and Casino, the Pomo Smoke Shop, and the R Pomo Pumps gas station. The Robinson Rancheria Environmental Center operates the Recycle CRV Buy-Back Center—and supervises the four-person staff, promotes marketing, conducts regulatory and compliance oversight, and manages customer service. The Tribal Council is committed to and supports Tribal member preference for employment.

Several Tribal members (est. at 8) are certified cultural monitors for the Tribe. The Tribe is notified by county, state, and federal agencies of on-the-ground projects that identify known/unknown cultural resources in their project sites. Under statutory law, these agencies must consult with the Tribes for comments, questions, or concerns they may have regarding cultural resource information. At this time, the Tribe will ask the agency to hire their cultural monitor(s) to be on site when the project starts up and to sign a contract for cultural monitor services. Being a cultural monitor does not guarantee a regular full-time job, but many cultural monitors keep busy throughout the year. Many of the cultural monitors will take turns performing requested services to give others the opportunity to earn money.

Impacts to the Tribe's economic endeavors during the COVID-19 outbreak have led to loss of revenue for the Tribe, job losses for Tribal members, and other impacts currently unknown. The Tribe is in the midst of this pandemic as we develop this hazard mitigation plan and has begun "reopening" Phase 2 of our businesses in hopes of beginning our economic recovery.

## 2.5. Growth and Development Trends

In 1996, a 40-acre parcel adjacent to the New Rancheria was acquired. This parcel lies north of the existing water tank and remains in fee-simple status. In 1997, approximately 65 acres were acquired along the north shore of Clear Lake, between Rodman Slough and the community of Nice, California. These parcels also remain in fee-simple status. In 2000, approximately 89 acres lying southwest and adjacent to the New Rancheria were acquired and remain in fee-simple status. In 2001 approximately 720 acres lying east and adjacent to the New Rancheria were acquired; this property runs from the New Rancheria to the top of Hogback Ridge.

The New Rancheria has been fully developed and consists of 40 homes, 12 townhouses, casino gaming/hotel, Tribal government administration building, education department and gym facilities, State CRV Buy-Back Recycle Center, elders program, environmental department, and gas station with convenience store. The parcels along Scotts Valley Road are primarily residential and feature five modular homes. The 40-acre parcel adjacent to the New Rancheria and the 65 acres along the north shore remain open grasslands. The 89 acres lying southwest and adjacent to the New Rancheria is primarily pasture with one structure housing the Environmental Center Programs; no future development is foreseen. The gas station and convenience store are located on the New Rancheria Trust Land adjacent to Highway 20 and opened for business in 2011. The 720 acres adjacent to the New Rancheria consist mostly of dense chaparrals and manzanita on the higher elevations.

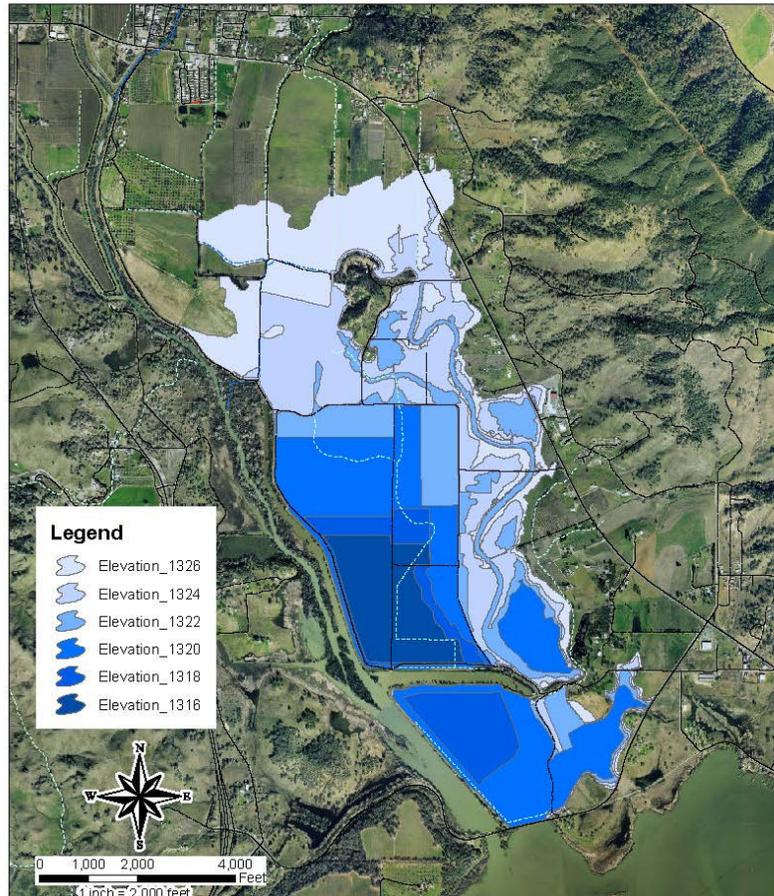
As noted above, the Middle Creek Restoration Project will include an additional 10 acres of trust land that has been identified for future economic development projects. The 10 acres is a negotiated option the Tribe has requested in exchange for flooding part of their wetland area located on Tribal trust lands. The 10.0 acres to be fill-in is proposed to be alongside State HWY 20 south of the Casino/Hotel and north of the gas station. The project has received partial funding to buy out property owners in the project area and now waits for the Army Corps of Engineers to promote this project to Congress for funding. The Tribe cannot pursue any economic development projects until funding is available. Figure 4 below illustrates the projected restoration of the historic Robinson Lake.

The Tribe is currently working on a Bureau of Indian Affairs Fee-to-Trust application to get 825.93 acres of fee land into trust. Most of this land when in trust will remain as open space. A portion of the land may be developed to address future social or economic needs not yet be identified.

Several new projects are currently in progress with Robinson Rancheria.

- An expansion of the gas station on US Hwy 20 is being planned.
- Installation of a waterline from across US Hwy 20 to the gas station will bring potable water from Nice to the parcel.
- The Middle Creek Restoration project will fill in land on the US Hwy 20 corridor and allow for commercial development down the road (Figure 4 below).

## FULL LAKE WITHOUT LEVEES



**FIGURE 4: HISTORIC ROBINSON LAKE - MIDDLE CREEK RESTORATION PROJECT**

- Robinson Rancheria is a partner with Scotts Valley Band in the biochar/bioenergy project. Facilities are planned on Robinson land.
- The Tribe intends to change a property with "fee" status to one with "trust" status to support the development of an ecotourism/recreation attraction.
- Housing for the Tribe is expanding to include six new lots. The infrastructure is in place. The Tribe is waiting for funding to construct a few additional residences. The property is next to US Hwy 20 and generally adjacent to existing Tribal residential areas.

The Steering Committee representative for Robinson Rancheria declined to provide the exact location of these additional projects.

## 2.6. Changes in Development

The requirements of the Disaster Mitigation Act of 2000 for plan updates regarding changes in development are shown below.

Element	Requirement
<p><b>D1. Was the plan revised to reflect changes in development?</b></p> <p>44 CFR § 201.7(d)(3)</p> <p><b>Intent:</b> <i>To ensure that the mitigation strategy continues to address the risk and vulnerabilities to existing and potential development.</i></p>	<p>The plan shall describe changes in development that have occurred in hazard prone areas since the last plan was approved.</p> <p>Not all development will affect a tribal government's vulnerability. If no changes are identified, plan updates shall validate the information in the previously approved plan.</p> <p><b>Changes in development</b> means recent development (for example, construction completed since the last plan was approved), potential development (for example, development planned or under consideration by the tribal government) or conditions that may affect the risks and vulnerabilities of the tribal planning area (for example, climate variability and/or declining populations or projected increases), and new data regarding the type, location, occurrence, and extent of hazards that has become available since the last plan was developed or as a result of disaster events.</p>

The 2005 Robinson Rancheria Tribal Hazard Mitigation Plan did not include the requirement to identify future development. Language in the FEMA crosswalk states "This planning element only applies if a Tribal government chooses to have sub-jurisdictions within the Tribe submit plans to the main Tribal government. Otherwise, this planning element is N/A." With this statement, comparison of growth from the time of the previous plan approval to date is not possible. However, the SC member for Robinson Rancheria identified the recently built gas station and preparation (sewer and water hookups, and building of curbs for sidewalks) for residential expansion on Flicker Circle as the only changes in development for the Tribe since 2005.

### 3. Planning Process

The planning process began with the building of the Steering Committee (SC). The SC consists of a representative from each of the five Tribes and the Tribal Project Manager from Scotts Valley Band who managed the grant funding and functioned as the primary liaison between the team and the contractor facilitating the development of the MTHMP. Each representative was also the Environmental Director to the Tribe or an assistant to the Environmental Director (when that position was vacant). As the lead for Environmental programs, these representatives also functioned in other roles in emergencies. The SC members also served as liaisons between the consultant, the public, and their respective Tribal Council. They contributed and collected vital information for their individual communities. This group was instrumental in the development of the plan and their individual annex. They also reviewed drafts, provided feedback, and approved final drafts.

Other groups involved in the planning process include the Planning Team and Hazard Subcommittees. Both groups consisted of subject matter experts, public participants, Tribal leaders, and members of the Steering Committee.

Additional details about these groups are found in Section Four of the MTHMP or Plan.

Note that Scotts Valley Band of Pomo led the effort in managing the grant, working with SC members, acting as the liaison with R. O. Anderson Engineering (ROA) in addition to participating in the planning process. The member held weekly “check-in” meetings with the ROA Team to ensure the timely completion of tasks by the Team and the Tribal participants.

The Plan and its Appendices include general information about the process and to honor the Tribal request of individual stand-alone plans for each of the five participating Tribes, the ROA Team developed an Annex to address FEMA's planning requirements specifically for each Tribe.

#### **Gathering Information**

The Public Service Power Shut-down (PSPS) in October of 2019 and the COVID-19 outbreak in early 2020 challenged the gathering of information. During the power shutdown, the lack of stable office equipment limited communication, and stay-at-home orders during COVID-19 left some staff and members of the Tribal public without adequate support for virtual meetings, calls, and email access. Meetings were held by conference call or online; however, garnering input was not as successful as conducting in-person meetings where both formal and informal conversations were accommodated (over pastries or lunch).

The consultant conducted information gathering via email and phone calls with SC members who did the research and provided the necessary data.

#### **Draft Reviews and Comments**

Drafts of the MTHMP were provided to all members of the SC for their review and input. The drafts were sent for review and revisions were circulated and incorporated into the MTHMP to develop the final version.

#### **Public Review Draft**

Two separate efforts were made to include as much of the public as possible in the review of the final draft of the MTHMP and the applicable Tribal Annex. These efforts were determined to be the best approach for complying with shifting COVID19 requirements.

*Public Meeting Effort:* The final draft of the plan and handouts summarizing the plan content for discussion purposes were provided to each SC member for distribution via electronic means to their public about two weeks prior to virtual public meetings. An email flyer including the date, time, and location of the public meeting requested an RSVP to the SC member. The SC member developed a list of attendees from the RSVP's received and distributed instructions for attending the meeting.

At the meeting, the handouts, sent in electronically to each Tribe in advance, were used to review the plan. A question and answer session followed the review. Attendees were provided with a printed survey form as well as instructions for accessing the form online. The SC representative for each Tribe distributed and encouraged public involvement.

*Survey Effort:* A short survey (about six questions) was distributed by the SC member to their list of members of the public for input. The responses were reviewed by the SC and addressed accordingly. The questions and responses are found in Appendix C: Public Outreach.

Documentation of the review of the final draft is found in Appendix B: Meeting Documentation. The documentation includes the outcomes of the public meeting, a summary of the survey results, a copy of the survey questions, and how comments/concerns were addressed within the plan.

## 4. Hazard Identification and Ranking

At the first Planning Team meeting, during our round table discussions on identified hazards, Tribal representatives found that the process of discussing and analyzing each hazard left little room for identifying and evaluating the connections between them. Tribal culture recognizes the interconnectedness of all creatures and their environment. One speaker used the image of a spider web to help the team picture how hazards are tied together, how one impacts another, illustrating the interrelatedness at the heart of Tribal cultures.

As a result of this discussion, each hazard profile in the MTHMP includes a discussion of secondary effects and cultural impacts. This holistic perspective is just one way the plan reflects the values and way of life for these Tribal nations.

An initial list of 25 hazards based on local plans by other jurisdictions provided the starting point for evaluating and ranking prospective hazards. At the August Planning Team meetings, participants from various Tribes and agencies ranked these hazards as they applied across Tribal properties in round table discussions. As a result of these discussions, the Planning Team identified 27 hazards, including two not included in the initial list: Power Outage and Terrorism.

In our second Planning Team meeting, which was delayed due to a Public Safety Public Shutoff (PSPS) in northern California, the Planning Team agreed to address climate change in each individual hazard profile under "Probability of Increased Frequency of Events Due to Climate Change" and if applicable, in the "Secondary Effects" section. The MTHMP also addresses the impacts of a Public Safety Power Shutoff (PSPS) and "Cultural Impacts" for each profiled hazard.

The five participating Tribes hold and/or rent properties primarily located around Clear Lake. Because the magnitude of a hazard's impact will vary according to each property's location, the five Tribal Councils and/or the Tribal Environmental Protection Agency Director and other Tribal members ranked the hazards for their own community.

The Robinson Rancheria Environmental Director participated in the initial ranking of the 27 hazards identified at the August 2019 meeting. The minutes for this meeting are found in Appendix B: Meeting Documentation.

The Robinson Rancheria Tribal Environmental Protection Agency (EPA) Director and other staff ranked the 27 hazards for their community as displayed in Table 4 below.

**TABLE 4: ROBINSON RANCHERIA HAZARD RANKINGS**

Robinson Rancheria Ranked Hazards	TOTAL Score	Hazard Type	Ranking
Levee Failure	20	Natural & Manmade	Very High
Power Outage	20	Natural & Manmade	Very High
Wildfire	20	Natural & Manmade	Very High
Aquatic Biological: Cyanobacterial Bloom	19	Natural & Manmade	High
Cybersecurity	18	Manmade	High
Drought and Water Shortage	18	Natural	High
Severe Weather: Extreme Heat	18	Natural	High
Climate Change	17	Natural & Manmade	High
Landslide and Debris Flows	17	Natural & Manmade	High
Flood: 1% / 0.2% Annual Chance	16	Natural	High
Earthquake	15	Natural	Medium
Erosion	15	Natural & Manmade	Medium
Hazardous Materials Transport	15	Manmade	Medium
Flood: Localized Stormwater	14	Natural	Medium
Agricultural	13	Natural & Manmade	Medium
Expansive Soils	13	Natural	Medium
Severe Weather: High Winds	13	Natural	Medium
Aquatic Biologic: Quagga Mussel	10	Manmade	Low
Contaminated lands	10	Manmade	Low
Severe Weather: Heavy Rain, Snow, Hail, Lightning, Tornadoes & Storms	10	Natural	Low
Terrorism	9	Manmade	Low
Volcano & Geothermal Gas Release	9	Natural	Low
Dam Failure	8	Natural & Manmade	Low
Subsidence	8	Natural & Manmade	Low
Infectious Disease	6	Natural & Manmade	Very Low
Seiche	5	Natural	Very Low
Avalanche	4	Natural	Very Low

## 5. Vulnerability Assessment

The requirements for an overview of the vulnerability analysis as stipulated in the DMA200 requirements are described below.

Element	Requirement
<p><b>B3. Does the plan include a description of each identified hazard's impact as well as an overall summary of the vulnerability of the tribal planning area?</b></p> <p>[44 CFR § 201.7(c)(2)(ii)]</p>	<p>a. Is there a description of each hazard's <i>impacts</i> on each tribal planning area (what happens to structures, infrastructure, people, environment, cultural sites, etc.)?</p> <p>b. Is there a description of each identified hazard's overall <i>vulnerability</i> (structures, systems, populations, or other community assets defined by the tribal government that are identified as being susceptible to damage and loss from hazard events) for each Tribal planning area?</p>

Two types of analysis are included in this assessment. Each type of assessment is summarized below.

### Quantitative Analysis

A vulnerability analysis models the extent of exposure that may result from a hazard event of a given intensity in a specific location. The analysis provides quantitative data that may be used to identify and prioritize possible mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage. A vulnerability analysis consists of the following five steps.

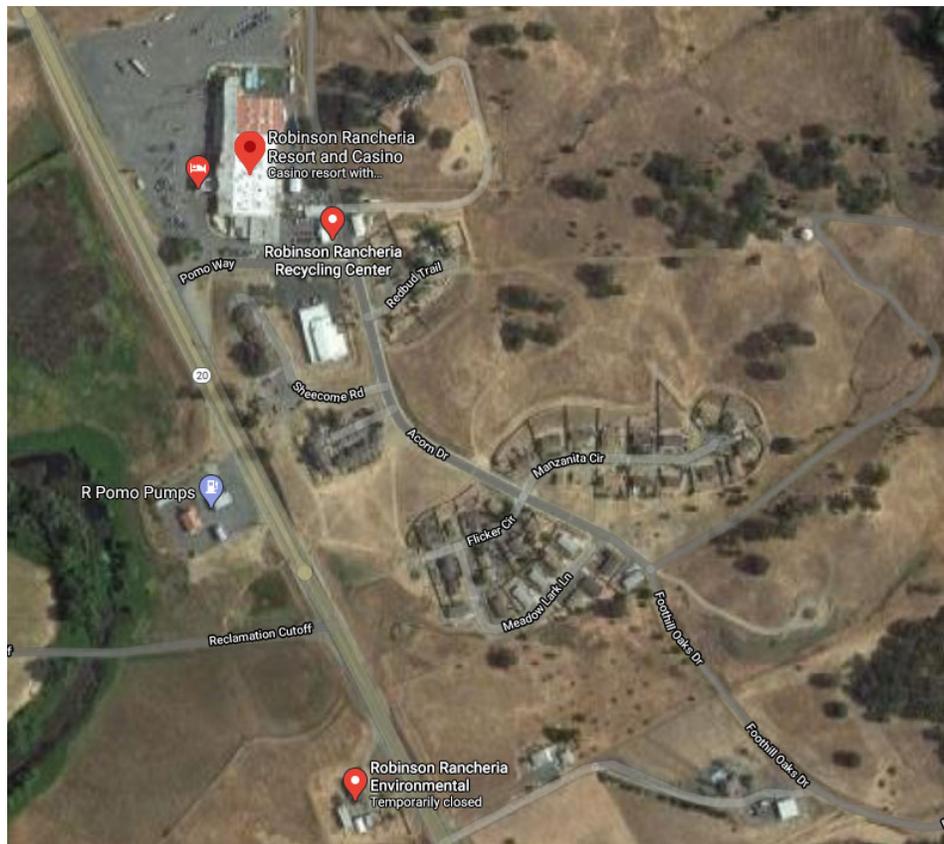
1. Asset inventory
2. Methodology
3. Data limitations
4. Exposure analysis
5. Summary of impacts

### Qualitative Analysis

For hazards with limited data, a qualitative analysis was performed. A qualitative analysis uses subjective or observed information about a hazard event of a given intensity in a specific location to determine the extent of exposure.

## 5.1. Asset Inventory

An interactive map based on Lake County GIS data allowed Steering Committee members to locate structures on Tribal properties, identify their use, categorize their risk, and note any details of importance. In the process of examining building footprints and evaluating the uses of their properties, the Tribes identified a need for categories outside the standard ones in FEMA documents and added "Ceremonial" as an "Occupancy Type" to acknowledge (but not necessarily publicly identify) sacred sites, dance grounds, burial grounds, and other sacred lands in the asset inventory. For Robinson Rancheria, a map is provided in Figure 5 showing the Gas station, casino, and other assets.



**FIGURE 7: MAP OF ROBINSON RANCHERIA**

The Lake County GIS parcel data and structure inventory identifies building footprints, and this resource provided the data tracked in each Tribe's Footprints Spreadsheet. This tool was used to identify occupancy type and use. The occupancy type was used to calculate values and losses for each identified structure or sacred space. Cultural and sacred sites are not identified in maps in accordance with the wishes of each Tribe.

The Steering Committee member for each Tribe identified critical facilities on the Footprints Spreadsheet. When identifying critical facilities, the Tribes referred to the definition below.

*Critical facilities are essential to the health and welfare of the whole population and include hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation centers, and schools. Be sure to consider their structural integrity, content value, and the effects on the interruption of their function. Their vulnerability is based on the service they provide rather than simply their physical aspects.<sup>2</sup>*

A wide range of structures were identified as critical or special to the Tribes including water and wastewater infrastructure, community centers, schools, sacred sites, and structures that may be used as evacuation centers during an emergency (such as a casino or hotel).

<sup>2</sup> FEMA How-To Guide 2: Understanding Your Risks, Step 3 Inventory Assets. <https://www.fema.gov/media-library-data/20130726-1521-20490-4917/howto2.pdf>. Accessed 6-29-20

While completing the footprint spreadsheet, Tribes identified additional parcels, structures, and infrastructure they wished included for their community. Several Tribes identified natural, historic, cultural, and/or sacred sites as assets though the land itself held limited or no visible structures.

Assets for each Tribe that may be affected by hazard events include the Tribe's population, staff (not enrolled), residences (single-family dwellings, mobile homes, multi-family dwellings, and temporary lodging), Tribal Facilities (government offices, professional/technical services, parking, general services, light industrial, ceremonial, entertainment/recreation), Tribal Infrastructure (systems for sewer, water, stormwater drainage, and utilities), Commercial (retail trade, agriculture, general services, light industrial, parking, entertainment/recreation), Transportation (roads and bridges). Some of these sites and structures may be considered sacred sites. Additional valued sacred sites may be located outside those included on the list of assets.

### 5.1.1. Population

The SC member representing Robinson Rancheria provided the population and number of single-family residential dwellings, employees, as well as the number of Tribal members enrolled as of 2019.

Table 5 below lists the facilities and population of the Robinson Rancheria as provided by the Tribal EPA Director.

**TABLE 5: ROBINSON RANCHERIA RESIDENTIAL POPULATION**

Asset Category	Population #	Total Units	Occupied Units
Residential	473 Residents	45	45
Facilities	239 Employees	X	X
Commercial	XXXX Estimated average guests, customers, and visitors to the casino, hotel, and other businesses owned by the Tribe		

### 5.1.2. Repetitive Loss and Severe Repetitive Loss Properties

The SVMTHMP does not address Repetitive Loss (RL) properties, defined by FEMA as a property with at least two claims of \$1,000 within any ten-year period since 1978. According to our partners at FEMA Region IX, no RL or Severe Repetitive Loss (SRL) properties exist in the Robinson Rancheria<sup>3</sup>.

<sup>3</sup> FEMA Region IX, Senior Hazard Mitigation Planner, email of 05-14-2020

### 5.1.3. Data Sources for Tribal Assets

Using Geospatial Information System (GIS) and the parcel data from Lake County, the square footage of Tribal residential dwellings and facilities was approximated.

Replacement values for each structure were calculated using the values assigned in the FEMA How-To Guide 386-2, Section 3, "Inventory Assets." The information provided is the average replacement value per square foot by occupancy class used in the year 2000. This formula:  $2019 \text{ Price} = 2000 \text{ Price} \times (2019 \text{ CPI}/2000 \text{ CPI})$  was used to bring the 2000 amounts to 2019 values. The Consumer Price Indices for 2000 and 2019 were obtained from the Federal Reserve Bank of Minneapolis website<sup>4</sup> and the approximate square footage obtained from the Lake County's parcel map using GIS.

The customized Google map integrating Lake County GIS data with an overlay identifying each Tribe's parcels was evaluated by Robinson Rancheria's EPA Coordinator to ensure all structures were counted, identified, and placed in the appropriate occupancy class. The evaluation of the parcel data also identified each structure's relevance as a critical facility or as associated with vulnerable populations; economic assets (commercial); historic, cultural, or natural resources; and/or high density. For each category, a response of Yes, No, or TBD (to be determined) was required. A notes section was included for the reviewer to pose questions or make comments. The table below provides the definition for each category and the location of this data in this Annex.

Categories	Definition		Annex Location
<b>Critical Facility</b>	Essential to health and welfare of the whole population, including hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation centers, and schools. (Be sure to consider their structural integrity, content value, and the effects on the interruption of their function. Their vulnerability is based on the service they provide rather than simply their physical aspects.		Tribal Facilities Asset Inventory
<b>Vulnerable Population</b>	Elderly, non-English speaking, people needing special assistance/medical care after a disaster.		Residential Asset Table & Tribal Facility Asset Inventory
<b>Economic Asset</b>	Major employers and economic centers that could affect the local or regional economy if significantly disrupted. May include commercial sites such as grocery stores		Tribal Facility Asset Inventory
<b>Historic, Cultural, or Natural Resource</b>	<b>Historic</b>	Prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource	Tribal Facility Asset Inventory
	<b>Cultural</b>	Non-living examples of objects acquired and preserved because of their potential value as examples, reference materials, or objects of artistic, historic, scientific, educational, or social importance, either individually or as a collection.	

<sup>4</sup> Federal Reserve Bank of Minneapolis. <https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator/consumer-price-index-1913>. Accessed 06-29-20

Categories	Definition		Annex Location
	<b>Natural Resource</b>	Materials or substances such as minerals, forests, water, and fertile land that occur in nature. Some natural resources either are historic properties in themselves or contribute to an understanding of historic properties.	
<b>High Density</b>	Facilities where population gathers in larger numbers than other locations. It will vary by community (e.g. casino is considered a high-density facility).		Tribal Facility Asset Inventory

In the same FEMA How-To Guide 386-2, Section 3, content values are provided as a percentage of a building replacement value by occupancy class. That is, a percentage of the building replacement value is assigned as the content value of structures by type of occupancy. For example, a residential building's contents are valued at 50 percent of its replacement value, and a commercial building's contents are valued at 100 percent of its replacement value. Applying the corresponding percentage to the replacement value results in an estimate of the value of the structure's content.

By sorting of the data in the footprints spreadsheet by Use Category and then by Occupancy Type, the number of facilities in each of the five grouped categories, Residential, Tribal Facilities (including infrastructure), Commercial, Transportation, Cultural/Sacred was identified. The square footage of each structure was then multiplied by the appropriate present-day value based on occupancy (for some residences and commercial assets, this includes parking, garages, storage sheds, and other structures linked to the address).

The variety and shortage of information (condition, type of construction, age of structure, service provided to owner, meaning it is used for storage vs living space for pets, farm animals, etc.) about accessory structures in residential parcels, and the appraisal value factors for such structures (size, age, material, anchoring, etc.) led to the decision that structures identified as "storage," "sheds," "storage sheds," or "barns" with a square footage of 200 or less were not considered in the value of the residential structure. Structures over 200 square feet are considered part of the residence as additional living space. The latter is based on feedback from SC members that some parcels may have a residential structure and a trailer used as living space.

For Transportation, we sent a separate form for each Steering Committee lead to complete and followed up with a phone call to review the data. The values were calculated using the USDOT Highway Economic Requirements System<sup>5</sup> value for reconstruction.

For parking areas, the replacement cost research (HomeAdvisor<sup>6</sup>, and Promatcher<sup>7</sup> websites) provided a low value of \$2.50 to a high value of \$4.50 per square foot for paved parking. The average between the low and the high value is \$3.50 per square foot. This average is used to calculate the replacement value of paved parking lots.

<sup>5</sup> U.S. Department of Transportation, Highway Economic Requirements System.  
[https://www.fhwa.dot.gov/policy/2015cpr/appendixa.cfm#\\_Toc464549613](https://www.fhwa.dot.gov/policy/2015cpr/appendixa.cfm#_Toc464549613). Accessed 06-20-20

<sup>6</sup> <https://www.homeadvisor.com/cost/outdoor-living/pave-a-parking-lot/>. Accessed 07-15-20,

<sup>7</sup> <https://parking-lots.promatcher.com/cost/>. Accessed 07-15-20,

The structural assets are listed in Tables 7 through 10.

As mentioned in the Community Profile above, the 65-acre parcels found on the north shore of Clear Lake currently do not have structures, are not inhabited, and hold open grassland.

#### 5.1.4. Tribal Residences

The SC representative for Robinson Rancheria identified residential structures within the Tribe's boundaries. For the Tribe, children, and elders (anyone over 55) are considered vulnerable populations; 13 of the residences are identified as having vulnerable population and one townhouse is designated as high density. Note the addresses were derived from County parcel data. The data indicates the Tribe as the owner of the property and lists the Tribal address rather than the individual residence address.

**TABLE 6: TRIBAL RESIDENCES ESTIMATED REPLACEMENT AND CONTENTS VALUE**

Address	Estimated Unit Value (\$)	Estimated Content Value (\$)	Vulnerable Population
1580 E State Hwy 20	\$222,729	\$111,365	N
1580 E State Hwy 20	\$202,492	\$101,246	N
1580 E State Hwy 20	\$215,297	\$107,649	N
1580 E State Hwy 20	\$201,348	\$100,674	N
1580 E State Hwy 20	\$135,833	\$67,916	N
1580 E State Hwy 20	\$210,495	\$105,248	N
1580 E State Hwy 20	\$206,722	\$103,361	N
1580 E State Hwy 20	\$199,862	\$99,931	N
1580 E State Hwy 20	\$148,181	\$74,091	N
1580 E State Hwy 20	\$212,439	\$106,219	N
1580 E State Hwy 20	\$181,682	\$90,841	N
1580 E State Hwy 20	\$154,699	\$77,349	Y
1580 E State Hwy 20	\$227,531	\$113,766	N
1580 E State Hwy 20	\$168,876	\$84,438	Y
1580 E State Hwy 20	\$214,497	\$107,248	N
1580 E State Hwy 20	\$19,780	\$9,890	N
1580 E State Hwy 20	\$140,978	\$70,489	Y
1580 E State Hwy 20	\$246,283	\$123,141	Y
1580 E State Hwy 20	\$197,232	\$98,616	N
1580 E State Hwy 20	\$191,858	\$95,929	Y
1580 E State Hwy 20	\$151,154	\$75,577	N
1580 E State Hwy 20	\$663,421	\$326,402	N
1580 E State Hwy 20	\$586,150	\$287,766	N
1630 E State Hwy 20	\$145,223	\$67,303	Y*
1630 E State Hwy 20	\$229,361	\$139,606	N

Address	Estimated Unit Value (\$)	Estimated Content Value (\$)	Vulnerable Population
1630 E State Hwy 20	\$137,205	\$68,602	Y
1630 E State Hwy 20	\$163,045	\$81,523	N
1630 E State Hwy 20	\$320,488	\$241,766	N
1630 E State Hwy 20	\$163,045	\$81,523	N
1630 E State Hwy 20	\$163,045	\$81,523	N
1630 E State Hwy 20	\$245,139	\$148,982	N
1630 E State Hwy 20	\$157,100	\$78,550	Y
1630 E State Hwy 20	\$183,397	\$91,699	N
1630 E State Hwy 20	\$190,372	\$95,186	Y
1630 E State Hwy 20	\$190,257	\$95,129	Y
1630 E State Hwy 20	\$159,043	\$79,522	Y
1630 E State Hwy 20	\$221,472	\$110,736	Y
1630 E State Hwy 20	\$190,257	\$95,129	N
1630 E State Hwy 20	\$140,178	\$70,089	N
1630 E State Hwy 20	\$204,207	\$102,103	Y
1630 E State Hwy 20	\$162,473	\$81,237	N
1630 E State Hwy 20	\$173,907	\$86,954	N
1630 E State Hwy 20	\$221,243	\$110,621	N
1630 E State Hwy 20	\$202,720	\$101,360	N
1630 E State Hwy 20	\$124,170	\$62,085	N
Subtotal	\$9,186,888	\$4,710,379	13 Y; 32 N
		<b>Total</b>	<b>\$13,897,267</b>
* High Density			

### 5.1.5. Tribal Facilities

The following table lists Tribal government assets for Robinson Rancheria and their estimated value along with a calculated content value if applicable. The SC representative for Robinson Rancheria identified cultural and sacred sites for the Tribe. These are addressed in Section 5.7 Vulnerability of Cultural and Sacred Sites. Note that Clear Lake, in its entirety, and the surrounding traditional gathering areas are considered of cultural significance. However, these are not under the jurisdiction of the Tribe and as such are not included in the vulnerability assessment.

Robinson Rancheria does not currently manage utilities or other infrastructure that provides essential services to its members. Nice Mutual Water provides water services and Lake County provides sanitary services.

The commercial branch of the Robinson Rancheria holds and manages the assets listed in Table 7 below.

**TABLE 7: ROBINSON RANCHERIA COMMERCIAL FACILITIES**

Name	Address	Estimated Unit Value (\$)	Estimated Content Value (\$)	Critical Facility	Vulnerable Population	Economic Asset	Historic, Cultural, or Natural Resource	High Density
Pomo Pumps Gas Station	1585 E. State Hwy 20	\$256,760	\$385,140	Yes	No	Yes	Yes	Yes
Pomo Pumps gasoline fuel island	1585 E. State Hwy 20	\$246,719	\$370,079	Yes	No	Yes	No	Yes
Pomo Pumps diesel fuel island	1585 E. State Hwy 20	\$100,409	\$150,614	Yes	No	Yes	Yes	Yes
Recycling Center	1630 E State Hwy 20	\$209,220	\$313,829	No	No	Yes	No	No
Casino and hotel	1498 E State Hwy 20	\$15,110,669	\$15,110,669	Yes	Yes	Yes	Yes	Yes
Parking for casino and hotel	1498 E State Hwy 20	\$252,000	\$0	No	No	No	No	No
Smoke shop	1494 E State Hwy 20	\$39,795	\$39,795	No	No	No	No	No
Covered entrance to casino	1494 E State Hwy 20	\$194,522	\$194,522	No	No	No	No	No
Parking for casino and hotel	1494 E State Hwy 20	\$630,788	\$0	No	No	No	No	No
Subtotal		\$17,040,882	\$16,564,648					
Total			\$33,605,530	4 Yes; 5 No	1 Yes; 8 No	5 Yes; 4 No	3 Yes; 6 No	4 Yes; 5 No

The SC representative for Robinson Rancheria identified several infrastructure assets, such as the Nice Mutual Water tank, AT&T Utility Box, and Lake County Special Districts sewer pump station service which are outside the jurisdiction of the Robinson Rancheria but are critical to the community.

**TABLE 8: TRIBAL FACILITIES ROBINSON RANCHERIA**

Name	Address	Estimated Unit Value (\$)	Estimated Content Value (\$)	Critical Facility	Vulnerable Population	Economic Asset	Historic, Cultural, or Natural Resource	High Density
EPA office storage	1645 E State Highway 20	\$123,052	\$184,578	No	No	No	Yes	No
Carport to EPA office	1645 E State Highway 20	\$69,569	\$104,354	No	No	No	No	No
Storage trailer EPA office	1645 E State Highway 20	\$173,154	\$259,732	Yes	No	No	No	No
EPA office	1645 E State Highway 20	\$320,253	\$320,253	Yes	No	No	Yes	No
Pomo Pumps water well	1585 I. State Hwy 20	\$5,328	\$7,992	Yes	No	Yes	Yes	Yes
Parking for school	1580 E State Hwy 20	\$57,750	\$0	No	No	No	No	No

Name	Address	Estimated Unit Value (\$)	Estimated Content Value (\$)	Critical Facility	Vulnerable Population	Economic Asset	Historic, Cultural, or Natural Resource	High Density
Parking for recycling center	1580 E State Hwy 20	\$97,650	\$0	No	No	No	No	No
Parking for admin building and maintenance shop	1580 E State Hwy 20	\$28,350	\$0	Yes	Yes	No	No	No
Tribal maintenance shop	1580 E State Hwy 20	\$135,040	\$202,560	No	No	No	No	No
Tribal Administration and Court	1580 E State Hwy 20	\$1,077,802	\$1,077,802	Yes	Yes	No	Yes	Yes
Tribal Education, Elders, Gym	1580 E State Hwy 20	\$2,827,415	\$2,827,415	Yes	Yes	No	Yes	Yes
Gaming Commission	1580 E State Hwy 20	\$324,775	\$324,775	No	No	Yes	No	Yes
Mailbox cluster	1580 E State Hwy 20	\$40,271	\$40,271	No	No	No	No	No
Transportation Dept. storage shed	1630 E State Hwy 20	\$39,241	\$58,862	No	No	Yes	No	No
Storage shipping container	1498 E State Hwy 20	\$32,274	\$48,411	No	No	No	No	No
Subtotal		\$5,351,924	\$5,457,005					
Total			\$10,808,930	6 Yes; 9 No	3 Yes; 12 No	3 Yes; 12 No	5 Yes; 10 No	4 Yes; 11 No

### 5.1.6. Tribal Transportation

To determine the value of the transportation assets for Robinson Rancheria, the USDOT Highway Economic Requirements System<sup>8</sup> value for reconstruction of a single lane of \$687,000 per mile for a rural, flat, and minor arterial road was used. The transportation assets are listed in Table 9. Robinson Rancheria maintains the casino road and five residential roads. All roads outside the Tribal jurisdiction are the responsibility of the County except for State Highway 20. Highway 20 is the main evacuation route for the Robinson Rancheria. This road is subject to localized stormwater flooding north of Robinson Rancheria in Upper Lake. As a point for discussion, at the August 2019 Planning Team meeting, concern about recent evacuations due to wildfire events centered on the roads used for this purpose. Hwy 20 and Hwy 29 are the routes generally taken for evacuation. These routes are easily congested with traffic during these events, and the hazard event may obstruct one or both highways.

<sup>8</sup> U.S. Department of Transportation, Highway Economic Requirements System.  
[https://www.fhwa.dot.gov/policy/2015cpr/appendixa.cfm#\\_Toc464549613](https://www.fhwa.dot.gov/policy/2015cpr/appendixa.cfm#_Toc464549613). Accessed 06-20-20

TABLE 9: ROBINSON RANCHERIA TRANSPORTATION ASSETS

Name of Asset	Length (Feet)	% of mile	Value (\$)
Pomo Way	500	9%	\$65,057
Acorn Dr.	200	4%	\$26,023
Redbud	500	9%	\$65,057
Manzanita Cr.	300	6%	\$39,034
Meadowlark Ln.	700	13%	\$91,089.
Sheecome Rd.	600	11%	\$78,068
Flicker Cr.	300	6%	\$39,034
Subtotal			\$403,352
School bus stop			\$2,673
Total Transportation			\$406,025

## 5.2. Methodology for Earthquake, Flood 1% and .2%, and Wildland Fire

The following language describes the method used to prepare the dollar estimates for vulnerability to the impacts from earthquake, flood, and fire. Potential dollar losses are summarized in Tables 10 to 13 for these natural hazards.

An exposure-level analysis was conducted to assess the risks of earthquake, flood, and wildfire hazards. This analysis is a simplified assessment of the potential effects of the hazard on values at risk, without consideration of probability or level of damage.

The following analytical method was used to determine exposure for earthquake, flood, and wildfire.

For the exposure, the GIS hazard data was placed over a map populated with parcel data from the Lake County Assessor. The result illustrates the exposure of the individual parcels and their related structures. Based on the worst-case scenario, all assets in any parcel touched by the hazard in a medium/moderate, high, or very high area are deemed a total loss that must be replaced. The population exposure in these locations is also considered 100 percent. This analysis represents the number of people at risk; no estimate of the number of potential injuries or deaths was prepared. Low and very low exposure are not assessed and Not Applicable (NA) is used as appropriate.

For those locations where the hazards have a low, very low, minimal, or not zoned risk, population and structures are considered as generally not affected. Consequently, Not Applicable (NA) is used where appropriate.

Future growth vulnerability is addressed in Section 5.6 of this annex.

For the following exposure tables, the amounts listed in the “Value” columns for the Robinson Rancheria community is a sum of the replacement value and the content value of the applicable structures. The Clear Lake office is rented; therefore, the value reflects the contents only.

If no damage is generally expected, not applicable (NA) is used. Note that (-) indicates that no population, structure, road, or other asset exists in that hazard area/category.

Table 10 illustrates the Robinson Rancheria exposure of population and housing to earthquake, flood, and wildland fire hazards.

For Robinson Rancheria, the residential assets are found in a very low ground shaking potential area, and in a moderate severity hazard zone for wildfire. Flood risk is minimal for 23 of the 45 residences. The remaining 22 residences are within a special flood hazard area according to the NFIP flood map for the area.

**TABLE 10: POTENTIAL HAZARD EXPOSURE ANALYSIS  
ROBINSON RANCHERIA TRIBAL POPULATION AND RESIDENTIAL ASSETS**

Hazard	Hazard Category	Hazard Area	Pop #	Value
Earthquake	Ground Shaking	Very Low	NA	NA
Flood 1% and .2%		SFHA	244	\$7,638,693
		Minimal	231	\$6,258,574
Wildfire		Moderate	473	\$13,897,267

The earthquake ground shaking for Robinson Rancheria's commercial assets is medium and very low. The flood exposure also varies from a Shaded X area to a minimal flood area. The wildfire hazard severity zone for the entire Rancheria's commercial assets is moderate.

**TABLE 11: POTENTIAL HAZARD EXPOSURE ANALYSIS – ROBINSON RANCHERIA COMMERCIAL ASSETS**

Hazard	Hazard Category	Hazard Area	Pop #	Value
Earthquake/Seismic	Ground Shaking	Medium	13	\$1,509,721
		Very Low	NA	NA
Flood 1% and 0.2%		Shaded X	235	\$33,082,481
		Minimal	NA	NA
Wildfire Hazards	Wildland Fire	Moderate	239	\$33,605,530

All Tribal facilities are situated in a moderate wildfire severity hazards zone. The flood impacts more than half the facilities, and earthquake also varies from very low to medium ground shaking for the facilities. Table 12 illustrates the exposure distribution.

TABLE 12: POTENTIAL HAZARD EXPOSURE ANALYSIS – ROBINSON RANCHERIA FACILITIES

Hazard	Hazard Category	Hazard Area	Population #	Value
Earthquake/Seismic	Ground Shaking	Medium	<1	\$1,568,265
		Very Low	NA	NA
Flood 1% and .2%		SFHA	37	\$10,616,821
		Minimal	6	\$94,005
Wildfire Hazards		Moderate	46	\$10,808,930

Robinson Rancheria has responsibility for several roads within its boundaries. The roads service homes, and Pomo Way is the main link to Highway 20. The exposure of these transportation assets is shown in Table 13: Potential Hazard Analysis – Robinson Rancheria Transportation. These assets are in a very low or medium ground shaking area. **The impact of flooding on transportation is** limited to inundation on Pomo Way.

Note that Robinson Rancheria did not identify any vehicles as assets.

TABLE 13: POTENTIAL HAZARD ANALYSIS - ROBINSON RANCHERIA TRANSPORTATION

Hazard	Hazard Category	Hazard Area	Value
Earthquake/Seismic	Ground Shaking	Medium	\$65,057
		Low	NA
Flood 1% and .2%		SFHA	\$143,125
		Minimal	NA
Wildfire Hazards		Moderate	\$406,025

### 5.3. Summary of Impacts for Earthquake, Flood, and Wildland Fire

#### Earthquake

Robinson Rancheria's residential assets are in a very low ground shaking location. No exposure to population or structures is generally expected.

Earthquake ground shaking for the Tribal commercial assets is medium (3, \$1,509,721) to very low. Population exposure for assets located in the medium ground shaking potential is estimated at 13.

For the Tribal government facilities, the exposure to ground shaking is medium for five facilities (\$1,568,265), and 10 are within a very low shaking potential area. Population exposure for these sites is estimated at five and NA respectively.

The transportation assets in Robinson Rancheria fall within a medium ground shaking potential (8, \$406,025).

### Flood

Twenty-three residential assets are in an SFHA (\$7,638,693). Population exposure for the 23 residences is estimated at 242. The remaining 22 are placed in an area of minimal flood risk (NA).

Robinson Rancheria's commercial assets are within a Shaded X flood risk (8, \$33,082,481) and estimated population exposed is 212. One facility is found in a minimal flood area (NA).

The Tribal facilities flood risk is: SFHA (12, \$10,616,821), with a population exposure of 5; Shaded X (2, \$94,005) with population exposure estimate of 2; and one facility in a minimal flood zone (NA).

Transportation assets (2, \$143,125) are in a SFHA zone, and in minimal flood zones (6, NA).

### Wildfire

All Tribal assets for Robinson Rancheria are in a moderate Fire Severity Hazard Zone (FSHZ). Following the worst-case scenario for losses, the following table illustrates the 100% exposure.

**TABLE 14: POTENTIAL EXPOSURE ANALYSIS - 100% ROBINSON RANCHERIA**

Asset Type	Number of Assets	100% Population Exposure	Estimated 100 % Structure Exposure
Residences	45	473	\$13,897,267
Commercial	8	239	\$33,605,530
Facilities	16	46	\$10,808,930
Transportation	8	-	\$406,025
<b>Total</b>	<b>77</b>	<b>758</b>	<b>\$58,717,752</b>

## 5.4. Methodology for the Remaining Hazards

The deficiency of available GIS hazard information, location, and site-specific data for the Robinson Rancheria requires a different methodology for analyzing its vulnerability to the remaining hazards. Consequently, a qualitative vulnerability analysis is developed using current best available data. This information is gleaned from the MTHMP hazard profiles and from conversations and correspondence with the Steering Committee representative.

Where the hazards would not usually affect structures whether very high, high, or medium, 5% of the replacement value of the structures and/or infrastructure is used to determine exposure for very high, high, and medium hazard areas. As stated in the 2015 Washoe County, Nevada Plan, vulnerability assessment for these hazard types have a small effect on the structure's envelope and/or its improvements. For example, extreme heat can cause damage to roofs and

roof underlayment, siding, stucco, windows, doors, decking, wiring, gutters, landscaping lighting, HVAC systems, insulation, sheathing, and concrete.

The same 5% is applied to the population total to determine the impacted number of people.

For those locations where the hazards have a low, very low, minimal, or not zoned, risk, the exposure/damage for population and structures is generally not expected. Consequently, Not Applicable (NA) is used where appropriate. NA is also used when the hazard risk is High, Very High, Moderate (medium) and again, no damage is generally expected to population or structures.

Under this method, the information is presented in a narrative format. The narrative presents an overview of the hazard, a hazard loss estimate summary listing the asset category and the estimated exposure of population and assets, and a discussion of future growth describing potential exposure of people and structures at the location of the proposed development. When the percentage mentioned above is applicable, the summary lists the asset category and the estimated exposure of the population and assets calculated at 5% of total population/value (replacement plus content or content only as appropriate).

### 5.4.1. Agricultural, Ranked Medium

#### OVERVIEW

As noted in Section 5.3.1 in the MTHMP, the Tribes view agricultural hazards from two points of view. Valued native plants and gathering sites are threatened by pests and invasive species on the one hand, and agricultural practices, such as the use of pesticides, herbicides, fungicides, insecticides and Genetically Modified Organisms (GMOs) threaten the health and safety of Tribal residents—and the integrity of native plants. This hazard impacts the health of the environment including the population, culturally significant native plants, wildlife, as well as Clear Lake and its tributaries.

#### HAZARD LOSS ESTIMATE SUMMARY

While pesticide drift would not impact structures, it could impact the population. The impacts of other agricultural practices, including but not limited to the use of GMOs and other herbicides/pesticides, have not been documented to the extent required to support an evaluation of their impact on the population or on the tribal grow facilities. The impact of these hazards on tribal gathering places on and off the Rancheria also need further study to accurately estimate losses. Considering these limitations, potential hazard exposure is calculated for 55 of the population. Structures are deemed unaffected, as shown in the Table below.

**TABLE 15: 5% EXPOSURE ESTIMATE FOR POPULATION**

Asset Type	Number of Assets	Population	5% Population Exposure	Total Structure Replacement & Content Value	Estimated 5 % Structure Exposure
Residences	45	473	24	NA	NA
Commercial	8	239	12	NA	NA
Facilities	15	46	2	NA	NA
Transportation	8	-	-	NA	NA

Asset Type	Number of Assets	Population	5% Population Exposure	Total Structure Replacement & Content Value	Estimated 5 % Structure Exposure
<b>Total</b>	<b>76</b>	<b>758</b>	<b>38</b>	<b>NA</b>	<b>NA</b>

### 5.4.2. Aquatic Biological: Cyanobacterial Bloom, Ranked High

#### OVERVIEW

The Robinson Rancheria community is currently not directly impacted by this hazard due to its distance from Clear Lake and the status of the two parcels on the north shore of Clear Lake (currently uninhabited). Cultural impacts from this hazard include the loss of access to Clear Lake waters for ceremonial purposes and economic losses from reduced tourism. Markedly, the culture of the Pomo revolves around the healthy environment of the Clear Lake region.

#### HAZARD LOSS ESTIMATE SUMMARY

Impacts of this hazard include possible health risks (see MTHMP Section 5.3.2.1.2. Hazard Problem/Description) to the population of the Robinson Rancheria as well as interruption of cultural/ceremonial activities (see also MTHMP Section 5.3.2.1.7). When in bloom, this hazard impedes the entrance of people into the waters and produces a stench. Based on these impacts, 5% on the total population of 758 would be affected (38). Structural assets, including residential buildings (45, NA), the Tribal commercial assets (12, NA), Tribal facilities (16, NA), and transportation (8, NA), are not generally affected by the cyanobacterial bloom—as illustrated in **Table 16 5% Exposure Estimate for Population** in Section 5.4.1, Agricultural, above.

### 5.4.3. Climate Change, Ranked High

#### OVERVIEW

The Tribal view of the interconnection among all elements of the environment gives the impacts of climate change particular importance.

The MTHMP ranking for the impact of climate change on the very high, high, and medium hazards identified by the Robinson Rancheria of Pomo Indians is recapped alphabetically in the table below.

**TABLE 16: LOCATION FOR CLIMATE CHANGE DATA BY HAZARD IN MTHMP**

Big Valley Rancheria Very High, High, and Medium Hazards	Probability Future Frequency Due to Climate Change	Location in MTHMP
Agriculture	High	Section 5.3.1.6
<b>Aquatic/Biologic</b>		
Cyanobacterial Bloom	Very High	Section 5.3.2.1.6
Climate Change		Addressed under each hazard.

Big Valley Rancheria Very High, High, and Medium Hazards	Probability Future Frequency Due to Climate Change	Location in MTHMP
Cybersecurity	Very Low	Section 5.3.5.6
Drought and Water Shortage	High	Section 5.3.7.6
Earthquakes	Low	Section 5.3.8.6
Erosion	High	Section 5.3.9.6
Expansive Soils	High	Section 5.3.10.6
Flood: 1%/.2% Annual Chance	High	Section 5.3.11.6
Hazardous Materials	Low	Section 5.3.13.6
Landslide & Debris Flow	High	Section 5.3.15
Levee Failure	Medium	Section 5.3.16
Localized Storm Water	Very High	Section 5.3.12.6
Power Outage		Addressed under each hazard.
<b>Severe Weather</b>		
Extreme Heat	Very High	Section 5.3.17.1.6
High Winds	High	Section 5.3.17.2.6
Wildfire	Very High	Section 5.3.22.6

## HAZARD LOSS ESTIMATE SUMMARY

The increased temperature, decreased precipitation, uptick in heat waves, reduced snowpack, and substantial increase in wildfire risk outlined in the MTHMP sections identified in the Table above suggest that the impact of climate change will, overall, be significant and frequent. Most of the hazards listed as very high, high, or medium for this Tribe will be heightened. 5% calculations for exposure of assets and population are shown in Table 18 below.

TABLE 17: 5% EXPOSURE ESTIMATE FOR POPULATION AND STRUCTURE &amp; CONTENT REPLACEMENT

Asset Type	Number of Assets	Population	5% Population Exposure	Total Structure Replacement & Content Value	5 % Structure Replacement & Content Value Exposure
Residences	45	473	24	\$13,897,267	\$694,863
Commercial	8	239	12	\$33,605,530	\$1,680,277
Facilities	15	46	2	\$10,808,930	\$540,446
Transportation	8	-	-	\$406,025	\$20,301
<b>Total</b>	<b>76</b>	<b>758</b>	<b>38</b>	<b>\$58,717,752</b>	<b>\$2,935,888</b>

## 5.4.4. Cybersecurity, Ranked High

## OVERVIEW

Although the possibility exists for cybersecurity problems for homeowners, the impact of cybersecurity attacks is generally not expected to affect structures directly. Instead, the contents of the building may be damaged. Similarly, Tribal and Commercial assets are generally not impacted physically; however, an economic impact, not measurable with current information, may occur. This hazard may create technology-related impacts for the entire Tribe's population.

The Robinson Rancheria of Pomo Indians and residents on the Robinson Rancheria own electronic equipment that may be compromised through cybersecurity breaches. Vulnerability to phishing, Internet of Things (IoT), ransomware, and crypto jacking is possible with any device connected to the internet. Impacts include loss of funds and loss of the use of electronic equipment—which may be crippling to the Tribal government and commercial assets of the Tribe.

#### HAZARD LOSS ESTIMATE SUMMARY

Other hazards impact structures and threaten their content. With cybersecurity, the impact is to electronic equipment (contents) at residences and Tribal facilities. These impacts are calculated at 5% of contents only. Transportation structural assets are also generally not affected by cybersecurity and impact to the population is not applicable, as shown in Table 19 below.

**TABLE 18: 5% EXPOSURE ESTIMATE FOR POPULATION AND CONTENTS**

Asset Type	Number of Assets	Population	Est. 5% Population Exposure	Total Content Value	Estimated 5 % Content Exposure
Residences	45	473	24	\$4,710,379	\$235,519
Commercial	8	239	12	\$16,564,648	\$828,232
Facilities	15	46	2	\$5,457,005	\$272,850
<b>Total</b>	<b>68</b>	<b>758</b>	<b>38</b>	<b>\$58,717,752</b>	<b>\$2,935,888</b>

### 5.4.5. Drought & Water Shortage, Ranked High

#### OVERVIEW

The Robinson Rancheria is vulnerable to drought and water shortage. The Robinson Rancheria relies on the Nice Mutual Water District for water in the residential and commercial locations (except the gas station). The Robinson Rancheria has experienced water shortages during prolonged droughts and under extreme heat conditions. The historical frequency of drought and the probability of increased frequency of events due to climate change make this community highly vulnerable to drought and water shortage. Cultural activities such as gatherings, and the health of traditional native plants will be affected. Activities on or adjacent to Clear Lake may be limited as algal bloom increases due to reduced ingress of water. The added water demand may strain the system resulting in unknown potential economic impacts. Collecting additional data and conducting studies will be necessary for a qualitative analysis of this hazard.

People and vegetation will be most affected by the water shortage.

## HAZARD LOSS ESTIMATE SUMMARY

Due to the deficiency of data for this hazard and its potential impact on the entire planning area, estimated losses are provided for all locations and are calculated by 5% of the population and 5% of the value of the structures and/or their content. See Table 18: 5% Exposure Estimate for Population, Structure Replacement, and Content, in Section 5.4.3 above.

### 5.4.6. Erosion, *Ranked Medium*

## OVERVIEW

With hills behind its vicinity, the Rancheria is located in an environment subject to wind and rain erosion—especially after a wildland fire destroys the vegetation in these hills. Wind, rain, and the soil type make erosion a frequent event. Erosion also takes place along the two parcels on the north shoreline of Clear Lake.

## HAZARD LOSS ESTIMATE SUMMARY

Without a study to determine the soil type, rainfall, runoff, and other factors measuring erosion at specific locations, a quantitative loss estimate is problematic. For this reason, the loss estimate for the impacts of this hazard is based on the 5% of structures and their content as well as 5% of the population. See **Table 18: 5% Exposure Estimate for Population, Structure Replacement, and Content**, in Section 5.4.3 above.

### 5.4.7. Expansive Soils, *Ranked Medium*

## OVERVIEW

Based on the volcanic history of the region, the Robinson Rancheria may be subject to expansive soils through the deposit of volcanic matter. During discussions with the Robinson Rancheria's Steering Committee member, no previous events of impacts from expansive soils were recorded or recalled. The possibility of this hazard existing in the community is high based on the type of soil in the planning area. See, Section 5.3.10. Expansive Soils in the MTHMP.

## HAZARD LOSS ESTIMATE SUMMARY

Additional information is necessary to build a quantitative loss estimation for Robinson Rancheria's jurisdiction. Due to the deficiency of available data, the losses for this hazard are calculated as 5% of the structure replacement and content value, transportation replacement, and population.

See Table 19: 5% Exposure Estimate for Population and Structure & Content Replacement, in Section 5.4.3 above.

### 5.4.8. Hazardous Materials Transport, *Ranked Medium*

## OVERVIEW

Although the State of California assigned Highway 29 on the west coast of Clear Lake as a hazardous materials transportation route, enforcement of this designation has been difficult to accomplish due to two factors: 1) Highway 20 is a much shorter route between U.S. Route 101 on the California coast and Interstate 5 in the Central Valley, and 2) local deliveries for agricultural, mining, and geothermal purposes via Highway 20 are permitted. These two circumstances lead to continued use of this road to transport hazardous materials around Clear Lake, creating the opportunity for events affecting the population and environment of the surrounding communities.

Robinson Rancheria, including the residences and the casino are approximately 250' from Highway 20, making hazardous materials events a valid concern for the Tribe.

The Robinson Rancheria is directly linked to Highway 20; the road is used daily by the Robinson Rancheria population and commercial clients. It is **the** evacuation route, and its closure involves long detours and/or delays. Finally, when the environment around Clear Lake is altered by hazardous materials spills, then traditional events, gathering activities, and ceremonies are disrupted or terminated.

#### HAZARD LOSS ESTIMATE SUMMARY

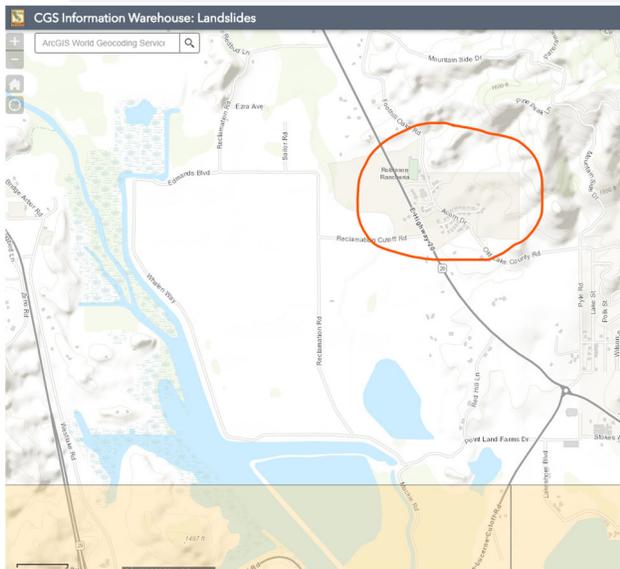
Most hazardous materials events generally impact transportation assets but do not usually impact structures (NA). The transportation assets are also generally not impacted (NA). **Economic losses may result from clean-up efforts.**

The calculations of 5% for potential exposure to the population (only) are listed in **Table 16: 5% Exposure Estimate for Population** in Section 5.4.1 on agricultural hazards.

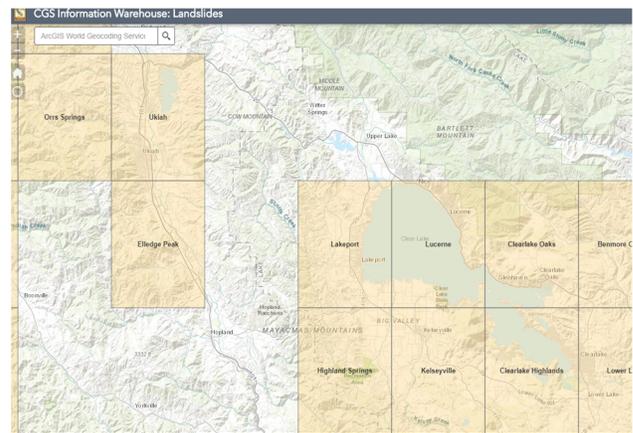
### 5.4.9. Landslide & Debris Flow, Ranked High

#### OVERVIEW

The Robinson Rancheria is north of the landslide area mapped by the California Geological Survey in Figure 8 below. The main concern for Robinson Rancheria is the landslide potential for State Highways 29 and 20. These routes provide the main thoroughfare for residents and visitors to the area. This hazard poses a problem for day-to-day travel through the only roads in and out of the Rancheria as well as for an emergency evacuation. Additional data about the exact location(s), frequency, and delays/impacts will be required to support a quantitative analysis in future updates of this plan. Landslide potential for the two highways is shown in Figure 9.



**FIGURE 8: LANDSLIDE POTENTIAL FOR ROBINSON RANCHERIA**



**FIGURE 9: LANDSLIDE POTENTIAL FOR CLEAR LAKE REGION, HWYS 20 & 29**

#### HAZARD LOSS ESTIMATE SUMMARY

The Tribe's concern about this hazard is centered on the impacts to the road during a disaster evacuation. The residents of the Robinson Rancheria rely on the two highways which are the responsibility of the state for access to their homes, facilities, and businesses. Because the concern is focused on the roads, and no record of events on the Robinson Rancheria jurisdiction were found or recalled by the SC member, impacts to residential structures (45, NA), and Tribal facilities (15, NA), commercial assets (8, NA) as well as the transportation assets (8, NA) are not applicable.

The population affected on a day-to-day travel scenario is calculated using 5% of the total population of the Robinson Rancheria (758), an estimated 38 people would be affected by these hazards. Details of the population exposure is found in **Table 16: Potential Hazard Exposure Analysis: 5% of Population**, in Section 5.4.1 Agriculture. Highway infrastructure is outside the Tribe's jurisdiction. Therefore, no loss estimate is provided for these state-owned assets.

When using the route to evacuate during a disaster scenario, 100% of the residents of the Rancheria would be affected (758).

#### 5.4.10. Levee Failure, Ranked Very High

##### OVERVIEW

Robinson Rancheria is near the Middle Creek Flood Control Project (Project) in Upper Lake. Figure 8 shows the mapped FEMA flood hazard and levee (see legend). The project consists of a system of 14.4 miles of levees, a pump station and a diversion channel to divert Clover Creek overflow around the town of Upper Lake, Figure 9. The upper portion of the project protects the community

of Upper Lake from flooding by Middle Creek and Clover Creek. The lower portion of the system protects farmland and some residences from inundation by Clear Lake.

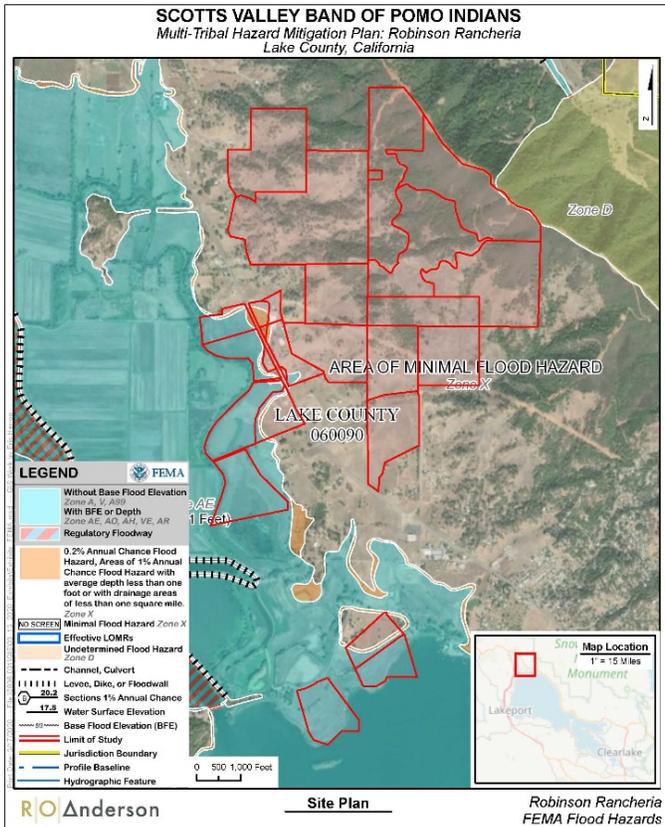


FIGURE 10: ROBerson RANCHERIA FLOOD HAZARD & LEVEE LOCATION

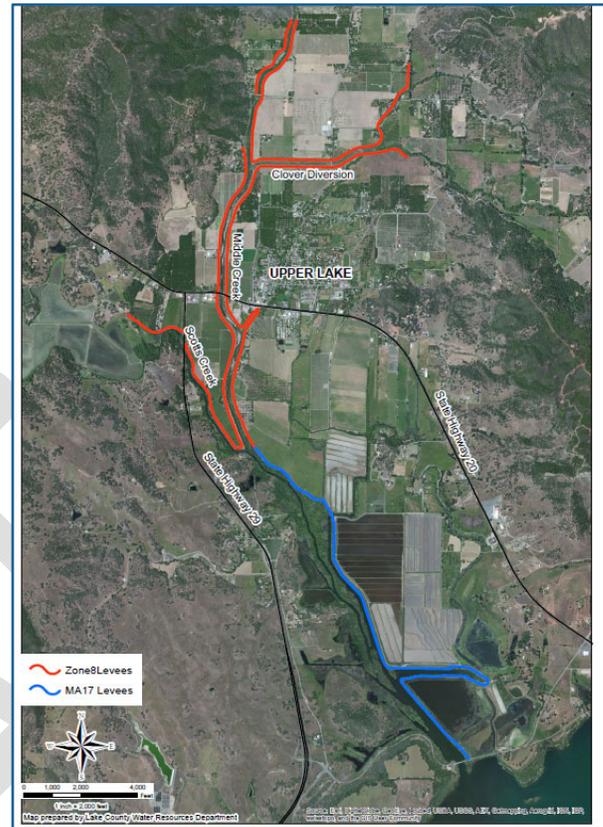


FIGURE 11: MIDDLE CREEK FLOOD CONTROL PROJECT

The Reclamation Area (MA-17) has been proposed to be restored to a functional part of Clear Lake through the Middle Creek Flood Damage Reduction and Ecosystem Restoration Project. The Project “will eliminate flood risk to 18 residential structures, numerous outbuildings and approximately 1,650 acres of agricultural land and will restore damaged habitat and the water quality of the Clear Lake watershed. Reconnection of this large, previously reclaimed area, as a functional wetland is anticipated to have a significant effect on the watershed health and the water quality of Clear Lake.”<sup>9</sup> This project began in 2004. Several properties have been purchased from willing sellers with grant funds; as of 2017, several more purchases were pending.

HAZARD LOSS ESTIMATE SUMMARY

Figure 4: Historic Robinson Lake Middle Creek Restoration Project, in Section 2.5, Growth and Development Trends, illustrates the vision to return the area to its natural state. This is a long-term process that began in 2004 with partnerships including county, state, local, and Tribal stakeholders. The schedule for completion is pending as all these partners work to complete this project through many hindrances. While the work is progressing, the risk of levee failure remains for the Tribe. The

<sup>9</sup> “Introduction.” Overview Middle Creek Flood Damage Reduction and Ecosystem Restoration Project. October 3, 2012. p. 1.

exposure analysis for this hazard is similar to the Flood 1% and 2% exposure shown in Tables 10, 11, 12, and 13 found in Section 5.2 of this Annex. The Flood summary reads as follows: 23 residential assets are in a SFHA (\$7,638,693). Population exposure for the 23 residences is estimated at 242. The remaining 22 are placed in an area of minimal flood risk (NA).

Robinson Rancheria's commercial assets are within a Shaded X flood risk (8, \$33,082,481) and estimated population exposed is 212. One facility is found in a minimal flood area (NA).

The Tribal facilities flood risk is: SFHA (12, \$10,616,821), with a population exposure of 5; Shaded X (2, \$94,005) with population exposure estimate of 2; and one facility in a minimal flood zone (NA).

Transportation assets (2, \$143,125) are in a SFHA zone, and in minimal flood zones (6, NA).<sup>10</sup>

### 5.4.11. Localized Stormwater, Ranked Medium

#### OVERVIEW

The SC representative identified localized stormwater flooding on the west side of Pomo Way and north of the Rancheria on Highway 20 as a regular event after heavy rains. These events may result in a slow-down or blockage of the quickest evacuation route for the Rancheria.

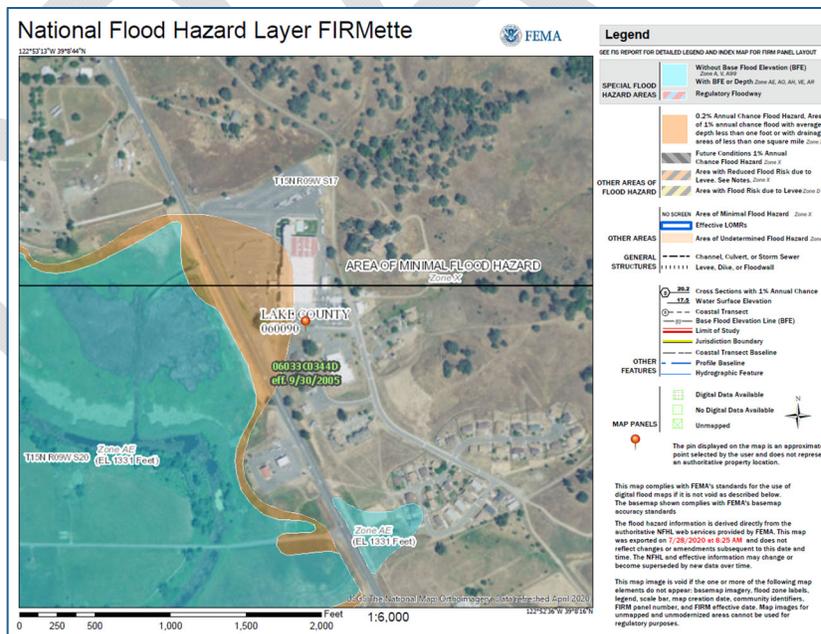


FIGURE 12: FEMA FIRMETTE FOR ROBINSON RANCHERIA

<sup>10</sup> Section 5.3. "Summary of Impacts for Earthquake, Flood, and Wildland Fire. p. 28.

## HAZARD LOSS ESTIMATE SUMMARY

Flooding affects people and their cultural activities. During discussions with the Steering Committee representative for Robinson Rancheria, damage to structures from localized stormwater was not an identified concern. The impact on Pomo Way and Hwy 20 was the main concern.

Hwy 20 is not under the Tribe's jurisdiction. Collaboration with the State and the County will be required to secure improvements to roads outside the Tribe's jurisdiction. To do so, Robinson Rancheria needs seed money for attendance to networking events, travel to meetings with the responsible agencies, and to support structural projects.

Five percent loss estimates are provided for the impact on the population and transportation assets for the Robinson Rancheria for localized stormwater.

**TABLE 20: 5% EXPOSURE ESTIMATE FOR POPULATION AND TRANSPORTATION ASSETS**

Asset Type	Number of Assets	Population	5% Population Exposure	Total Structure Replacement & Content Value	Estimated 5 % Structure Exposure
Residences	45	473	24	NA	NA
Commercial	8	239	12	NA	NA
Facilities	15	46	2	NA	NA
Transportation	8	-	-	\$406,025	\$20,301
<b>Total</b>	76	758	38	\$406,025	\$20,301

### 5.4.12. Power Outage, Ranked Very High

#### OVERVIEW

In the fall of 2019, the Lake County area experienced a Public Service Power Shutdown (PSPS) mandated by Pacific Gas and Electric (PG&E) during a high wind event. Many members of the Tribal communities were without power for up to six days.

At the December Planning Team meeting (rescheduled due to the PSPS in October), participants agreed that each hazard profile would be discussed in relation to its impacts on power outages, and each participant in the meeting took a few minutes to document the impacts of the PSPS. Comments are found in Table 22 Impacts of PSPS. This table includes comments from all Tribes participating in this MTHMP.

TABLE 21: IMPACTS OF PUBLIC SAFETY POWER SHUTDOWN

Impacts of Public Safety Power Shutdown October 2019
Communications down, all clinics down, access to care limited, hospitals inundated
Food spoilage, gas shortage, device charge, land line down, No communication with outside world
Loss of work, loss of power to well at Red Hills, meeting cancelled, loss of member services, Ukiah was out too, an unexpected outcome.
Lost power at home and water plant, food outlets closed except those with stand by power. Offices closed, no internet, poor phone connection, gas stations closed. At work- lift stations failed, had to pump waste, No power at well head.
Communications issues, water treatment
Community members who needed electric medical equipment were very affected, Durable Medical Equipment (DME) companies were stretched to provide oxygen tanks. Most gas stations were closed, people were cold, food spoiled, financial issues.
Loss of heat for tribal households, nighttime light, No phones, staff productivity, unable to meet grant deadlines, medical clinics closed, food loss, extra stress on families due to school closures, air monitor down due to Kincaid and Burns fires, water and sewer impacts; No generator on well head or sewer lift station.
Lost food, hundreds of dollars, No auto fuel, phones, and internet down, No access to prescriptions, lack of oxygen for DME.
Lack of news/info, no fuel/transportation, cell towers, internet, landlines failed, inability to admin breathing treatments, limited access to medical and vet care. Limited ability to cook and store food.
Clinics shut down, pharmacies closed, DME companies down. Oxygen dependent people very anxious, elderly cold at night.
The Tribe was not prepared to assist homeowners because No disaster preparedness plan, caused despondency.
Medical machines shut off, air conditioning issues, food spoilage, no lights or stove, security issues, communications were sometimes down, difficult to get fuel.
Spoiled food, no heat, no cooling, not able to practice ceremony, unable to leave county, No communication.
Not enough oxygen, medications that required refrigeration had to be moved, nursing homes had to find ways to keep food available.

A power outage can be life threatening to those who depend on medical equipment. Care facilities including hospitals and medical clinics may be closed or have limited options for treating patients during a power outage. Power outages are often a secondary effect of another hazard—such as an earthquake, wildfire, or severe weather. In these circumstances, communication may

be cut off by the power outage—and evacuations may be hindered by a deficiency of communication. Infrastructure and equipment may be damaged by power outages and/or power surges that may follow in their wake. The loss of electricity threatens lives, quality of life, as well as critical communications and infrastructure.

#### *Hazard Loss Estimate Summary*

Power outages and PSPS events do not generally affect structures but may affect contents. Potential losses due to a power outage for facilities is evaluated using 5% of the value for the contents. The estimated population exposure is 100%.

**TABLE 22: 100% EXPOSURE ESTIMATE FOR POPULATION AND 5% EXPOSURE ESTIMATE FOR CONTENTS**

Asset Type	Number of Assets	Population	Est. 100% Population Exposure	Total Content Value	Estimated 5 % Content Exposure
Residences	45	473	473	\$4,710,379	\$235,519
Commercial	8	239	239	\$16,564,648	\$828,232
Facilities	15	46	46	\$5,457,005	\$272,850
<b>Total</b>	<b>68</b>	<b>758</b>	<b>758</b>	<b>\$58,717,752</b>	<b>\$2,935,888</b>

#### 5.4.13. Severe Weather – Extreme Heat, Ranked High

Extreme heat occurs throughout the Clear Lake area annually, during the summer months, though its intensity varies by location depending on geography, vegetation, water bodies, socioeconomic status, and other factors. The County and State 2018 Hazard Mitigation Plans both indicate a projected increase in extreme heat duration and events.

This hazard impacts many people but is not considered for disaster declarations. Concern about this hazard led the State to create a team to address preparation for extreme heat events and to provide a resource, "Preparing California for Extreme Heat," for local governments.

The guide is available online at [https://healthyplacesindex.org/wp-content/uploads/2018/02/2013\\_cph\\_preparing\\_california\\_for\\_extreme\\_eat.pdf](https://healthyplacesindex.org/wp-content/uploads/2018/02/2013_cph_preparing_california_for_extreme_eat.pdf).

#### HAZARD LOSS ESTIMATE SUMMARY

Extreme heat does not generally impact structures, but as mentioned in this Annex's Section 5.4, Methodology for the Remaining Hazards, the effects of extreme heat cause losses related to the built environment of a property. This is the reason for the use of a 5% of total replacement value for hazards causing this type of damage.

Five percent was used to identify exposure levels of population and assets (5% of total structure and content replacement value) for Robinson Rancheria.

These calculations are the same as those listed above in Section 4.5.6, Drought and Water Shortage. See **Table 18: 5% Exposure Estimate for Population, Structure Replacement, and Content**, in Section 5.4.3 above.

#### 5.4.14. Severe Weather – High Winds, Ranked Medium

##### OVERVIEW

Winds in the Clear Lake region are a common event. The National Weather Service website provides information about wind advisories, watches, and warnings. The website's descriptions for various wind events are described below.

- **Wind Advisory** means that sustained winds of 30 mph for one hour and/or frequent gusts of at least 45 mph are occurring or expected within the next 36 hours. These winds will make it difficult to drive high profile vehicles. Small, unsecured objects may be blown around by these winds.
- **High Wind Watch** means that sustained winds of 40 mph for one hour and/or frequent gusts of at least 58 mph are expected within the next 12 to 48 hours. Check to make sure all loose objects outside are secured. Plan to postpone any unnecessary driving during this time since these winds will make driving difficult, especially for high profile vehicles. These winds may damage trees, power lines and small structures.
- **High Wind Warning** means that sustained winds of 40 mph for one hour and/or frequent gusts of at least 58 mph are occurring or expected within the next 36 hours. Ensure that all objects outside are secured. Refrain from any unnecessary driving during this time since these winds will make driving very difficult, especially for high profile vehicles. Winds this strong may damage trees, power lines and small structures.<sup>12</sup>

The impact to structures is dependent on the wind speed, direction, and the specific geographic location of the structure among other factors. This hazard has secondary effects such as erosion, increased probability of wildfire, and damage to structures and infrastructure (most notably power lines).

##### HAZARD LOSS ESTIMATE SUMMARY

The records for this type of event imply previous damage to structures. The PSPS during the fall of 2019 illustrates the impact of the *threat* of high winds. Due to the deficiency of available data quantifying past impacts from high wind events, a qualitative exposure analysis for high winds uses 5% of the estimated replacement value for structures and contents, and 5% impact on the population to calculate losses and impacts.

These calculations are the same as those listed above in Section 5.4.1, Climate Change. See **Table 23: 5% Exposure Estimate for Population, Structure Replacement, and Content**.

<sup>12</sup> "Wind Information Page." Current Watches, Warnings, Advisories. National Weather Service, <https://www.weather.gov/dmx/dsswind#:~:text=A%20High%20Wind%20Watch%20means,next%2012%20to%2048%20hours.&text=Winds%20this%20strong%20may%20damage%20trees%2C%20power%20lines%20and%20small%20structures>. Accessed 07-06-20.

## 5.5. Vulnerability of Sacred Sites

For Robinson Rancheria, the protection of sacred sites is a way of life. To talk about the Tribe's capabilities and the resiliency of these sites, a form to describe the effect of the medium to very high ranked hazards was completed by the SC representative.<sup>13</sup> The purpose of this task was to provide information about resources and capabilities of the Tribe in mitigating the impact of hazards to these sites. The completed form is shown in Table 23.

The Tribe follows the Native American Graves Protection Act regulations. With no jurisdiction over the land where the undisclosed sites are located, mitigation of the risk requires collaboration and partnerships.

All areas in Clear Lake are considered Sacred by the Pomo regardless of ownership.

**TABLE 24: VULNERABILITY OF SACRED SITES – ROBINSON RANCHERIA**

Robinson Rancheria Sacred Site Vulnerability		
Question	Yes/No or #	Comments/Explanation
Ordinance protecting site?	Yes	Use of Tribal Customs and Traditional Law
Number of Sacred/Cultural sites within trust land boundaries:	4 known, several undisclosed	4 Documented sites on a register. Undisclosed sites known only by Tribe
Number of Sacred Cultural Sites on ancestral lands:	Unknown	Tribe is notified sometimes. Thousands of artifacts found throughout.
Who is responsible for the care and maintenance?	Various	State has historical monuments they maintain. No committee oversees them.
What are the duties?	NA	NA
How often are the duties expected to take place?	NA	NA – The Tribe leaves sites undisturbed.
Affected by Levee Failure?	Not currently	This may change when Middle Creek Restoration project complete
Affected by Power Outage	NA	NA
Affected by Wildfire?	Yes	Artifacts and native plants may be destroyed
Affected by Cyanobacterial Bloom?	No	Maybe when Middle Creek Restoration Project is completed.
Affected by Drought and Water Shortage?	Yes	Could affect water needed for native plants used in cultural uses like basketry.
Affected by Earthquake?	Yes	Can physically disrupt terrain with sites
Affected by Extreme Heat?	Yes	Stress on native/useful plants
Affected by Flood 1%/0.2%?	Yes	Can erode and destroy sites
Affected by Landslide & Debris Flow?	Yes	Can physically affect terrain destroying artifacts and native plants
Affected by Localized stormwater?	Yes	Runoff may cause non-point pollution into waterways/plant habitats

The Robinson Rancheria identified four cultural and sacred sites within its jurisdiction. The qualitative vulnerability analysis for earthquake, flood 1% and 0.2%, and wildfire is found in the table below. These sites are commonly not inhabited and without structures. Therefore, no population or structural values are identified as affected. Estimates for the land value for these

<sup>13</sup> The completed form is found in Appendix A Tribe-Specific Supporting Documentations. See RR\_Supporting Docs, RR\_T1\_Sacred\_Site\_VulnerabilityVHH.

large parcels is included. Land value was calculated as one-third the value of a structure within a "Ceremonial" occupancy type using the value per square foot for a church/nonprofit structure.

Note that these assets were identified as critical facilities by the Steering Committee representative for Robinson Rancheria.

**TABLE 25: POTENTIAL HAZARD ANALYSIS FOR CULTURAL AND SACRED SITES – ROBINSON RANCHERIA**

Hazard	Hazard Category	Hazard Area	Value
Earthquake/Seismic	Ground Shaking	Medium	\$1,875,549
		Very Low	NA
Flood 1% and .2%		SFHA	\$1,219,223
		Shaded X	\$656,326
		Minimal	\$5,240,187
Wildfire		Very High	\$6,459,410
		Moderate	\$1,576,728

The qualitative analysis for the remaining hazards related to these sites is the table below. Sites 1 and 2 are land in trust with no exact location provided. Sites 3 and 4 are identified as dance grounds. The general area for these two sites was provided to the consultant for the purpose of completing the table below.

Because the exact location for sites 1 and 2 is unknown, a 5% of the land value is used as potential hazard exposure to these two areas. For this table, "Unknown" refers to an unknown location and "NA" refers to not applicable impact (due to low exposure due to low exposure, location, or relevance).

**TABLE 26: POTENTIAL HAZARD EXPOSURE ANALYSIS FOR SACRED AND CULTURAL SITES - ROBINSON RANCHERIA**

Hazard	Site	Discussion	Hazard Area	5% of Estimated Land Value
Agricultural	Site 1		Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3	No surrounding agricultural sites in proximity to this site.	NA	NA
	Site 4	No surrounding agricultural sites in proximity to this site.	NA	NA
Aquatic Biological: Cyanobacterial Bloom	Site 1		Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3	Currently, no large body of water exists in proximity to this site.	NA	NA
	Site 4	Currently, no large body of water exists in proximity to this site.	NA	NA

Hazard	Site	Discussion	Hazard Area	5% of Estimated Land Value
Climate Change	Site 1	The regional projected increased temperature, decreased precipitation, uptick in heat waves, reduced snowpack, and substantial increase in wildfire risk projected for the region suggests that the impact of climate change will, overall, be significant and frequent. A potential hazard exposure of 5% is calculated from the total estimated land value of the parcel.	High	\$20,527
	Site 2		High	\$10,939
	Site 3		High	\$26,279
	Site 4		High	\$61,058
Cybersecurity	Site 1	Hazard does not affect the four sites as no electronic equipment is currently on site.	NA	NA
	Site 2		NA	NA
	Site 3		NA	NA
	Site 4		NA	NA
Drought and Water Shortage	Site 1	Drought and water shortage currently affect only vegetation found in the sites.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		NA	NA
	Site 4		NA	NA
Erosion	Site 1	The combined elements of high wind, extreme heat, precipitation, and wildfire work to erode soil in the Robinson Rancheria area. For this reason, the estimated hazard exposure is calculated at 5% of estimated land value.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		High	\$26,279
	Site 4		High	\$61,058
Expansive Soils	Site 1	The two sites have a potential for expansive soils based on the MTHMP hazard profile Section 5.3.10.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		Medium	\$26,279
	Site 4		Medium	\$61,058
Localized Stormwater	Site 1	Data is deficient about the possible locations affected by of this event on the two sites. Potential exposure is calculated at 5% of estimated land value.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		Unknown	\$26,279
	Site 4		Unknown	\$61,058
Hazardous Materials	Site 1	Sites are not in proximity to a route traveled by hazardous materials transport.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		NA	NA
	Site 4		NA	NA
Landslide & Debris flow	Site 1	These parcels are located in fire hazard severity zones high and moderate. The sites are subject to possible debris flow	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		Very High	\$26,279
	Site 4		Moderate	\$61,058

Hazard	Site	Discussion	Hazard Area	5% of Estimated Land Value
		after a wildfire. Five percent of estimated land value is used to calculate exposure. The parcels, as is the case for the Robinson Rancheria jurisdiction, are outside currently mapped landslide potential.		
Levee Failure	Site 1		Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3	Based on flood maps, these two sites are outside a SFHA when considering levee failure. See Figure 10 in Section 5.4.10 of this Annex.	NA	NA
	Site 4		NA	NA
Power Outage	Site 1	The four sites do not currently have power connection. This hazard does not impact the site.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		NA	NA
	Site 4		NA	NA
Severe Weather – Extreme Heat	Site 1	This hazard is a regional event, all assets in the Robinson Rancheria are affected by Extreme Heat. Five percent of estimated land value is calculated as potential hazard exposure.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		High	\$26,279
	Site 4		High	\$61,058
Severe Weather High Winds	Site 1	This hazard is a regional event, all assets in the Robinson Rancheria are affected by Extreme Heat. Five percent of estimated land value is calculated as potential hazard exposure.	Unknown	\$20,527
	Site 2		Unknown	\$10,939
	Site 3		High	\$26,279
	Site 4		High	\$61,058

## 5.6. Vulnerability of Future Growth

The potential impact of the identified very high, high, and medium hazards on sites identified for future growth is discussed for each specific project in relation to its location.

### *Future Growth*

Robinson Rancheria Band of Pomo Indians envisions five projects for future growth. The map below identifies each site with a project number that correlates to the projects described below.

- 1) The Middle Creek Restoration project will fill in land on the California State Route 20 corridor and allow future commercial development adjacent to the road. Currently the tribe plans to expand the gas station to include a truck stop. The timeframe for the expansion is believed to be longer than five years.
- 2) Installation of a waterline from across California State Route 20 to the gas station will bring potable water from Nice to the parcel. The gas station currently relies on private well water. The installation of the waterline will provide a reliable source of water. This project is

currently being explored, and the timeframe for implementation is within the next five years. The planned water pipe will be placed under Highway 20.

- 3) Robinson Rancheria of Pomo Indians is a partner with the Scotts Valley Band in the biochar/bioenergy project. Facilities are planned on Robinson land. The planned location of these facilities is the north end of the existing parking for the Casino.

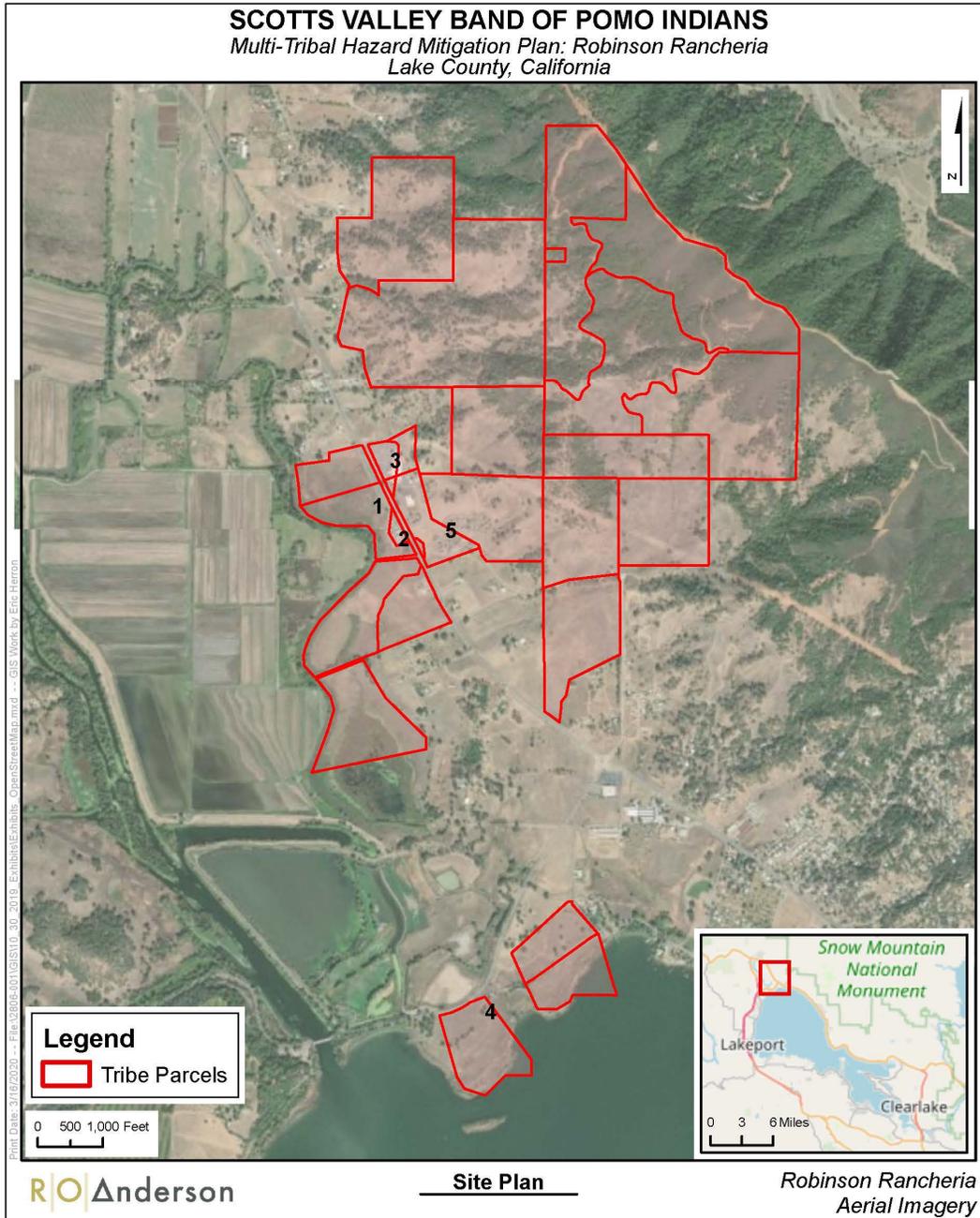


FIGURE 13: APPROXIMATE LOCATION OF FUTURE GROWTH

- 4) The Tribe intends to change a property with “fee” status to one with “trust” status to support the development of an ecotourism/recreation attraction. The planned change in property status targets the two parcels on the north shore of Clear Lake.
- 5) Housing for the Tribe is expanding to include six new lots. The infrastructure is in place. The Tribe is waiting for funding to construct a few additional residences. The property is next to State Route 20 and generally adjacent to existing Tribal residential areas. This expansion is at the end of Flicker Circle with utility hookups and street curbs already in place. Funding for the housing units is expected within the next 5 years.

The potential hazard exposure analysis for the five projects is not possible without a value of the land and/or an anticipated cost for the project.

- **Project #1: Expansion of the Pomo Pumps with a Truck Stop**  
This land is yet to be filled and prepared for construction of the structures.
- **Project #2: Water Pipe Installation**  
Anticipated costs are yet to be determined.
- **Project #3: Biochar/Bioenergy Facilities**  
Currently in a design stage with unspecified projected costs.
- **Project #4: Ecotourism/Recreation Project**  
Currently seeking change in ownership status (from “fee” to “trust”). No design or construction costs have been determined.
- **Project #5: Housing Expansion**  
The utilities are in place and the construction of six new residential assets is pending.

Table 26 below lists the five projects with a low, medium, and high hazard area. The estimated potential exposure is based on information from the hazard profile in the MTHMP and data found in Sections 5.1 through 5.4 of this Annex. The estimate is for the current status of these future development sites. The population number for these projects is undetermined.

**TABLE 27: POTENTIAL HAZARD EXPOSURE ESTIMATE FOR FUTURE GROWTH ROBINSON RANCHERIA**

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
Agricultural	1	Truck Stop development depends on the completion of the Middle Creek Project. The structure is generally not affected while population at this site may be affected.	Low	NA	5%
	2	Waterline: Upon completion, the water carried by the pipe is generally not expected to be affected by this hazard. No impact to population is involved with this project.	Low	NA	NA
	3	Biochar/bioenergy: This project's structures will generally not be impacted	Low	NA	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
		by agricultural hazards. Population at this location may be affected.			
	4	Ecotourism/Recreation Project: The change in property status will not be affected by agricultural hazards. Currently, this property is uninhabited.	Low	NA	NA
	5	Housing expansion: The new residents may be affected. However, the residential structures are not generally affected.	Low	NA	5%
Aquatic Biological: Cyanobacterial Bloom	1	Truck Stop: The site for this project is not in proximity to a large body of water that could host the bloom currently. Both structures and population at this location will not be affected.	Low	NA	NA
	2	Waterline: The pipe for the water is not generally impacted by cyanobacterial bloom. No population is involved with this project.	Low	NA	NA
	3	Biochar/bioenergy: The current distance between this project and a large body of water is sufficient for the cyanobacterial bloom not to generally impact it. Because of the distance discussed above, population involved with this site will not generally be impacted.	Low	NA	NA
	4	Ecotourism/Recreation Project: The purpose of the change in property status is to allow the development of the site along the shores of Clear Lake. Cyanobacterial bloom will not impact structures but will affect population at the developed site.	High	NA	5%
	5	Housing expansion: The distance between the site selected for expansion and Clear Lake makes this hazard's effect very low. Population will also generally not be impacted by cyanobacterial bloom when outside the waters hosting the bloom.	Low	NA	NA
Climate Change	1	Truck Stop: The truck stop structure may be impacted by weather events—which may increase in frequency and severity based on projections discussed in Section 5.4.3, Climate Change, in this Annex. Population at this site will also be affected by the projected climate change.	High	5%	5%
	2	Waterline: The waterline may be affected by severe weather events such as heavy rain. Any impact to the pipeline may affect the population at the gas station and truck stop.	High	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
	3	Biochar/bioenergy: As mentioned in Section 5.4.3, Climate Change, increased frequency of severe weather event will have an impact on population and structures.	High	5%	5%
	4	Ecotourism/Recreation Project: New development at this site will be affected by climate changes including more frequent and increased severity for severe weather events. Population at this site will also be impacted by these weather events.	High	5%	5%
	5	Housing expansion: Both population and structures will incur some impact due to increased severity and frequency of severe weather events due to climate change.	High	5%	5%
Cybersecurity	1	Truck Stop: The software used in the truck stop may be impacted if not protected. No impact to structure and generally no impact to population at this location is expected.	Low	NA	NA
	2	Waterline: The supplier of water may be impacted. No structural or population effects are generally expected from this hazard.	Low	NA	NA
	3	Biochar/bioenergy: The structures and population at this location will generally not be affected.	Low	NA	NA
	4	Ecotourism/Recreation Project: No direct exposure is generally expected to the site structure(s) or the population from cybersecurity.	Low	NA	NA
	5	Housing expansion: Exposure to cybersecurity is generally not expected to impact structures. Some population may be directly affected.	Low	NA	5%
Drought and Water Shortage	1	Truck Stop: The availability of water will affect the population at this site. The structures are generally not affected by drought and water shortage.	Medium	NA	5%
	2	Waterline: The structure of the water pipe will not be affected. The content of the line may decrease affecting the population at the gas station.	Medium	NA	5%
	3	Biochar/bioenergy: Structural exposure is generally not expected with drought and water shortage. Population at these facilities may be impacted by these hazards.	Medium	NA	5%
	4	Ecotourism/Recreation Project: No potential impact to future structures is expected. The potential exists for exposure of population at this site.	Medium	NA	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
	5	Housing expansion: Exposure for the structures at his expansion is generally not expected. Drought and water shortage will have an effect on the population at this site.	Medium	NA	5%
Erosion	1	Truck Stop: No data is available about erosion at the site of this project. The potential for this hazard is present around the region based on its geology and other hazards discussed in Sections 5.4.3 to 5.4.14; therefore, exposure for erosion is calculated at 5%. Erosion will not directly impact population.	High	5%	NA
	2	Waterline: Erosion will potentially have an impact on this infrastructure. The severe weather events and natural hazards of the region play a large role in determining the level of impact (Sections 5.4.3 to 5.4.14.). Based on current data, the exposure is calculated at 5% for this structure. Population is generally not directly impacted by erosion.	High	5%	NA
	3	Biochar/bioenergy: The facilities in this project may be impacted by erosion due to identified geologic and weather hazards mentioned in Sections 5.4.3 to 5.4.14 of this annex. Calculation for exposure is at 5% of total value.	High	5%	NA
	4	Ecotourism/Recreation Project: This project on the shores of Clear Lake may have a higher level of erosion, and any development will potentially be affected. Population at this site will not generally be directly affected.	High	5%	NA
	5	Housing expansion: The region where this expansion is planned within the existing residential area of Robinson Rancheria, has the potential for erosion due to wind, and rain (Section 5.4.6). The six additional homes may be impacted by erosion, and exposure is calculated at 5%. The population within these homes is generally not directly impacted by erosion.	High	5%	NA
Expansive Soils	1	Truck Stop: The MTHPM Section 5.3.10 discussed expansive soils found in the entire Clear Lake region. However, this project is envisioned on a "fill" which may reduce its exposure to expansive soils. Additional research is necessary for a quantitative analysis of the location. Our qualitative analysis uses the 5% exposure. Population at this site will also see a 5% possible exposure.	Medium	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
	2	Waterline: With current best available data for the region, this project has a potential to be affected by expansive soils. 5% exposure calculation is applied. The 5% is used for the population exposure due to the loss of water at the gas station (commercial asset).	Medium	5%	5%
	3	Biochar/bioenergy: The regional potential for expansive soils will have an impact on the facilities developed at this site. The 5% exposure is applied to both population and structures.	Medium	5%	5%
	4	Ecotourism/Recreation Project: Regardless of the type of development, the potential exists for structures and population inhabiting these structures to have an impact from expansive soils. This is based on the information from the MTHMP Section 5.3.10.	Medium	5%	5%
	5	Housing expansion: Current data (MTHMP Section 5.3.10) indicates possible expansive soils at this site. The estimated hazard exposure for both population and structures at this location is based on the application of the 5%.	Medium	5%	5%
	1	Truck Stop: Earthquakes affect the entire region of Clear Lake (Section 5.3.8), and this project is no exception. Its location in a medium shake potential has the probability of hazard exposure. The hazard exposure analysis is based on the application of the 5%. Impacts to the population at this site are also calculated by applying the 5%.	Medium	5%	5%
Earthquake	2	Waterline: The intensity of ground shaking at this general area is moderate (GIS analysis of the hazard and location, see Figure 55 in Section 5.3.8.3, Location and Extent of earthquake in the MTHMP). The pipe has the possibility of being affected.	Medium	5%	5%
	3	Biochar/bioenergy: This site is also within a moderate ground shaking area (MTHMP Figure 55), and structures as well as population are generally affected by this hazard. The application of the 5% rule is used to calculate the potential hazard exposure for this project.	Medium	5%	5%
	4	Ecotourism/Recreation Project: Same as project #3.	Medium	5%	5%
	5	Housing expansion: This location has a similar ground shaking potential as Projects #3 and #4 above.	Medium	5%	5%
Flood 1% and 0.2%	1	Truck Stop: The current flood map (Figure 8, Section 5.4.10 of this Annex)	High	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
		shows this site in an SFHA. The potential hazard exposure analysis is calculated using the 5% for structures and population at this site.			
	2	Waterline: The water pipe location is not exact. However, the section of Hwy 20 directly in front of the gas station is outside a flood zone (Figure 8, Section 5.4.10 of this Annex). With current data, the potential for exposure is low for the structure. No population is generally expected to be directly touched.	Low	NA	NA
	3	Biochar/bioenergy: This site is within the 500-year floodplain, based on Figure 8 in Section 5.4.1, Levee Failure, in this annex. The potential hazard exposure analysis for structures and population is the 5% value calculation.	Medium	5%	5%
	4	Ecotourism/Recreation Project: The proposed development at this site is within a SFHA (see Figure 8, Section 5.4.1 Levee Failure above). Both structures and population will generally be expected to be affected. The potential hazard exposure analysis uses the 5% calculation.	High	5%	5%
	5	Housing expansion: Using the same map illustrated in Figure 8 above, the area designated for this residential expansion is in a Zone X, an area of minimal flood. The structures and population are generally not expected to be affected within this zone, and their exposure is not applicable.	Low	NA	NA
Localized Stormwater	1	Truck Stop: Additional data is necessary to determine the extent of localized stormwater at this site. Using the flood map (Figure 8 above), this site is in a minimal flood hazard zone. This flood zone status leads to the conclusion that localized stormwater is not generally expected at this site. Population and structure exposure is not applicable.	Low	NA	NA
	2	Waterline: This site has similar hazard exposure to localized stormwater as described in Project #1 above.	Low	NA	NA
	3	Biochar/bioenergy: The planned development at this site is within a 500-year floodplain (Figure 8 in Section 5.4.10 Levee Failure above). The 5% rule is therefore used to determine the potential hazard exposure. The SC representative also discussed the trouble with localized stormwater on Pomo Way leading to this site.	High	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
	4	Ecotourism/Recreation Project: The proposed development at this site located in a Zone A flood area (Figure 8) will generally be impacted by localized stormwater and structures. Any population will generally be impacted.	High	5%	5%
	5	Housing expansion: This site is in an area of minimal flooding. Without additional information, the potential hazard exposure is not applicable.	Low	NA	NA
Hazardous Materials	1	Truck Stop: Located next to Hwy 20, the shortest route from Hwy 101 to Interstate 5 (Section 5.3.13.3 of the MTHMP). This site's potential exposure to hazardous materials is calculated using the 5% rule for both population and structures—with the caveat that additional studies are necessary for a qualitative analysis of vulnerability.	High	5%	5%
	2	Waterline: The pipe is proposed to be placed under Hwy 20. This site is similar to the one in Project #1 above for exposure to hazardous materials. The effect of any hazardous materials on the buried pipe are not currently available. For this reason a potential hazard exposure analysis is calculated using the 5% rule for population. The impact on the pipe may have an affect on the population at this site; therefore the 5% calculation is used for this purpose also.	High	5%	5%
	3	Biochar/bioenergy: The proposed development for these facilities is located within 300 feet of Hwy 20. The potential hazard exposure for this site is not applicate for structures, and the population analysis uses the 5%.	High	NA	5%
	4	Ecotourism/Recreation Project: The envisioned development for this project is more than a quarter of a mile from Hwy 20 (Figure 2 in Section 2.1, Geography and Location above). While a spill along Highway 20 could impact the lake, the hazard exposure is not applicable for both population and future structures.	Low	NA	NA
	5	Housing expansion: The six proposed new homes are less than 1,000 feet from Hwy 20. Hazardous materials events on the highway have the potential to affect population at this site; a 5% calculation is applied for exposure. The exposure for structures is not applicable.	Medium	NA	5%
Landslide & Debris flow	1	Truck Stop: This proposed project is outside the mapped locations known for	Low	NA	NA

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
		landslide and debris flow. See Figures 6 and 7 in Section 5.4.9 above. Structure and population exposure are not applicable.			
	2	Waterline: The pipeline will be placed underground in the same area as Project #1 above. Using the same Figures 6 and 7, the area is outside mapped locations known for landslide and debris flow. The hazard exposure is not applicable for both population and structures.	Low	NA	NA
	3	Biochar/bioenergy: Based on Figures 6 and 7, this future development is also outside the mapped locations known for landslide and debris flow. Population and structure exposure is not applicable.	Low	NA	NA
	4	Ecotourism/Recreation Project: The location of the future development is within a mapped landslide area. With current information, the 5% is applied to determine the potential exposure for both population and structures.	Medium	5%	5%
	5	Housing expansion: The area proposed for the expansion project is not within a mapped location known for landslide and debris flow. Based on current data, the potential exposure is not applicable for structures or population.	Low	NA	NA
Levee Failure	1	Truck Stop: The project is dependent on the removal of levees and the addition of fill to its planned location. The threat of levee failure currently at this site is high. The structures and population at this location have a potential exposure. The application of the 5% calculation to both population and structures provides an estimate of potential losses.	High	5%	5%
	2	Waterline: The waterline location is not subject to flooding. It is in a minimal flood zone (Figure 8, Section 5.4.10, Levee Failure, above). The potential exposure is not applicable for both populations and structures.	Low	NA	NA
	3	Biochar/bioenergy: This area is currently within a 500-year flood zone (Figure 8). The potential exposure hazard analysis is completed with the calculation of 5% for population and structures.	Medium	5%	5%
	4	Ecotourism/Recreation Project: Using the flood map for this location (Figure 8), the levees are at a distance and have the potential to flood sections of the location. Using the expected restoration of the historical Robinson Lake shown in	Low	NA	NA

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
		Figure 4, Section 2.5, the conclusion is that inundation from levees approximately 2,000 feet from the site is not likely based on the elevation of the location. The conclusion is that the potential exposure to population and structures from this hazard is not applicable.			
	5	Housing expansion: The site for the residential expansion is in a Zone X area of minimal flood hazard. No effects from levee failure for population or structure are generally expected.	Low	NA	NA
Power Outage	1	Truck Stop: The proposed project is within the area of Public Safety Power Shut-offs (PSPS). No records were found to determine this hazard affects structures. Power outages generally affect population. The potential exposure hazard analysis is a calculation of 5% of population.	High	NA	5%
	2	Waterline: The water line structure is generally not impacted by power outages. The water flow itself may be impacted which will impact the population at the gas station. The potential exposure is calculated at a 5% of total population.	High	NA	5%
	3	Biochar/bioenergy: The location of this project was subject to PSPS in the past. The potential hazard exposure is calculated for population at 5% of total number at the site. Power outage generally does not affect facility structure. Economic losses may result from downtime caused by power outages.	High	NA	5%
	4	Ecotourism/Recreation Project: The site for this future development is in the region affected by PSPS in 2019. It is likely that these events in the future will impact the new development. Power outages generally do not affect structures. Population at the site may be affected. The calculated potential exposure is 5% of the total population.	High	NA	5%
	5	Housing expansion: Structures not generally impacted by PSPS. The area for this project was affected by the 2019 PSPS. Future PSPS events and power outages are likely to affect the new residences. The potential exposure is calculated at 5% of total population for the six new residences.	High	NA	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
Severe Weather – Extreme Heat	1	Truck Stop: Extreme heat is an annual event for the Robinson Rancheria and the Clear Lake region. The new facility location is likely to experience Extreme Heat. The potential hazard exposure analysis is calculated using 5% of total structure value and population numbers at this site. This approach is based on the discussion found in Section 5.4 Methodology for the Remaining Hazards above.	High	5%	5%
	2	Waterline: This project is also within the region of annual extreme heat events. As stated in Section 5.4.13 above, extreme heat events affect the built environment and improvements in properties. The potential hazard exposure for this project uses 5% of total value for the structure and 5% of population at the site it serves (gas station).	High	5%	5%
	3	Biochar/bioenergy: The facilities for this project are planned for a location with previous events of extreme heat. It is likely the future facilities will face extreme heat events. Using the method found in Section 5.4. of this Annex, the potential hazard exposure for population and structures is calculated at 5% of total population and total value of structure(s) at the site.	High	5%	5%
	4	Ecotourism/Recreation Project: The envisioned development location is in the Clear Lake region and subject to extreme heat events. Using the method found in Section 5.4. of this Annex, the potential hazard exposure for population and structures is calculated at 5% of total population and total value of structure(s) at the site.	High	5%	5%
	5	Housing expansion: Figure 9 above illustrates the approximate location of the new residential units. This area is within the extreme heat region. Based on this data and the methodology explained in Section 5.4 of this annex, the potential hazard exposure for population and structures is calculated at 5% of total population and 5% of structure value.	High	5%	5%
Severe Weather High Winds	1	Truck Stop: The Clear Lake basin is subject to high winds (MTHMP Section 5.3.17.2.6). This project is in the basin and the potential hazard exposure analysis for this future facility is calculated as a	High	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
		5% of the total value for structures and 5% of the total population at the site.			
	2	Waterline: This project is in proximity to Project #1 above. High wind events do not generally affect this type of future underground infrastructure—with the exception of possible erosion. Using a conservative approach, the potential hazard exposure is not applicable for this project.	High	NA	NA
	3	Biochar/bioenergy: A record of historic high wind events around the area is provided in Section 5.3.18.2.4, "Other Previous Occurrences" (MTHMP). The potential hazard exposure analysis is based on the calculation of 5% of total structure value and the same for population at the site.	High	5%	5%
	4	Ecotourism/Recreation Project: This development is on the shores of Clear Lake, also subject to extreme wind events. With current available data, calculating 5% of total structural value and the same percent for population at the site provides the potential hazard exposure for the future development.	High	5%	5%
	5	Housing expansion: This site is possibly more susceptible to high winds due to its location near hill slopes. However, using current best available data, the potential hazard exposure for high wind events is estimated using the 5% of the total structural value and 5% for population at the site.	High	5%	5%
Wildfire	1	Truck Stop: From Figure 126 in Section 5.3.22.5, Probability of Future Events for wildfire (MTHMP), the site for this project is in a Moderate Fire Hazard Severity Zone. Wildfire affects structures as well as population. A conservative 5% potential hazard exposure is calculated for this site.	Moderate	5%	5%
	2	Waterline: From Figure 126 in Section 5.3.22.5, Probability of Future Events for wildfire (MTHMP), the site for this project is in a Moderate Fire Hazard Severity Zone. The water pipe is planned for placement underground, mitigating the effects of wildfire on the pipe. Despite this effort, the infrastructure location makes the potential exposure possible. Calculation of this exposure is at 5% of the value of the pipeline and 5% of the population it serves.	Moderate	5%	5%

Hazard	Project #	Narrative	Hazard Area	Structure Exposure	Population Exposure
	3	Biochar/bioenergy: From Figure 126 in Section 5.3.22.5, Probability of Future Events for wildfire (MTHMP), the site for this project is <i>outside</i> a Moderate Fire Hazard Severity Zone. A wildfire effects structures around its impacted area through smoke, ash, and possibly heat damage. Therefore, the potential hazard exposure analysis calculation at 5% of structure value and 5% of population is used.	Low	5%	5%
	4	Ecotourism/Recreation Project: From Figure 126 in Section 5.3.22.5, Probability of Future Events for wildfire (MTHMP), the site for this project is in a Moderate Fire Hazard Severity Zone. Proposed development and its population are generally impacted by wildfire. We apply the 5% method to calculate potential exposure for future structures and population at this future site.	Moderate	5%	5%
	5	Housing expansion: From Figure 126 in Section 5.3.22.5, Probability of Future Events for wildfire (MTHMP), the site for this project is in a Moderate Fire Hazard Severity Zone. The potential exposure of 5% is calculated for population and structures based on their location within the moderate wildfire hazard severity zone.	Moderate	5%	5%

## 6. Capability Assessment

This section evaluates the Robinson Rancheria Tribe's resources to identify, evaluate, and enhance the capacity of those resources necessary to mitigate the effects of hazards. The capabilities assessed come from four areas:

1. Legal and Regulatory
2. Administrative & Technical
3. Fiscal
4. Organizational

The DMA200 requirements for the capability assessment are shown below.

Element	Requirement
<p><b>C1. Does the plan include a discussion of the tribal government's pre-and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including an evaluation of tribal laws and regulations related to hazard mitigation as well as to development in hazard-prone areas?</b></p> <p>44 CFR §§ 201.7(c)(3) and 201.7(c)(3)(iv)</p> <p><i>Intent:</i> To ensure that the tribal government evaluates its capabilities to accomplish hazard mitigation actions through existing tribal planning tools, programs, and other resources.</p>	<p>a. The plan shall describe the tribal government's existing capabilities to mitigate hazards in the tribal planning area, including pre-disaster and post-disaster hazard management policies and programs.</p> <p><i>Pre-disaster mitigation capabilities may include laws and regulations related to development in hazard-prone areas, such as natural or cultural resource conservation plans, floodplain management ordinances (including the tribal government's existing capabilities to participate in or administer the NFIP) and building codes. Post-disaster mitigation capabilities may include grants management staff and long-term recovery plans, policies, and procedures.</i></p> <p>b. The plan shall include an evaluation of the tribal laws, regulations, policies, programs, and resources related to hazard mitigation and development in hazard-prone areas. The evaluation shall address the opportunities, as well as the challenges, of existing capabilities.</p>

### 6.1. Legal and Regulatory Mitigation Capabilities

Legal and regulatory capabilities include applicable Building Codes, Zoning ordinance, Capital Improvement Plan among other development guides that provide specified support to hazard mitigation activities. This section lists these various tools, recognizes the Tribal authority of the specific activity, and identifies the interaction of the specific tool with state and higher-level authorities.

TABLE 28: LEGAL AND REGULATORY CAPABILITIES OF ROBINSON RANCHERIA

2020 Band of Pomo Multi-Tribal Hazard Mitigation Plan					
Legal and Regulatory Capabilities					ROBINSON
Yes=Y, N=No Regulatory Tools (Ordinances, Codes, and Plans)	Big Valley Government	Lake County	California State Prohibited	Higher Jurisdictional Authority	Comments
<b>Sample:</b> Building Codes	N	Y	N	Y	Using Uniform Building Code & CA Earthquake Code
Building Codes		Yes	No	Yes	Building Ordinances & Policies
Zoning Ordinance	Yes	Yes	No	Yes	
Subdivision Ordinance or Regulations	Yes	Yes	No	UKN	Unknown (UKN)
Special Purpose Ordinance	Yes		No		Cemetery
Growth Management	Yes	Yes	No	(UKN)	Utility Infrastructure
Site Plan Review Requirements	Yes		No	Yes	For Tribal Economic Development Project
Comprehensive Plan	Yes	Yes	No		5-10-year Tribal Action Plan
Capital Improvement Plan	Yes		No		Community & Tribal businesses
Economic Development Plan	Yes	Yes	No		Future businesses and job opportunities
Emergency Response Plan	Yes	Yes	No		Tribal SPR updated every 5 years
Post-Disaster Recovery Plan	Yes	Yes	No	Yes	Submitting emergency disaster grants to address post-disaster services
Post-Disaster Recovery Ordinance	No		No		
Real Estate Disclosure Statement	No		No		
Safety, Fed OSHA	Yes		No	Yes	Tribe follows Federal Laws
EPA Standards	Yes		No	Yes	Tribe follows Federal Laws
Other	Yes		No		??
General Tribal Ordinances	Yes		No	Yes	Develop/approved environmental ordinances

## 6.2. Administrative and Technical Mitigation Capabilities

The administrative and technical capability form for Scotts Valley Tribe provides an identification of the staff, personnel, and department resources available to expedite the actions identified in the Mitigation Strategy. Specific resources reviewed include those involving technical personnel that apply planning and engineering, floodplain management, Geographic Information Systems (GIS), environmental scientists, management authority, and various other services needed to facilitate hazard mitigation throughout the Scotts Valley Tribal communities.

TABLE 29: ADMINISTRATIVE AND TECHNICAL CAPABILITIES - ROBINSON RANCHERIA

2020 Band of Pomo Multi-Tribal Hazard Mitigation Plan			
Technical Staff & Personnel Capabilities			Robinson Rancheria
Staff/Personnel	Yes/No	Department/ Agency	Position
<b>Sample:</b> Floodplain Manager	Yes	Environmental Protection	1. Senior Environmental Planner; 2. Consultant as required
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Transportation & Environmental	Transportation Director, Environmental Director
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	No		
Planner(s) or engineer(s) with an understanding of natural and/or manmade hazards	Yes	Transportation and Environmental	Transportation Director, Environmental Director
Floodplain Manager	No		Non certified, BIA trained
Surveyor(s)	Yes	Transportation	
Staff with education or expertise to assess the community's vulnerability to hazards	Yes	Environmental	Surveyor, Environmental Director
Personnel skilled in GIS and/or HAZUS	Yes	Transportation & Environmental	Transportation Director, Environmental Director
Scientists familiar with the hazards of the community	No		
Emergency Manager	No		
Grant Writer	Yes	Environmental	Environmental Director
Grant Management	Yes	Fiscal	Chief Fiscal Officer
Historic/Cultural Officer	Yes	Cultural Committee	Tribal monitors (members of the tribe primarily)
Other			

### 6.3. Fiscal Mitigation Capabilities

Specific financial and budgetary tools available to Robinson Rancheria Tribe for hazard mitigation include federal entitlements, general fund monies, secondary sales and property taxes, user fees for infrastructure, impact fees applied to new development, and various unique debt service techniques including bonding indebtedness.

2019 Band of Pomo Multi-Tribal Hazard Mitigation Plan		
Fiscal Capabilities		ROBINSON
Financial Resources	(Y/N)	Comments
<b>Sample:</b> Fees for water	N	In process of implementing fees. Tribal council expected to vote in 2020
Community Development Block Grants	Yes	Indian Housing
Capital Improvement Project Funding	Yes	Recycling Center, Smoke Shop, storage room, gas station, casino, hotel, gift shop
Authority to levee taxes for specific purposes	No	
Fees for water, sewer, gas, or electric service	Yes	Homeowners & apartment rentals, land use fees to use as funding for infrastructure & maintenance fees
Impact fees for homebuyers or new developments/homes	No	
Incur debt through general obligation bonds	No	
Incur Debt through private activity bonds	No	
Withhold spending in hazard prone areas	Yes	
Other		

## 6.4. Organizational Capabilities

This Organizational Capabilities Chart indicates additional programs, services, or activities Robinson Rancheria's government funds or receives funding to implement.

2019 Band of Pomo Multi-Tribal Hazard Mitigation Plan		
Organizational Capabilities		RR
Programs/Functions/Regulations/Development and/or Enforcement	Tribal Funding Capability (Y/N)	Comments
<b>Sample:</b> Educational	Y	Student tuition and books for eligible families
Law Enforcement	Yes	Grant funded police & Tribal court system
Surveillance	Yes	
Intelligence	No	

FBI Coordination	Yes	Contact for fed-offenses occuring on Tribal Trust Land
Emergency Response	Yes	Tribal set-aside fnds, outside Tribal organizations
Pre-emergency Planning	Yes	Grant funded envir. State/Fed grants
Medical Care	Yes	Tribe is part of Lake County Tribal Health Consulting
Emergency Management	Yes	Grant funded from envir. & transportation grants
Heavy Equipment	Yes	Tractor, forklift, vehicle, trucks, trailer
Recovery Management	No	
Water Q	No	Use local water district dept. services
uality	Yes	Transportation staff performs these services
GIS	Yes	Transportation staff performs these services
Mapping	Yes	Gas station performs water quality (1xmos & 1x week)
Water Systems	Yes	Identified for Tribal use only
Cultural Mapping	Yes	Minor collection appliances waste at recycle center
Hazardous Materials	No	
Air Quality	Yes	HUD
Housing Programs	Yes	State CRV, recycling center
Recycling Programs	Yes	Includes library, gym, computer lab, after school origranm cinnercuak jutcgbebm restriin & showers, classrooms
Day Care/Educational Programs	No	
Safety Program/Committee	No	
Emergency Response Teams		

### 6.5. Education and Outreach Capabilities

The table below identifies education and outreach programs and methods already in place for Robinson Rancheria that could be used to implement mitigation activities and communicate information about hazards.

TABLE 30: EDUCATION AND OUTREACH CAPABILITIES - ROBINSON RANCHERIA

PROGRAM/ ORGANIZATION	YES/NO	QUESTION	NOTES
<p><b>Gatherings, Festivals, celebrations and/or Meetings</b></p>	<p>Yes</p>	<p>What have been some shortcomings or issues with outreach efforts? How do you plan to resolve them?</p>	<p>Quarterly General Membership meetings for Tribal members enrolled</p> <ul style="list-style-type: none"> <li>• Tribal Council meetings</li> <li>• Elders meetings</li> <li>• Annual Cultural event</li> <li>• Facebook page for Tribe</li> <li>• Tribe's website</li> <li>• Bulletin boards at Administrative Offices</li> <li>• Quarterly newsletter</li> <li>• Potter Valley Annual Environmental Youth Campout</li> <li>• Regional cultural events such as the Tule Boat festival</li> </ul> <p>Shortcomings:</p> <ul style="list-style-type: none"> <li>• Electronic media not used by older people</li> <li>• Difficult to access electronic media due to poor or no internet connection</li> <li>• Bulletins and postings present a problem for those who must travel due to transportation and/or distance</li> </ul>

<p><b>Natural Disaster or Safety Related School Programs</b></p>	<p>No</p>	<p>Is there a gap in your outreach efforts? If yes, what steps do you intend taking to address this?</p>	<p>Large gap in this field. Speak with other department such as School, Law Enforcement, etc. to partner in education and outreach efforts.</p>
<p><b>Fire Safety Programs</b></p>	<p>No</p>	<p>Is there a gap in your outreach efforts? If yes, what steps do you intend taking to address this?</p>	<p>Northshore Fire Department provides fire services. Reaching out to Northshore Fire Department to partner in awareness and preparedness is a beginning to address this gap.</p>
<p><b>Other Programs</b></p>	<p>Yes</p>	<p>Are there any new or additional outreach efforts that may be considered by your Tribe?</p>	<p>The Lake County Tribal Health Consortium staff visits homes of members and includes a food program The Education Center for families and kids is a resource for education and outreach</p>

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## 6.6. Incorporation of Hazard Mitigation Plan into Other Planning Mechanisms

The DMA2000 requirement for the incorporation of hazard mitigation into other planning mechanisms is shown below.

Element	Requirement
<p><b>D2. Was the plan revised to reflect progress in tribal mitigation efforts?</b></p> <p>44 CFR §§ 201.7(d)(3) and 201.7(c)(4)(iii)</p> <p><i>Intent: To evaluate and demonstrate progress made in the past 5 years in achieving goals and implementing actions outlined in the mitigation strategy.</i></p>	<p>a. The plan shall describe the status of each mitigation action and/or project identified in the previous plan. For those actions not completed, the plan shall provide a narrative describing the status (for example, a description of why the action is no longer relevant).</p> <p>b. <b>The plan shall describe how the tribal government incorporated the previous mitigation plan into other planning mechanisms, as applicable.</b></p>

Integration of hazard mitigation is unique to each community. The process varies depending on the known hazards as well as the range of planning and the decision-making processes of the community—such as the plans, policies, codes, and programs guiding development for the community. Effective integration of hazard mitigation occurs when a community's planning framework leads to a) patterns of development that does not increase risks from known hazards or b) redevelopment that reduces risk from known hazards.<sup>14</sup> Integrating hazard mitigation into community development requires that policies and procedures are established and maintained, and that people, agencies, and departments evaluate and update them.

Hazard mitigation activities can be incorporated in a variety of decision-making processes, such as those suggested below.

- Budgets
- Building and zoning ordinances
- Emergency planning
- Economic development planning

The ROA Team provided a copy of the FEMA Publication called "Plan Integration: Linking Local Planning Efforts" to the Steering Committee members and developed a two-part exercise to support the gathering of information about existing documents that support hazard mitigation. Also, the ROA Team developed forms for use during the maintenance process to support future integration of mitigation principles into this and other plans.

Part I of the exercise consisted of reviewing the questions found in the FEMA publication mentioned above as plans/documents were examined. The SC member provided responses to

<sup>14</sup> FEMA. "Integrating Hazard Mitigation into Local Planning." [https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating\\_hazmit.pdf](https://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating_hazmit.pdf). Accessed 4-14-20

questions about land use, emergency planning, economic development, building and zoning ordinances. The conclusion is that Robinson Rancheria works closely and collaboratively with regional partners to balance planning needs by using existing codes and regulations from these partners to mitigate risks and perform the emergency tasks necessary for the safety of the public as defined by the Tribes.

Incorporation of existing plans and other relevant information into this HMP was done by consulting the following Municipal, County, and State plans.

- City of Clear Lake Hazard Mitigation Plan (2019)
- Lake County Hazard Mitigation Plan (2018)
- California State Hazard Mitigation Plan (2018)

Incorporating the principles of mitigation actions into decision-making processes and planning mechanisms into the day-to-day operations of the Tribal government will support the resilience and sustainability of the Tribe in a variety of ways.

- Raising awareness of the importance of hazard mitigation for the whole community through existing education and awareness programs.
- Facilitating an understanding that hazard mitigation is not just an “emergency services” function.
- Building ownership of mitigation activities across the Tribal body (agencies, departments, offices) and members of the public.
- Reducing duplication or contradiction across regional plans.
- Maximizing planning resources through linked or integrated planning efforts.

Table 26 below was completed after discussions with the Robinson Rancheria Steering Committee member during the Integration Exercise-Part 2. The exercise centered on identifying the level of communication about resiliency among the currently staffed departments/agencies. **PENDING INFORMATION FROM STEERING COMMITTEE REPRESENTATIVE.**

Table 26: Robinson Rancheria Department/Agency Communication

Department/Agency		Tribal Court	ICWA Adoptions	Tribal Police	Finance	Human Resources	ICWA	Housing	Transportation	Education
Judicial Branch	Tribal Administrator	√	√	√	√	√	√	√	√	√
	Tribal Court									
	ICWA Adopt.									
	Tribal Police									



## 7. Mitigation Strategy

The requirements for the identification and analysis of mitigation actions as stipulated by the Disaster Mitigation Act of (DMA) 2000 and its implementing regulations, are described below.

Element	Requirement
<p><b>C3. Does the Mitigation Strategy include goals to reduce or avoid long-term vulnerabilities to the identified hazards?</b></p> <p>44 CFR § 201.7(c)(3)(i)</p> <p><i>Intent: To guide the development and implementation of hazard mitigation actions and/or projects.</i></p>	<p>a. The plan shall include hazard mitigation goals that represent what the tribal government seeks to accomplish to reduce or avoid the vulnerabilities identified in the risk assessment.</p> <p><b>Goals</b> are broad policy statements that explain what is to be achieved. Goals guide the development and implementation of supporting actions. b. The goals shall be consistent with the risk assessment.</p>

The following table provides an overview of the process used for preparing a mitigation strategy, developing mitigation goals, identifying and analyzing potential actions, prioritizing mitigation actions, and implementing the action plan.

Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide visions. The SC member, who also functions as Director of the Tribal EPA office, developed four goals to increase resiliency to the identified hazards. The goals are shown in Table 27.

**TABLE 317: ROBINSON RANCHERIA MITIGATION GOALS**

Goal #	Goal Description (PENDING APPROVAL FROM STEERING COMMITTEE REPRESENTATIVE)
1	Promote increased and ongoing Tribal government, and public involvement in hazard mitigation planning and projects
2	Build and support local capacity to enable the Tribe to prepare, respond to, and recover from disasters
3	Increase resilience of Robinson Rancheria against wildfire
4	Minimize risk and vulnerability of the Robinson Rancheria Tribe to hazards

## 7.1. Mitigation Actions

The requirements of DMA 2000 for developing mitigation actions are found below.

Element	Requirement
<b>C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with emphasis on new and existing buildings and infrastructure?</b>  [44 CFR § 201.7(c)(3)(ii)]	a. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects to reduce the impacts from each identified hazard?
	b. Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure?

Mitigation actions are activities, measures, or projects that support the goals of a mitigation plan. Mitigation actions are usually grouped into five primary categories.

1. Plans and Regulations (PR)
2. Structure and Infrastructure (SI)
3. Natural System Protection (NSP)
4. Preparedness and Response (PREPR)
5. Education and Awareness (EA)

The Steering Committee member for Robinson Rancheria joined the ROA Planning Team in reviewing the vulnerability analysis and hazard maps to determine 25 mitigation actions. The results are shown in the Mitigation Strategy in Table 30.

Working with the COVID-19 shelter-in-place restrictions, the Robinson Rancheria SC member reached out to Council members to participate in the prioritization process. With other more immediate tasks to perform, Council members were unable to participate. The Tribal EPA Director joined ROA Planning Team in a conference call to review, modify, and prioritize the developed mitigation actions.

As listed in Table 32, 20 potential mitigation actions are identified. The list was ranked by the Tribal EPA Director using the following criteria.

**TABLE 28: MITIGATION ACTIONS PRIORITIZATION CRITERIA**

Criteria	High	Points	Medium	Points	Low	Points
<b>Life Safety Impact</b>	Significant impact on public safety for businesses, residents, and properties	10	Direct impact on businesses, residents, properties	6	Minimal/negligible impact on businesses, residents, properties	2

Criteria	High	Points	Medium	Points	Low	Points
<b>Administrative /Technical Assistance</b>	No additional staff or technical support needed to implement	5	Some administrative and technical support needed to implement	3	Significant administrative and technical support needed to implement	1
<b>Project Cost</b>	Low cost (<\$25,000)	5	Moderate cost (\$25,000-\$100,000)	3	High cost to implement (>\$100,000)	1
<b>Other Considerations</b>	Strongly supports/advances other Tribal objectives	5	Supports other Tribal objectives to an extent	3	Does not support other Tribal objectives or policies	1

A bell curve was used to determine the three ranking categories, High, Medium, and Low.

- The high category includes strategies ranked among 21,20, and 19.
- Medium category has strategies ranked among 18, 17, and 16.
- Low category has strategies ranked among 15,14, and 13

## 7.2. Mitigation Actions Potential Funding Sources

Table 29 provides possible funding and assistance resources for the identified action items. The acronyms for these funding sources are shown in the table below.

**TABLE 329: POTENTIAL FUNDING SOURCES FOR MITIGATION ACTIONS**

Program Name or Acronym	Funding Organization	Program Name and Description
BRIC	Federal Emergency Management Agency (FEMA)	<b>Building Resilient Infrastructure and Communities</b> This program will support states, local communities, Tribes, and territories, as they undertake hazard mitigation projects reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program
HMGP	FEMA	<b>Hazard Mitigation Grant Program</b>

Program Name or Acronym	Funding Organization	Program Name and Description
		Available to communities after a Presidentially declared disaster. Grant awards are based on specific projects as these are identified.
FMA	FEMA	<b>Flood Mitigation Assistance Grant</b> Annual funding to mitigate repetitive flooded structures and infrastructure. Available through California's Governor's Office of Emergency Services.
EMPG	FEMA	<b>Emergency Management Performance Grant</b> Administered by states, this program offers funds annually for all-hazards preparedness.
NFIP	FEMA	<b>National Flood Insurance Program</b> Property owner's insurance protection in exchange for State and community floodplain management and regulation.
RFIP	FEMA	<b>Repetitive Flood Insurance Program</b> Provides funding to states and communities to reduce risks of flood damage to structures.
Firefighter Staff)	FEMA/U.S. Fire Administration	<b>Assistance to Firefighters</b> Available for fire departments and non-affiliated emergency medical services. Grant awards based on projects as identified. Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards.
THSGP	U.S. Homeland Security (DHS)	<b>Tribal Homeland Security Grant Program</b> Provides funding directly to eligible Tribes to strengthen their capacities to prevent, prepare for, protect against, and respond to potential terrorist attacks.
FSTP	U.S. Forestry (USF)	<b>Forest Service and Tribal Partnerships</b> Partnerships for research with traditional ecological knowledge, job training for Tribal members to work on USFS lands, collaborative forest restoration .
CWSRF	U.S. Environmental Protection Agency (USEPA)	<b>Clean Water State Revolving Fund</b> Annual funding cycle. Awards are based on specific projects as identified. Funds projects for water quality, watershed protection or restoration, estuary management, nonpoint source, and traditional municipal wastewater treatment. California's State Water Resources Control Board provides financial assistance – the programs include loans and grants for project such as:

Program Name or Acronym	Funding Organization	Program Name and Description
		construction of municipal sewage and water recycling facilities, remediation for underground storage tank releases, watershed protection, nonpoint source pollution control
GAP		<p><b>General Assistance Program</b> Provides funds for planning, developing, and establishing environmental protection programs in Indian country, and for developing and implementing solid and hazardous waste programs on Tribal lands</p>
TTP	U.S. Department of Transportation (USDOT)	<p><b>Tribal Transportation Program</b> Federal Highway Administration – funding for specific projects as identified – these may include construction, improvement of roads, bridges, and transit facilities within or leading to Indian reservation or other Indian lands to provide safe access through areas prone to hazards.</p>
ATG		<p><b>Aid to Tribal Governments (Bureau of Indian Affairs)</b> Support for government operations, maintenance of Tribal enrollment, elections as well as applicable policies, legislation, and regulations.</p>
TRP	U.S. Department of the Interior	The BIA <b>Tribal Resilience Program (TRP)</b> provides federal-wide resources to federally recognized Tribal nations and Alaska native villages, to build resilience through leadership engagement, delivery of data and tools, training and Tribal capacity building
THPO		(National Park Service) Funding <b>for Tribal Historic Preservation Officer</b>
ICDBG	U.S. Housing and Urban Development (HUD)	<p><b>Indian Community Development Block Grant Program</b> Provides critical housing and community development resources to aid in the recovery of a disaster.</p>
ITICDBG		<p><b>Imminent Threat, Indian Community Development Block Grant</b> Grant program to alleviate or remove imminent threats to health or safety. Available to entitled Tribes. Grant awards based on projects as they are identified</p>
ANAG	U.S. Health and Human Services (HHS)	<p><b>Administration for Native American Grant</b> This program funds several environmental management programs including the identification and assessment of manmade and natural hazards, the associated risks, and the implementation of plans, policies, and codes/ordinances.</p>

Program Name or Acronym	Funding Organization	Program Name and Description
CATTP	State of California (CA)	<p><b>Tribal/State Program</b> Provides legal services and technical assistance to local courts on inter-jurisdictional issues across all case types and assists with developing policies, positions, and programs.</p>
TA	U.S. Department of Agriculture (USDA)	<p><b>Tribal Assistance</b> The USDA's Natural Resources Conservation Services provides personnel to assist Tribes in: Conservation planning cropland, pastureland, and rangeland. Assists to apply rangeland management and improvement practices, irrigation water development structures and management, brush control, erosion control structures, agriculture, forestry, farmland protection, wildlife habitat improvement, and wetlands restoration.</p>
IEEP	U.S. Department of Energy (USDOE)	<p><b>Indian Energy &amp; Policy Program</b> Program funds and implements a variety of programmatic activities that assist American Indian Tribes villages with energy development, capacity building, energy cost reduction, and electrification of Indian lands and homes.</p>
TNG	California Indian Legal Services	<p><b>Tribal Nations Grant</b> Program funds advancement of Tribal nation building.</p>
Other		

### 7.3. Mitigation Strategy Table

The goals in Table xx Mitigation Strategy are listed in the order of relevancy to the action item. The priority, high, medium, or low is based on the total score given by the group at prioritization.

**TABLE 33 - MITIGATION STRATEGY – COMPLETION OF HIGHLIGHTED ITEMS IS PENDING INFORMATION**

New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
	1-EA		Develop a program to educate Tribal staff at meetings, Elders at Elder Committee activities, and kids at Education Center about Cybersecurity.	Cybersecurity		\$5,000	THSGP, GAP, TRP		High
	3-EA		Continue to support the work of Paradigm College in implementing a defensible space and wildfire awareness program.	Wildfire		\$50,000	GAP, ATG, TRP, ANAG, TA		High



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
	1-PR		Identify areas of wildfire threat, integrate with GIS mapping, and Tribal emergency planning.	Wildfire		\$20,000	GAP, ATG, TRP, ANAG, TA		High
	2- PREPR		Implement an early warning system to maintain the public informed about hazard events.	All identified hazards		\$4,234 (annually)	THSGP, GAP, ATG, TRP, ANAG, TA		High
	2-EA		Develop a presentation for delivery at quarterly membership meeting or other special events about water conservation.	Drought and Water Shortage		\$1,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		High



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
	5-EA		Develop program for outreach and education about the hazards that affect the Tribal area.	All identified hazards		\$20,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		High
	6-EA		Develop program for outreach and education about mitigation efforts and options in the Tribal area.	All identified hazards		\$50,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		High
	2-PR		Implement a program to reduce fuel load for fire in the Tribal area.	Wildfire		\$50,000	BRIC, GAP, ATG, TRP, ANAG, TA		High
	5-PR		Develop a Continuity of Operations Plan	All identified hazards		\$84,300	THSGP, EMPG, GAP, ATG, TRP, ANAG, TA		High



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
			addressing hazards affecting the Tribe.						
	6-PR		Maintain and update the approved hazard mitigation plan.	All identified hazards		\$62,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Medium
	1- PREPR		To reduce risk of Cyanobacterial Bloom monitor lakeshore and slough water quality and record data into a database to share with regional partners.	Cyanobacterial Bloom		\$100,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Medium
	4-EA		Develop an education and outreach program for vulnerable population regarding health	Extreme Heat		\$1,000 (review cost estimate-- for technical	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Medium



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
			risks associated with extreme heat.			support needed)			
	2-NSP		Reduce the risk of levee failure along the Middle Creek Restoration area by strengthening collaboration with partners.	Levee failure, Flooding		\$200	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA, CWSRF		Medium
	3-NSP		Encourage collaboration with partners and stakeholders to reduce the risk of detrimental changes to the wetlands and floodplain on south side of Highway 20 surrounding Pomo pumps and EPA office.	Flooding,		\$10,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA, CWSRF		Medium



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
	1-SI		Secure a reliable water source for Pomo Pumps (New well or connect to municipal water source).	Drought and water shortage		\$50,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA, CWSRF		Medium
	1-NSP		Improve water quality by integrating projects to reduce cyanobacterial bloom with other water quality projects such as solid waste cleanup, erosion prevention, and soil stabilization.	Cyanobacterial Bloom, Erosion, Landslide/debris flow		\$100,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA, CWSRF		Medium
	4-NSP		Increase collaboration for BIA protective access to cultural and sacred sites when	All identified hazards		\$300	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Medium



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
			threatened by a hazard.						
	4-PR		Strengthen information technology capabilities and security across Tribal departments and businesses.	All identified hazards with emphasis on cybersecurity		\$100,000 (review)	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Low
	3-PR		Strengthen the information technology capability of the Tribe to collect and analyze hazard-related data.	All identified hazards		\$50,000 (review)	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA		Low
	2-SI		Build projects to reduce the impact of flood and erosion	Flood, erosion		\$50,000	BRIC, EMPG, GAP, ATG, TRP, ANAG, TA, CWSRF		Low



New/ Existing	Action #	Goal	Action Description	Hazard Addressed	Responsible Party(ies)	Potential Cost (\$)	Funding Sources	Timeline to Implement (Less than 1 year; 2-3 years; 3-5 years)	Project Priority
			on the Tribe's lakefront property.						



## 7.4. Status of Mitigation Actions Identified in Previous Plan

DMA2000 requirements for the review of previous plan's actions and the determination of their relevancy in the updated plan is shown below.

Element	Requirement
<p><b>D2. Was the plan revised to reflect progress in tribal mitigation efforts?</b></p> <p>44 CFR §§ 201.7(d)(3) and 201.7(c)(4)(iii)</p> <p><i>Intent: To evaluate and demonstrate progress made in the past 5 years in achieving goals and implementing actions outlined in the mitigation strategy.</i></p>	<p>a. <b>The plan shall describe the status of each mitigation action and/or project identified in the previous plan. For those actions not completed, the plan shall provide a narrative describing the status (for example, a description of why the action is no longer relevant).</b></p> <p>b. The plan shall describe how the tribal government incorporated the previous mitigation plan into other planning mechanisms, as applicable.</p>

The 2005 plan presents a series of mitigation actions which were reviewed and evaluated by the Tribal Liaison to the Steering Committee, Sarah Nave and other members of the Tribal Government she deemed as subject matter experts. Table XX shows the status of each of the 2005 Robinson Rancheria Hazard Mitigation Plan's action items and their status.



TABLE 34 - STATUS OF PREVIOUS PLAN'S ACTION ITEMS (QUESTION #11 SARAH , MISSING PROJECT EVALUATION FORMS

Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
WSC.1.1	Develop phone trees, reverse 9-1-1 services, hotlines and email lists to quickly inform members of any dangers.						
WSC.1.2	Develop and install public address capabilities on the Rancheria to sound alarms and make announcements.						
ET.1.1	Develop and continue outreach sessions on all hazard dangers to Robinson Rancheria Tribal members and businesses.						
ET.1.2	<p>Provide training and educational programs to Tribal members, first responders and employees: The following programs should be included:</p> <ul style="list-style-type: none"> <li>➤ Red Cross training for First Aid and CPR</li> <li>➤ Community Emergency Response Team (CERT) Training for Rancheria residents.</li> <li>➤ FEMA's "Are You Ready": Citizens Preparedness program for all residents and employees.</li> </ul> <p>FEMA's NIMS (IS-700), NRP (IS-800), ICS (IS 100) programs for all emergency responders on the Rancheria and in the businesses.</p>						
ET.1.3	Develop assistance and outreach programs for elders and other sensitive populations in times of extreme heat, weather, toxic spills, and other hazards.						



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
HW.1.1	Assess risks and vulnerabilities of Rancheria households, lands, agriculture and businesses to potential hazards.						
HW.1.2	Identify and mark evacuation routes for various hazard responses for Robinson Rancheria residents, employees and guests of the Resort and Casino. Publish these plans and periodically rehearse them.						
HW.1.3	Provide informational publications and Q & A community sessions for residents and employees on the dangers of certain hazardous conditions. Provide appropriate reminders based on the season of the year and the associated dangerous conditions.						
HW.1.4	Establish shelter capabilities on the Rancheria, and at the Casino to house and feed Tribal members, employees and the public (if needed), for all hazards where sheltering in place or close by is appropriate						
CS.1.1	- Inventory and assess known culturally significant sites. Findings will not be published to the public.	Cultural significant sites (All hazards)		✓			
CS.1.2	Develop and evaluate the options for protection.	Cultural significant sites (All hazards)		✓			



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
CS.1.3	Prescribe and implement protective measures for cultural resources at-risk in consultation with Tribal Elders and The Council	Cultural significant sites (All hazards)		✓			
BDL.1.1	Monitor the conditions and capacities of the bridges/dams & levees maintained by Lake County Water Resources, Public Works and Army Corps of Engineers. Review their publications, websites and public domain documents.	Bridge, Dam & Levee failure		✓			
BDL.1.2	Inspect all structures (bridges, dams, levees, creeks) periodically and report findings to the appropriate responsible parties verbally and in writing. Keep records.	Bridge, Dam & Levee failure		✓			
BDL.1.3	Meet regularly with Lake County Public Works and other agencies to review bridge, dam and levee conditions, upgrades and proposed repairs.	Bridge, Dam & Levee failure		✓			
BDL.1.4	– Attend public informational meetings related to bridge, dam and levee design, repair and funding topics.	Bridge, Dam & Levee failure		✓			
D.1.1	Identify potential alternate water resources, other than lake surface water, for households, lands and businesses identified at-risk.	Drought		✓			
D.1.2	Construct wind barriers on the Rancheria to reduce the effects of wind related drying and erosion of topsoil.	Drought		✓			



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
D.1.3	Install greater capacity water storage facilities for community and individual water systems identified at risk. Purchase a mobile potable water tank, or several, to fill and place on the Rancheria in strategic locations.	Drought		✓			
D.1.4	Procure and distribute water efficiency devices for residential and commercial use	Drought		✓			
D.1.5	Adopt water quality and use codes/ordinances regulating water use during declared drought periods.	Drought		✓			
EQ.1.1	Perform a structural assessment of the Rancheria infrastructure, buildings, and homes within the Reservation. Assess Rancheria businesses and all other structures off the Rancheria used by Robinson. Determine their compliance with earthquake safe construction guidelines, as well as their relative risk for damage from ground shaking.						
EQ.1.2	Make improvements to high priority structures within the Rancheria and all critical structures identified as shelter areas.						
EQ.1.3	Adopt regulations that ensure all future structures built on or for Robinson Rancheria meet California earthquake safety code building requirements.						



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
EQ.2.1	Implement Safety and Emergency programs at the Resort and Casino for employees and customers capable of serving 2000 possible victims.						
EQ.2.2	Introduce the same safety and emergency programs developed for the Resort and Casino into the Rancheria Tribal community and other businesses.						
EQ.2.3	Develop Mutual Aid agreements with other Tribes, county agencies, private businesses, the state and/or Federal Government to supply skills, resources and equipment that Robinson Rancheria does not possess, but may need to prepared and/or respond to a disaster.						
ET.1.1	Eradicate and/or control invasive water/land plants by mechanical harvesting, destroying and/or spot treatment; and alternative methods, such as goats, sheep and other environmentally safe procedures.						
ET.1.2	Restock the waters, and re-seed the land with culturally significant water and land plants that will promote the growth of native fish stocks, rebuild the soil, and improve water quality.						
EH.1.1	Purchase potable water trucks. <i>This project was not feasible due to the cost of the water trucks and the purchase of water. The Tribe is looking at water saving measures.</i>	Extreme Heat	✓			✓	



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
EH.1.2	Evaluate the benefit of purchasing fans, air conditioners, swamp coolers, and other cooling equipment for Rancheria households to help with extreme heat conditions. <i>The Tribe chose to use the Casino as a shelter/cooling station for members during extreme heat events.</i>	Extreme Heat	✓			✓	
EH.1.3	Plant heat/drought resistant native plants and trees.	Extreme Heat		✓			
EH.2.1	Coordinate with County Water Resources to improve vegetative cover on tributary streams to lower the temperature of water entering Clear Lake.	Extreme Heat		✓			
EH.2.2	Develop an emergency action plan for periods of high temperatures.	Extreme Heat		✓			
EW.1.1	Post warning signs in areas where dangerous conditions result from extreme weather conditions.						
EW.1.2	Ensure emergency power generation at all critical buildings and infrastructures.						
EW.2.1	Investigate alternative power sources for purchase and/or implementation such as solar, water currents, wind, geothermal, bio diesel, energy credits and other non-traditional power sources.						



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
F.1.1	Develop land use management plans, ordinances and zoning regulations prohibiting development within the 100-year floodplain.						
F.1.2	Install lakeside retaining walls to minimize flooding and damage to lake front properties.						
F.1.3	Construct high water barriers and/or develop water diversion strategies for at risk structures on the hillside or in the levee areas.						
F.2.1	Coordinate with PG&E to evaluate Rancheria power requirements for emergencies and protection from flooding conditions.						
LE.1.2	Restore roads to pre-disaster conditions.						
LE.1.3	Reinforce earthen dams at both ponds on the Rancheria.						
LE.1.4	Evaluate the slope and speed of water on roads, in creeks and in streams, and reduce water speeds with appropriate measures. Examples include: redesign of culverts, add culverts, rolling and inverted rolling dips, rip rap, improved drainage facilities to neutralize the water's destructive energy.						
V.1.1	Develop an educational program on the dangers, protective measures and warning signals of volcanic activity.						



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
WF.1.1	Educate and train Tribal members and Rancheria employees of fire prevention procedures such as implementing fuel reduction programs, and creating firebreaks and defensible space around homes, structures, and the Tribal community.					✓	
WF.1.2	Install smoke and fire detectors in all Rancheria businesses and Tribal residences. Install fire extinguishers in each Rancheria business. Consider providing fire extinguishers to Tribal residences.					✓	
WF.1.3	Encourage adoption and enforcement of the Uniform Building and Fire Code for all structures, locations and activities on the Rancheria and at the businesses. Incorporate National Fire Protection Agency (NFPA) standards as appropriate.					✓	
WF.1.4	Evaluate use of automatic fire suppression systems in all critical structures and on or in culturally significant locations and structures.					✓	
WF.1.5	Develop and promote a Community Wildfire Protection Plan.					✓	
WF.1.6	Train and equip volunteer fighter fighters from the Rancheria, who can join county fire departments and CDF teams responding to fight fires on the Rancheria.					✓	
T.1.1	Educate Tribal members and employees on the basics of terrorist operations and how to recognize potential terrorist activities. Train members to observe and report suspicious activity.-.					✓	



Action #	Action Description	Hazard Addressed	No Longer Feasible	Complete	Ongoing	Not Started	In 2020 Plan
T.1.2	Implement protective measures to discourage terrorist activities against Rancheria members, businesses, structures and the community.						
T.1.3	Train emergency response teams to respond to various terrorist-caused disasters						
T.2.1	Develop mutual aid opportunities with other Tribes and agencies to detect, monitor and respond to terrorist activities.						
TA1.1	Develop response plans based on a variety of State Highway 20 emergency scenarios.						
TA1.2	Provide training and education to Rancheria response teams concerning appropriate responses to State Highway 20 emergencies.						



### 7.5. Changes in Priorities

The DMA2000 requirement to describe changes to previous priorities and that the plan echoes the status of the Tribe is shown below.

Element	Requirement
<p><b>D3. Was the plan revised to reflect changes in priorities?</b></p> <p>44 CFR § 201.7(d)(3)</p> <p><i>Intent: To ensure the plan reflects current conditions, including financial, legal, and political realities as well as post-disaster conditions.</i></p>	<p>The plan shall describe if and how any priorities changed (for example, due to disaster events or changes in leadership) since the plan was previously approved. If no changes in priorities are necessary, plan updates shall validate the information in the previously approved plan.</p>

The priorities for the Robinson Rancheria's Tribal Government is the protection of its people, property, and cultural/sacred sites. This priority has not changed from the previous 2005 Hazard Mitigation Plan.

The changes I leadership, staffing, and

Other projects were carried forward to the current plan and revised to a more contemporary version based on present capabilities. The latter are identified as Existing (E) in the current strategy, see Table XX above.



## 7.6. Plan Updates Reflecting Changes in Development

The Disaster Mitigation Act of 2000 (DMA2000) requirements for new plans and updates to existing approved plans regarding changes in development are shown below.

Element	Requirement
<p><b>D1. Was the plan revised to reflect changes in development?</b></p> <p>44 CFR § 201.7(d)(3)</p> <p><b>Intent:</b> <i>To ensure that the mitigation strategy continues to address the risk and vulnerabilities to existing and potential development.</i></p>	<p>The plan shall describe changes in development that have occurred in hazard prone areas since the last plan was approved.</p> <p>Not all development will affect a tribal government's vulnerability. If no changes are identified, plan updates shall validate the information in the previously approved plan.</p> <p><b>Changes in development</b> means recent development (for example, construction completed since the last plan was approved), potential development (for example, development planned or under consideration by the tribal government) or conditions that may affect the risks and vulnerabilities of the tribal planning area (for example, climate variability and/or declining populations or projected increases), and new data regarding the type, location, occurrence, and extent of hazards that has become available since the last plan was developed or as a result of disaster events.</p>

the 2005 approval of the Robinson Rancheria Tribal Hazard Mitigation Plan did not include the requirement to identify future development. Language in the FEMA crosswalk states "This planning element only applies if a Tribal government chooses to have sub-jurisdictions within the Tribe submit plans to the main Tribal government. Otherwise, this planning element is N/A."

Section 1.5 Growth and Development Trends provides the information about changes in development that have occurred. The gas station tends to flood as it is adjacent to wetlands.



## 8. Plan Maintenance

Requirements under the DMA 2000 to monitor, evaluate, and update the mitigation plan within the five-year plan cycle are shown below.

Element	Requirements
<p><b>A6. Does the plan include a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within the plan update cycle)?</b></p> <p>44 CFR § 201.7(c)(4)(i)</p> <p><i>Intent:</i> To establish a process for the tribal government to track the progress of the plan's implementation and ensure the plan remains current and viable.</p>	<p>a. The plan shall identify how, when, and by whom the plan will be monitored. <b>Monitoring</b> means tracking the relevance and implementation of the plan over time and includes all elements of the plan.</p> <p>b. The plan shall identify how, when, and by whom the plan will be evaluated. <b>Evaluating</b> means assessing the effectiveness of the plan at achieving its stated purpose and goals.</p> <p>c. The plan shall identify how, when, and by whom the plan will be updated. <b>Updating</b> means reviewing and revising the plan at least once every five years.</p> <p>d. The plan shall include the title of the individual or name of the department/agency responsible for leading these efforts.</p>
<p><b>A7. Does the plan include a discussion of how the tribal government will continue public participation in the plan maintenance process?</b></p> <p>44 CFR § 201.7(c)(4)(iv)</p> <p><i>Intent:</i> To identify how the public will continue to have an opportunity to participate in the plan's maintenance and implementation over time.</p>	<p>a. The plan shall describe how the tribal government will continue to seek public participation after the plan has been approved and during the plan's maintenance process.</p> <p><i>Examples include, but are not limited to, periodic presentations on the plan's progress to Tribal officials, schools, or other tribal groups; annual questionnaires or surveys; tribal gatherings; and/or postings on social media and websites.</i></p>

The Hazard Mitigation Plan is intended to be a living document with relevant information about the communities participating in the process. Keeping the plan current requires an established schedule for checking for changes in all aspects of mitigation on a regular basis. The social, technical, administrative, political, legal, economic, and environmental aspects of a community also change; therefore, it is important to maintain continuity with a regular schedule for meetings of the participating jurisdictions to discuss and document these changes and the advances made in implementing their mitigation strategy, integrating mitigation into other planning mechanisms, and keeping the public involved in and aware of their Tribal government's activities related to mitigation.

During the initial discussions about the development of this MTHMP among the five Tribal representatives, which now comprise the Steering Committee, the group agreed that Scotts Valley Band had the best capability to lead the planning process and the maintenance of the approved and adopted 2020 SVMTHMP.



As a result, Scotts Valley Band led the planning efforts for the five Tribes involved in this planning process, and the SVB Tribal Project Coordinator (TPC) is responsible for the maintenance and update of this Multi-Tribal Hazard Mitigation Plan. The TPC will begin coordination of semi-annual review meetings. The first meeting will be six months after the adoption of the plan. The second, the month of the anniversary of the adoption of the plan. Findings and outcomes from these meetings will be documented and presented by each Tribal representative to their Tribal Council at their next scheduled meeting.

For the semi-annual meetings, the TPC is responsible for:

- Updating plan
- Planning and coordinating meetings and gathering the SC members and appropriate participants from the Tribal Governments, local, county, state, and federal agencies.
- Serving as the record-keeper for the semi-annual forms submitted by other Tribes.

To support the TPC in the monitoring process, the Steering Committee will elect a member tasked as “Secretary” responsible for the following tasks.

- Preparing and distributing meeting outcomes.
- Recording when the hazard mitigation plan update presentation by each SC representative to their Council took place.
- Compiling the minutes of Tribal Council meetings for the dates the hazard mitigation plan update presentation took place.
- Submitting the above documentation to the TPC in a timely manner before the next semi-annual update meeting.

Each SC member is responsible for ensuring revisions to their individual Annex are documented. All Tribes will provide the appropriate forms to the TPC every six months. If no changes have taken place, the SC member for each Tribe must submit a dated form (or forms) signed by the preparer to the TPC with “no change” written on top.

The semi-annual meetings will include a review of each Tribal Annex and completion of a series of forms to document progress and evaluate the effectiveness of each mitigation action. The assessment will be supported by a series of forms described in this section. These forms are listed below and can be found in Appendix F: Maintenance and Monitoring Tools along with a sample agenda for each semi-annual meeting. The documentation gathered using these forms will track and direct changes to future updates.

- Maintenance and Monitoring Tools
  - Plan Monitoring and Evaluation Worksheet
    - Review benefits of mitigation activities
    - Note avoided losses of mitigation activities
  - Tracking Hazard Events Form
    - Track mitigation projects implemented
    - Track impacts of hazard events including expenditures, displacements, etc.
  - Tracking Assets and Growth
  - Tracking Public Involvement
  - Tracking Plan Integration



The agenda for each semi-annual meeting will include, for each Tribal annex, a review of the Plan Monitoring and Evaluation Worksheet which includes a review of the benefits (or avoided losses) of mitigation activities (by tracking mitigation projects implemented and impacts of hazard events such as expenditures, displacement, etc. using a Tracking Hazard Events form). Also, the following plan components/sections will be part of this assessment.

Plan Process for Review	Tool for Review and Recordkeeping
Planning Process	Identified in the agenda with FEMA's monitoring tool as a mean for recording the data at each meeting.
Risk Assessment	Identified in the agenda, included in FEMA's monitoring tool as a mean of recording the data, and a form for tracking hazard events and their impacts
Vulnerability Analysis:	Identified in agenda with subitems for Severe Repetitive Loss and Repetitive Loss property, included in FEMA's monitoring tool for recordkeeping, checklist for growth.
Capability Assessment	Identified in agenda, included in FEMA's monitoring tool, blank forms for tracking changes in capabilities
Mitigation Strategy:	Identified in agenda, included in FEMA's monitoring tool, and a project evaluation worksheet to document progress, obstacles, and updates.
Plan Maintenance Process	Identified in agenda, included in FEMA's monitoring tool, Integration Tracking Form, Presentation to Councils of meeting outcomes, forms for tracking public outreach with sample update meeting flyer and press release. Link to FEMA's HMA program notifications to receive updates for program revisions.

The SVMTHMP remains valid for five years. Approximately two years prior to expiration, the Steering Committee will convene to review the plan, identify where updates are needed, and determine whether a grant is necessary to assist with the plan update. Future updates to the Tribal mitigation plan will account for any new hazard vulnerabilities, special circumstances, or new information that becomes available. It will also discuss changes in priorities and progress on mitigation actions.

### 6.1. Continued Public Involvement

Members of the five Tribes will be invited to participate in all facets of the plan maintenance process. Each Steering Committee member will educate their community at least annually at a community event and track the outreach effort in the form called Tracking Public Involvement. Any comments received will be addressed within the Annex.

### 6.2. Plan Integration

Part of ensuring that the plan is current and useful to a community is integrating it into existing and future planning efforts. Before each semi-annual plan maintenance meeting, the SC member, as representative of their Tribe, will gather information on all planning mechanisms expected to be



updated in the next year and coordinate with the appropriate Tribal agencies to determine the best opportunities to incorporate the mitigation plan's goals and actions into other existing documents. The form called Tracking Plan Integration will assist in documenting the discussion with other Tribal agencies and actions taken to include mitigation principles into other plans, regulations, as well as local, county, regional and state applicable plans.

### 6.3. Plan Adoption and Assurances

By adopting the plan, the Robinson Rancheria Tribal Council, makes the commitment to implement the mitigation strategy and follow the applicable rules and regulations for the related funding.

Element	Requirement
<p><b>E2. Does the plan include documentation that it has been formally adopted by the governing body of the tribal government requesting approval?</b></p> <p>44 CFR § 201.7(c)(5)</p> <p><i>Intent: To demonstrate the tribal government’s commitment to fulfilling the hazard mitigation goals outlined in the plan and to authorize responsible agencies to execute their responsibilities.</i></p>	<p>The tribal government’s governing body shall submit documentation that the plan was adopted.</p> <p><i>An example of documentation may include a tribal resolution, tribal executive order, tribal notice of action, or other official documentation of adoption.</i></p>

After submittal to FEMA for final review and approval, the Robinson Rancheria Tribal Council will adopt this plan in accordance with FEMA requirement of a formal adoption by the governing body of the Indian Tribal government.

A sample adoption resolution is included in Appendix A.

With the formal adoption of this plan by the Tribal governing body, the Robinson Rancheria Tribal Council assures that their Tribal government will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with Title 2 of the Code of Federal Regulations, Parts 200 and 300. The Robinson Rancheria will amend its Annex whenever necessary to reflect changes in Tribal or federal laws and statutes.

