



**CITY
OF
RED
BLUFF**

HAZARD MITIGATION PLAN

NOVEMBER 2004

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City of Red Bluff Hazard Mitigation Plan

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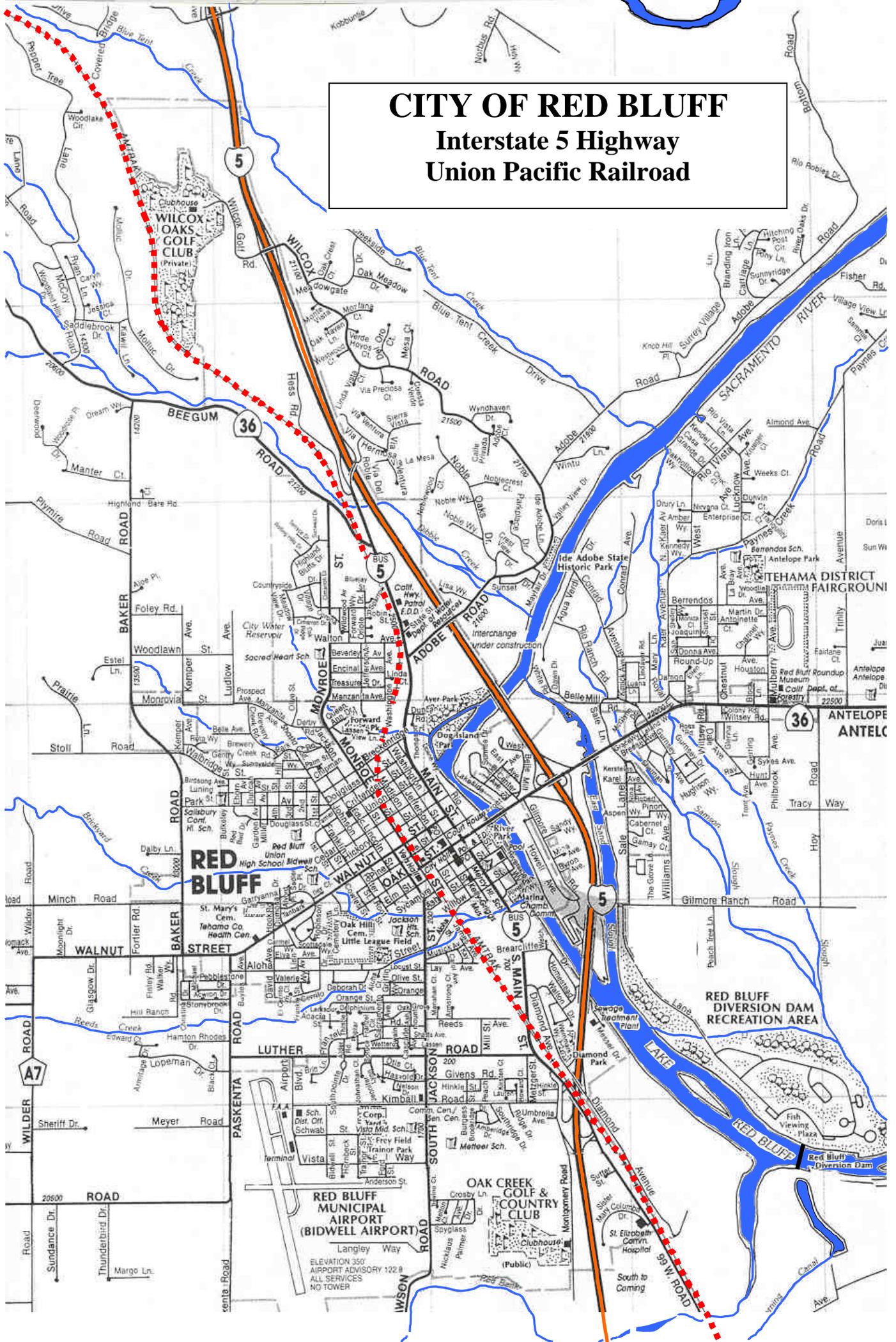
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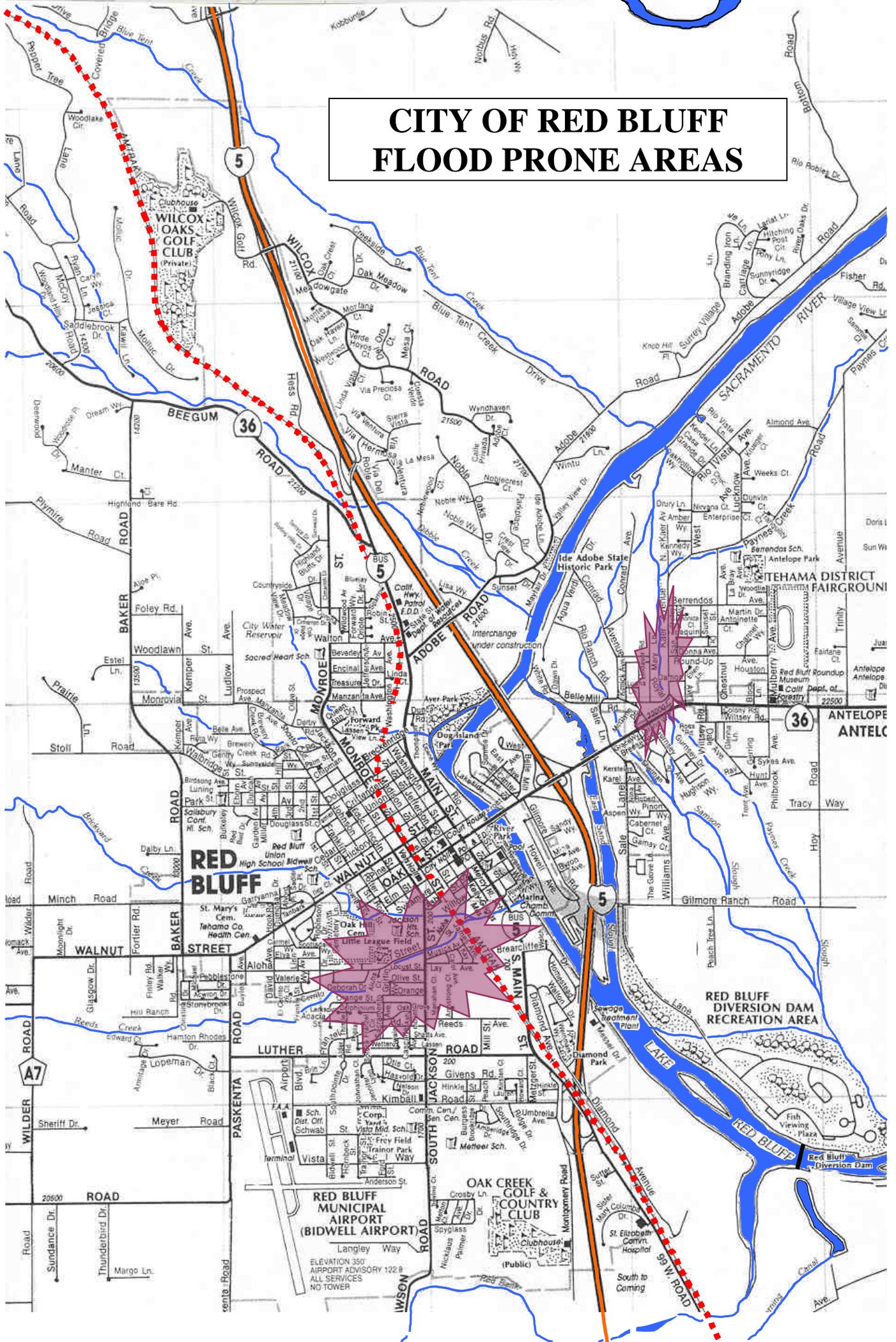
CITY OF RED BLUFF

Interstate 5 Highway

Union Pacific Railroad



CITY OF RED BLUFF FLOOD PRONE AREAS



EXECUTIVE SUMMARY

The City of Red Bluff is a vibrant and unique community. But every aspect of the city –its economic prosperity, social and cultural vitality, and quality of the environment could be dramatically altered by a serious earthquake, flood, or fire. While we cannot predict or protect ourselves against every possible hazard that may strike the community, we can anticipate many impacts and take steps to reduce the harm they will cause. We can make sure that tomorrow’s Red Bluff continues to reflect our current values. This Mitigation Plan starts an ongoing process to evaluate the risks different types of hazards pose to Red Bluff, and to engage the City and the community in dialogue to identify which steps are most important to pursue to reduce these risks.

While the city and community members have been working together for years to address certain aspects of the risk – this plan will formalize this process and make sure that these activities continue to be explored and improved over time. Over many years, this constant focus on disasters will make the city, its residents and businesses, much safer.

This Plan meets the requirements of the federal Disaster Mitigation Act of 2000, which calls for all communities to prepare mitigation plans. By preparing this plan, Red Bluff is eligible to receive federal mitigation funding (after disasters) and to apply for mitigation grants before disasters strike.

The projects and programs designed to reduce the impacts of a future hazard event are referred to as “mitigation action plans” in this document. Mitigation action plans have been developed for implementation whenever the resources to do so become available. As the mitigation action plans that are identified in this plan are implemented, the City of Red Bluff will become more “disaster resistant”.

This document details the work of the Hazard Mitigation Planning Committee over the past year to develop the planning organization, undertake the required technical analysis, and coordinate the mitigation initiatives that have been proposed. When implemented, this local mitigation plan shall make the people, neighborhoods, businesses and institutions of Red Bluff safer from the impacts of future hazard events.

This plan “City of Red Bluff Hazard Mitigation Plan” was officially adopted by the Red Bluff City Council on January 18, 2005 with resolution # 11-2005. A copy of that adopted resolution is included in the plan. *(201.6(c)(5))*

Section One

INTRODUCTION

A natural hazard event may strike at any time and has the potential to cause enormous loss of life and property. Although a community cannot predict when and where a hazard event will occur, it can plan ways to reduce both structural and nonstructural damage during a hazard event. This planning is called local hazard mitigation planning and can result in a savings of life, property, natural resources and money for a community.

A. Background

The Federal Emergency Management Agency (FEMA) defines local mitigation planning as:

“The representation of the jurisdiction’s commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards.” (FEMA Interim Rule)

The Disaster Mitigation Act of 2000 amends the Stafford Act and requires that local jurisdictions and states must have an FEMA-approved hazard mitigation plan to receive funding from the Hazard Mitigation Grant Program, which is implemented under Section 404 of the Stafford Act. This amendment shifts emergency management programs away from the response and recovery role and encourages “the identification of hazards before they occur, preventing future losses, and minimizing the impacts of disasters.” (FEMA How-To Guide – Getting Started)

The State of California requires that each Operational Area create a hazard mitigation plan which includes cities within each of its OA (**201.6(b)**). The planning process for this document has included a comprehensive detailed evaluation of the vulnerabilities of Red Bluff to all natural hazards in order to identify ways to make the city more resistant to the impacts of a natural hazard. FEMA concludes that hazard mitigation planning is:

“...a process of determining how to reduce or eliminate the loss of life and property damage resulting from natural and human-caused hazards.” (FEMA How-To Guide – Getting Started)

Red Bluff is located in the center of Tehama County and has a population of 13,556. The City is susceptible to a number of hazard events and has several unique characteristics that make this area more susceptible to certain types of hazards, such as dam failure and flooding. In addition to those hazards that directly affect Red Bluff, the County may also feel the residual effects of hazard events, such as earthquakes, flooding, and wildland fires. Red Bluff and its characteristics will be further discussed in the Community Vulnerability Assessment.

B. Purpose

According to FEMA the benefits of mitigation planning are that it:

- Leads to cost-effective selection of risk reduction actions
- Builds partnerships
- Contributes to sustainable communities
- Establishes funding priorities

The purpose of the Red Bluff Hazard Mitigation Plan is to:

Provide a Methodical, Substantive Approach to Mitigation Planning

The approach utilized for the RBHMP relies on the application of soundly-based planning concepts in a methodical process to identify vulnerabilities to future disasters and to propose the mitigation initiatives necessary to avoid or minimize those vulnerabilities. Each step in the planning process builds upon the previous, so that there is a high level of assurance that the mitigation initiatives proposed have a valid basis for both their justification and priority for implementation. One key purpose of this plan is to document that process and to present its results to the community.

Enhance Public Awareness and Understanding

The RBHMP is interested in finding ways to make the community more aware of the natural, technological and societal hazards that threaten the public health and safety, the economic vitality of businesses, and the operational capability of the government. The plan identifies the hazards threatening Red Bluff and provides an assessment of the relative level of risk they pose. The plan also includes a number of proposals of ways to avoid or minimize those vulnerabilities. This information will be helpful to individuals that wish to understand how the community could become safer from the impacts of future disasters.

Create a Decision Tool for Management

The Red Bluff Hazard Mitigation Plan provides information needed by the managers and leaders of local government, business and industry, community associations and other key institutions and organizations to take actions to address vulnerabilities to future hazards. It also provides proposals for specific projects and programs that are needed to eliminate or minimize those vulnerabilities. These proposals, called “action plans” in the plan, were created by each participating jurisdiction and ranked as having a high, medium or low priority. These action plans give community leaders a roadmap for mitigation activities and lets them know where resources, when available, should be allocated.

Promote Compliance with State and Federal Program Requirements

There are a number of state and federal grant programs, policies, and regulations that encourage or mandate that local governments develop and maintain a comprehensive hazard mitigation plan. This plan is specifically intended to assist each participating local government in complying with these requirements, and will enable them to more fully and quickly respond to state and federal funding opportunities for mitigation-related projects. Because the plan defines, justifies and prioritizes mitigation initiatives that have been formulated through a technically

valid hazard analysis and vulnerability assessment process, the participating organizations are better prepared to more quickly and easily develop the necessary grant application materials for seeking state and federal funding.

Enhance Local Policies for Hazard Mitigation Capability (201.6(c)(1))

A component of the hazard mitigation planning process conducted by the RBHMP staff is the analysis of the existing policy, program and regulatory basis for control of growth and development. This process involves cataloging the current mitigation-related policies of local government so that they can be compared to hazards that threaten the jurisdiction and the relative risks they pose to the community. When the risks posed to the community by a specific hazard are not adequately addressed in the community's policy or regulatory framework, the impacts of future disasters can be severe.

Assure Inter-Jurisdictional Coordination of Mitigation-Related Programming

A key purpose of the planning process utilized by the RBHMP staff is to ensure that proposals for mitigation initiatives are reviewed and coordinated. In this way, there is a high level of confidence that mitigation initiatives proposed by one jurisdiction when implemented, will be compatible with the interests of adjacent jurisdictions and may even benefit them.

C. Scope (201.6(c)(1))

The RBHMP was created and will be maintained to address the hazards determined to affect the City of Red Bluff. Other hazards will be considered and defined, but will not be fully assessed in this plan. The geographic scope of the RBHMP includes just the City of Red Bluff and is an extension of the Tehama County Hazard Mitigation Plan.

The committee reviewed and interjected information contained in the October 1, 2002 FEMA/OES approved City of Red Bluff SEMS Multihazard Functional Plan, the city general plan, and several planning department and public works report and documents were reviewed. Local businesses, community leaders, church groups, service groups, and local, state and federal agencies all were given the opportunity to contribute and participated in the process.

D. Authority

The RBHMP was developed in accordance with the current regulations governing local hazard mitigation. The plan should be monitored and updated to ensure compliance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000 (Public Law 106-390, October 30, 2000).

E. Participants in Planning Process (201.6(c)(1))

Prior to adoption of the approved FEMA/OES plan by the City of Red Bluff City Council, a study and comment period will be provided, community members not having an opportunity to provide input when the SEMS Multihazard Functional Plan was developed may do so at this time.

A number of local citizens, local, state, and federal government agencies, business interests, community organizations, and institutions participated in the development process of the RBHMP. The planning committee members are:

NAME	TITLE	ORGANIZATION
Michael J. Damon	Fire Chief	City of Red Bluff
Gerry Gray	Operations Chief	City of Red Bluff
Tina Lee	Fire Marshal	City of Red Bluff
Charlie Mullens	Planning Director	City of Red Bluff
Scot Timboe	Planner	City of Red Bluff
Gary Antone	Public Works Director	City of Red Bluff
J.D. Ellison	Building Director	City of Red Bluff
Greg Avilla	County Supervisor	Tehama County
Dennis Garton	Emergency Services Director	Tehama County
Nellie Lee Barber	Emergency Services Coordinator	California OES
Al Snell	Citizen	Red Bluff
Charlie Sale	Citizen	Red Bluff

F. Planning Process

The RBHMP staff utilized a planning process that integrated several different components; FEMA-approved hazard mitigation plans. The planning process was divided into the following steps:

1. Hazard Identification and Analysis
2. Community Hazard Vulnerability Assessment
3. Mitigation Capabilities Assessment
4. Community Goal
5. Mitigation Action Plans

Step 1 – Hazard Identification and Analysis identifies the natural hazard events that are present in the City of Red Bluff. It includes historical data on past hazard events and establishes hazard profiles for each hazard event.

Step 2 – The methodology for the **Community Hazard Vulnerability Assessment** gives the community an objective way to look at hazard preparedness and a basis for mitigation. It also provides the existing conditions of hazards, the population and the property at risk in the community. The hazard vulnerability assessment addresses the biophysical vulnerability and the social vulnerability. The assessment utilizes geographical, economic, demographic data and development trends to determine the characteristics of the community and how those characteristics may affect the community’s hazard vulnerability. The assessment also includes graphic depictions of the hazard vulnerability in Red Bluff.

Step 3 – The **Mitigation Capabilities Assessment** examines the existing capability of Red Bluff to address hazard vulnerability and hazard mitigation. It evaluates the current regulations and plans for mitigation activities and considerations. This assessment will identify any local mitigation activities that can be built upon to make the community more hazard resistant.

The above three assessments form the base of knowledge required to design the hazard mitigation strategies for the City of Red Bluff. These assessments are included as appendices to the RBHMP.

Step 4 – The **Community Goals** were created by the Planning Committee for the RBHMP. The committee utilized the data from the first three steps during the creation of the goals and objectives for this plan.

Step 5 – The **Mitigation Action Plans** were created by the city. These action plans represent a “wish list” of activities that the city could undertake to mitigate loss during a disaster, if funding for the activity became available. The activities included in the action plans should work to achieve one or more of the goals or objectives of the RBHMP.

Section Two

Community Goals and Objectives (201.6(c)(3)(i))

This section of the RBHMP identifies the goals and objectives that were established by the Planning Committee. Each goal is a general statement of intent that may only be achieved in part or in full by the implementation of the related objectives and the mitigation action plans. The following is a list of the goals and objectives for the RBHMP.

Goal 1. The City will strive to minimize the threat from a hazard event in order to protect the health, safety and welfare of the community's residents and visitors.

Objective 1.1: Adequate warning systems will be put in place to notify the public at risk and provide emergency instruction during a hazard event.

Objective 1.2: The County will encourage the effective administration of building codes.

Goal 2. The local government will strive to have the capability to initiate and sustain emergency response operations during and after a hazard event.

Objective 2.1: Utility and communications systems supporting emergency services will be retrofitted or relocated to withstand a hazard event.

Objective 2.2: The City will have an EOC to be operated during hazard events and reports to the Operational Area.

Objective 2.3: Structures that provide storage and shelter for government equipment and vehicles will be retrofitted or relocated to withstand a hazard event.

Objective 2.4: Post-disaster communication plans will be updated to ensure communication of emergency workers after a hazard event.

Objective 2.5: Primary roads and access roads to emergency facilities will be retrofitted to ensure access after a hazard event.

Goal 3. The availability and functioning of the community's infrastructure will not be significantly disrupted by a hazard event.

Objective 3.1: Retrofit or relocate public water and sewer lines and facilities to ensure their reliability during and after a hazard event.

Objective 3.2: Encourage routine maintenance of public facilities to ensure reliability during and after a hazard event.

Objective 3.3: Local governments will encourage hazard mitigation programs by private sector organizations that own or operate key community facilities.

Goal 4. The City will strive to educate the members of the community to understand the hazards threatening local areas and the techniques to minimize vulnerability to those hazards.

Objective 4.1: Private sector decision makers shall be educated about hazard mitigation techniques and the components of the community's mitigation plan.

Objective 4.2: The public living or working in defined hazard areas will be given awareness of and understanding of their vulnerability and know appropriate mitigation techniques.

Objective 4.3: The public will have access to information needed to understand their vulnerability to a hazard event and appropriate hazard mitigation techniques.

Goal 5. The continuity of local government administration and services will not be significantly disrupted by a hazard event.

Objective 5.1: Buildings and facilities used for the routine operations of government will be retrofitted or relocated to withstand the impacts of a hazard event.

Objective 5.2: Government texts, records and documents will be relocated and/or protected during and after a hazard event.

Objective 5.3: A contingency plan will be created to reestablish local government services after a hazard event in case of facility damage.

Goal 6. Local government will have the capability to develop, implement and maintain effective hazard loss reduction programs.

Objective 6.1: Data and information needed, such as watershed studies, for defining hazards, risk areas and vulnerabilities in the community will be obtained.

Objective 6.2: Local governments will strive to have the capability to effectively utilize the available data and information related to mitigation planning and program development.

Objective 6.3: There will be a program to revisit the City of Red Bluff Hazard Mitigation Plan within three years and completely update the Plan in five years.

Goal 7. The City will strive to minimize the vulnerability of homes, institutions and places of business and employment to hazard events.

Objective 7.1: The community will strive to reduce the vulnerability of schools, libraries, museums, critical facilities and other institutions to a hazard event.

Objective 7.2: The community will establish a program for the removal, relocation or retrofitting of vulnerable structures and utilities in a hazard areas.

Goal 8. The policies and regulations of local government will support effective hazard mitigation programming throughout the community.

Objective 8.1: Local governments will work toward full participation in the National Flood Insurance Program.

Objective 8.2: Efforts will be made to place all new government facilities outside of hazard prone areas and/or these facilities will be designed to withstand a hazard event.

Objective 8.3: Government officials will strive to give hazard mitigation needs and programs appropriate emphasis in resource allocation and decision-making.

Objective 8.4: The community will strive to have land use policies, plans and regulations that discourage or prohibit the location of structures and infrastructure components in hazard prone areas.

Goal 9. The City will strive to reduce the impact of a hazard event on the economic stability of the community.

Objective 9.1: Governmental officials will work to include the needs of the business and industrial community in emergency response and disaster recovery plans.

Objective 9.2: The community will implement programs to address public awareness and perception of the community's condition and functionality after a hazard event.

Goal 10. All sectors of the community will work together to create a disaster resistant region.

Objective 10.1: The local governments will create outreach programs to gain participation in mitigation programs by business, industry, institutions and community groups.

Objective 10.2: Government officials will encourage and assist local businesses in the creation of a business continuity and recovery plan.

Goal 11. The City will strive to reduce the impact of a hazard event on the natural and cultural resources of the community in order to protect the quality of life.

Objective 11.1: Government officials will encourage the owners or caretakers of cultural resources to develop mitigation and response plans.

Objective 11.2: The City will strive to educate private non-profit organizations about emergency response and hazard mitigation.

Objective 11.3: Encourage the Planning Commission to address cultural resources and their jurisdiction's vulnerability in planning.

Section Three

Mitigation Action Plans

A. Category (201.6(c)(3)(iii))

Each mitigation action plan will fall under one or more of the following mitigation technique classifications. These classifications include a wide array of activities that can be considered to achieve the goals and objectives of the RBHMP. The mitigation technique will be included in the Mitigation Action Plan Worksheet.

A. Preventative Activities (PA)

Preventative activities are those activities that are intended to reduce a community's vulnerability to future hazard events. The following is a list of potential preventative activities and measures:

- a. Planning and Zoning
- b. Building codes
- c. Floodplain regulations
- d. Water Quality regulations
- e. Fire Prevention codes
- f. Drainage system maintenance
- g. Capital improvement programming

B. Property Protection (PP)

Property protection activities are intended to protect existing structures by retrofitting, relocating or modifying the structure to withstand a hazard event. The following is a list of potential property protection measures:

- a. Property acquisition
- b. Property relocation
- c. Building elevation
- d. Critical facilities protection
- e. Retrofitting vulnerable properties
- f. Participation in an insurance program
- g. Development of safe rooms

C. Natural Resource Protection (NR)

Natural resource protection activities reduce the effects of a hazard event on the natural resources within a region by preserving and/or restoring natural areas along with their mitigation functions. The following is a list of natural resource protection activities:

- a. Floodplain protection
- b. Wetland preservation and restoration
- c. Erosion and sediment control
- d. Fire resistant landscape
- e. Tree protection / Landscaping ordinances
- f. Wastewater permitting
- g. Open space preservation

D. Structural Projects (SP)

Structural mitigation activities reduce the impacts of a hazard event by modifying the physical environment to withstand the particular hazard. The following is a list of structural mitigation activities:

- a. Creation of reservoirs
- b. Levees / dikes / floodwalls
- c. Diversion canals / detention areas / retention areas
- d. Infrastructure construction / modifications / repairs
- e. Storm sewers
- f. Dam construction
- g. Channel modification / dredging

E. Emergency Services (ES)

Emergency service measures minimize the impact of a hazard by preparing these services to respond efficiently and rapidly during and after a hazard event. The following is a list of potential emergency services activities:

- a. Warning systems
- b. Evacuation planning and management
- c. Sandbagging for flood protection
- d. Emergency shelter preparation
- e. Debris removal plan

F. Public Information and Awareness (PI)

Public information and awareness activities advise residents, potential buyers and visitors about hazards, potentially hazardous areas and mitigation techniques. The following is a list of potential public information and awareness activities:

- a. Outreach projects
- b. Speaker series / demonstration events
- c. Hazard and flood map information
- d. Real estate disclosure
- e. Library materials
- f. Hazard expositions
- g. Warning system drills
- h. Vulnerability inspections for residents and business owners
- i. Radio advertisements

1. Activity – This section should include a brief description of the project or program that the City would like to undertake.

2. Objectives Addressed – Each mitigation action plan should work to achieve one or more of the objectives in the RBHMP. The number of each objective that an action plan could work to achieve should be placed in this category.

3. Priority – The City should rank each mitigation action plan with a high (1), moderate (2) or low (3) priority ranking. This ranking will show which action plans are the highest priority for completion and, therefore, which activities should be given a priority for funding. This ranking can be reviewed and modified after hazard event and during the three- and five-year update of the RBHMP.

4. Possible Funding Sources – This category will list possible funding sources that could be utilized to undertake or complete each particular action plan. It is important for each participating jurisdiction to determine any possible funding source, if excess funds or grants were to become available that could be used to achieve each mitigation action plan. This determination does not represent a commitment of these funds for a mitigation activity, but just an example of how the activity could be funded.

5. Responsible Agency – It is important for the City to determine which agency or person has the expertise and responsibility to undertake each of the mitigation action plans. This will make implementation of a mitigation action plan efficient and effective.

6. Timeframe – The City must determine whether each project is a short-term or long-term project. This will be important in the determination of funding and other resources. Projects can be: Pending – On going – In progress –Dated – Funding Needed or Grant

B. Jurisdictional Mitigation Plans (201.6(c)(3)(ii)) (201.6(c)(4)(ii))

As a participant in the National Flood Insurance Program (NFIP) the City of Red Bluff doesn't allow new construction within a floodway or within 30' of a floodway.

Properties that fall within a Flood Plain are required to obtain pre and post construction elevation certificates and to maintain flood insurance policies and any other requirements contained in Chapter 26 "Flood Damage Prevention" of the Red Bluff City Code.

As part of the final steps of the RBHMP, a Hazard Mitigation Action Plan Worksheet must be filled out. This worksheet contains proposed mitigation projects or programs that the City would like to undertake if the funding were available. To receive Hazard Mitigation Grant Program funding, the project must be generally or specifically included in the RBHMP as one of the City's action plans. The following is a list of the mitigation action plans:

These plans will be input as they are received.

ACTION PLAN FOR THE CITY OF RED BLUFF (201.6(c)(3)(iii))

Following are the proposed projects/programs/actions to be undertaken by the City of Red Bluff in an effort to achieve the goals and objectives identified through the Hazard Mitigation Plan:

(Abbreviation for "Type" is as follows: "PA" is Preventive Activities, "PP" is Property Protection Activities, "NB" is Natural and Beneficial Functions/Resource Preservation Activities, "ES" is Emergency Services Activities, "SP" is Structural Projects Activities, and "PI" is Public Information Activities; "GIS" is Geographic Information Systems Activities.)

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority (1 highest, 3lowest)
			Timeframe		
PA	City has adopted, and enforces the Uniform Building and California Fire Codes	Building & Codes	General Fund ----- On going	Minimize threat from hazards; educate community members; minimize vulnerability to homes, businesses; economic stability; protect quality of life	1

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority (1 highest, 3 lowest)
			Timeframe		
PA	Continue to provide coordination of City's storm water management regulations	Engineering	General Fund ----- On going	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; quality of life.	1
PA	Continue enforcement of zoning regulations, Subdivision and Land Development Regulations	Planning	General Fund ----- On going	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
PA	Continue providing information to citizens regarding none structural mitigation actions.	Emergency Preparedness	General Fund/ Grant Funding ----- Funding/ On going	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	2
PP	Promote standards for existing homes to be retrofitted to that exceed minimal codes	Building & Codes	General Fund ----- Pending	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	2
PP	Seek funding for retrofitting, demolishing or relocating repetitively flooded properties if suitable candidates can be identified	Building & Codes	Grant Funding ----- Funding / Pending	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
GIS	Develop and maintain storm drainage inventory maps and database.	GIS & Engineering	General Fund & Storm Water Fee Funding ----- In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	2
ES	Continue Terrorist Response Training	Emergency Preparedness	Grant Funding ----- Funding / In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; minimize vulnerability of homes, businesses; economic stability; quality of life.	1
ES	Continue coordinating Emergency Operations Center activities in the event of a hazard event	Emergency Preparedness	General Fund ----- On going	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; minimize vulnerability of homes, businesses; economic stability; quality of life.	1

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority (1 highest, 3 lowest)
			Timeframe		
ES	Evaluate existing City owned facilities for hazard resistance and retrofit facilities if needed where feasible.	Public Buildings & Engineering	General Fund/ Grant Bond Funding ----- 1-15 yrs	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; quality of life.	1
ES	Sponsor training programs for medical providers on topics of interest such as decontamination procedures, etc.	Emergency Preparedness; EMS	General Fund & Grant Funding ----- Pending	Minimize threat from hazards; emergency operations; educate community members; economic stability; disaster resistant region; quality of life.	2
ES	Continue coordinating the Anti-Terrorism Task Force of specially trained police, fire and EMS personnel to respond to terrorist acts.	Emergency Preparedness	Grant Funding ----- In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; quality of life.	1
ES	Continue to promote interest in the Community Emergency Response Training (CERT) program	Emergency Preparedness	Grant Funding ----- 1-2 yrs	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; quality of life.	1
PA	Continue the drainage system maintenance and clearing program. Grasshopper Creek Floodplain Restudy – Urban Streams Grant - Brickyard Creek.	Public Works	General Fund/ Grant ----- In process Funding On going	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
PA	Continue right of way and drainage easement permitting considering emergency vehicle access and flood zone related issues in permitting decisions	Public Works	General Fund ----- Spring 2006	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
SP	Implement an elevation reference mark inspection Program.	Engineering	General Fund & Grant Funding ----- GIS project 2006 / 07	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
PA	Continue the road repair / construction program, considering needs during evacuation and soil liquefaction potential in prioritization decisions.	Public Works	General Fund/Grant Funding ----- Funding Pending	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority (1highest, 4 lowest)
			Timeframe		
PI	Continue providing speakers to civics groups regarding hazard related activities.	Emergency Preparedness	General Fund ----- In progress On going Funding	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1
PI	Conduct outreach initiatives to the small business community to encourage businesses to prepare for hazard events.	Emergency Preparedness	General Fund ----- In progress On going Funding	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	2
PI	Continue programs aimed towards providing resources to local schools to enhance their ability to educate students regarding hazard events and hazard events preparation.	Emergency Preparedness	Grant Funding ----- In progress On going Funding	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	1

Additional Recommended Projects may be added to this project list.

Section Four
Implementation

A. Process

The BDHMP will be implemented by the delegation of assignment as designated in the Mitigation Action Plans for each jurisdiction. Each Mitigation Action Plan activity is assigned specific implementation measures and a “Responsible Agency.” Each activity is also assigned a target completion date or “Timeframe.” This date does not represent a required completion date; it represents the timeframe within which the jurisdiction would like to complete the activity if and when resources become available.

Procedures for the monitoring and updating of the BDHMP are provided in Section Five: Evaluation and Updating.

B. Funding Sources

Because many hazard mitigation activities may be too costly for communities to undertake, it is important to seek out alternative funding opportunities. This section of the Plan identifies Federal, State and non-governmental funding sources that may be utilized to perform hazard mitigation activities.

Funding Sources				
Program	Agency	Purpose	Match	Suggested Projects
Federal				
Pre-Disaster Mitigation Program	FEMA	Funding for cost effective hazard mitigation activities	75% Federal share, 25% non-Federal share, which can be in-kind or cash	Hazard Mitigation Planning, Hazard retrofits, technical assistance, Community outreach
Flood Mitigation Assistance Program	FEMA	Pre-disaster funding to reduce the long-term risk of flood damage to property	75% Federal share, 25% non-Federal share.	Building relocation or retrofitting
Hazard Mitigation Grant Program	FEMA	Assists local governments to implement long-term mitigation measure following a disaster declaration	Up to 75% Federal share, non-Federal share may be in-kind services, materials or cash	Building relocation and retrofitting, Road, bridge, culvert repair
Public Assistance (Infrastructure) Program	FEMA	Post-disaster funding for infrastructure repairs	None	
SBA Assistance Program	US Small Business Administration	Low-interest loans for small businesses to repair facilities after a disaster declaration	Loan	Repair on any uninsured equipment
Community Development Block Grants	U.S. Department of Housing and Urban Development	Funding for community and economic development projects	None	Acquisition or reconstruction of damaged property in areas damaged in a disaster.

Local Funding Sources

Local governments in California depend heavily on local property taxes and sales tax as their source of revenue. This revenue is utilized to provide the day-to-day services of a local government. If there is a surplus in this revenue it may be possible for the money to be used for mitigation activities. Because of the state of the economy and the recent budget cuts, it is unlikely that there will be surplus revenue for local governments in the near future.

Non-Governmental Funding Sources

There are numerous trusts, foundations and corporations that award money for community and economic development, which would allow money to be awarded for mitigation activities. Appendix D is a list of alternate non-governmental funding sources.

Section Five

Monitoring, Evaluation and Updating

A. Monitoring and Reporting (201.6(c)(4)(i)) (201.6(c)(4)(ii)) (201.6(c)(4)(iii))

The committee will perform periodic monitoring and updating of the RBHMP. The Plan shall be reviewed within three years of its approval, or after each disaster declaration. The Plan shall be updated within five years of its approval. Each review and update shall work to improve the effectiveness of the Plan by incorporating more data and research as it becomes available.

This plan is an ongoing process to build a disaster-resistant Red Bluff. The General Plan, soon to be revised, will reflect the commitment Red Bluff has in making our community disaster-resistant.

Significant effort into developing the City's Disaster Preparedness and Safety Element of the General Plan will be addressed in other elements, including the Land Use, Environmental Management, Transportation and the Urban Design and Preservation Element.

Currently within the Safety Element of the General Plan: "No use, development or alteration of a floodway overlay is allowed without prior City approval. Prior to granting approval to use, develop, or alter land within a floodway overlay area the City shall make findings that the proposed use, development or alterations of the floodway conform to the City's Flood Damage Prevention Regulations." (City Code Chapter 26)

The Planning Department was awarded a grant through California State University – Chico for a very aggressive inspection and cleaning program for debris from City streams, creeks and ditches.

Three-Year Plan Review

During the three-year review, the staff shall consult with the participating agencies on the status of each Mitigation Action Plan activity and provide a status report to the Planning Committee members. This report shall include an updated copy of each Mitigation Action Plan Worksheet, an evaluation of the effectiveness of each action plan activity and a recommendation for any required changes. It is the Planning Committee's responsibility to determine whether or not the recommendations warrant modification to the Plan. Amendments to the Plan shall follow the procedures laid out in section B: *Plan Amendments*

Five-Year Update

During the five-year review, the staff shall rewrite the RBHMP. This rewrite shall include an update of all data and maps within the Plan. The Planning Committee will be required to reexamine the goals and objectives of the Plan and may add or delete from these as needed. Each agency will be asked to reevaluate their mitigation action plans and add or subtract action

plans as needed. Finally, this update will include any revisions that may be necessary to ensure that the Plan remains fully compliant with all Federal and State regulations.

NOTE: The RBHMP will be reviewed annually. Community members are encouraged to make suggested changes at any time. The public will be notified when and where meetings will be held via the media and the Red Bluff Fire Department web site. A copy of the RBHMP will be posted on that site.

B. Plan Amendments (201.6(c)(4)(iii))

An amendment to the RBHMP shall only be initiated by the Planning Committee, either on their own initiative or upon the recommendation from another agency. After an amendment is initiated, staff shall contact all interested or affected parties and make them aware of the nature of the amendment. Members of the community are also encouraged to make input. Community members are encouraged after an emergency to give their input. These parties will be given thirty days to comment on the amendment. At the end of this comment period, staff shall forward all comments to the Planning Committee for their review in consideration of the final amendment. All Planning Committee members and participating jurisdictions shall be notified of each amendment that is passed by the Planning Committee.

Appendix A

Hazard Identification and Analysis (201.6(c)(2)(i))

A. Introduction

This section of the RBHMP summarizes the results of the hazard identification and vulnerability assessment processes undertaken by staff. The intent of this section is to provide a compilation of the information gathered about the hazards threatening Red Bluff and the potential vulnerability to those hazards. In this section, relevant information is compiled and an overview of the analyses is provided.

B. Hazard Identification

As noted in Section One, the planning process begins with hazard identification. In this process, the Planning Committee and representatives of individual jurisdictions identify all of the natural hazards that could threaten the community. When the hazard types are identified, the participants can make an estimate of the risk each poses.

C. Recent Disaster Events

An important indication of the hazards threatening the community is the actual occurrence of disaster events, and the level of impact they have on the community. A summary of recent hazard events, as well as the costs to the jurisdictions impacted is included in a report in this section. The historical occurrences for each hazard, except landslides and dam failure were taken directly from the National Climatic Data Centers web site and list the hazard events that were recorded between 01/01/1950 and 06/30/2003.

D. Potential Hazards

The following is a list of the hazards that may potentially occur in the City of Red Bluff:

- 1. Flooding**
- 2. Tornadoes**
- 3. Winter Storms**
- 4. Severe Thunderstorms**
- 5. Wildfire**
- 6. Earthquake**
- 7. Landslide**
- 8. Drought**
- 9. Hail**
- 10. Dam Failure**
- 11. Volcanoes**
- 12. Hazardous Materials**
- 13. Terrorism**

The following is a description of each natural hazard event and a list of the historical occurrences of these hazards in the City of Red Bluff. Below is a legend to describe the abbreviations found in each table.

- Mag:** Magnitude
- Dth:** Deaths
- Inj:** Injuries
- PrD:** Property Damage
- CrD:** Crop Damage

1. Flooding

Description:

Flooding is a naturally occurring event that affects rivers and streams. Excess rainfall, snowmelt or storm surge may cause the waters of rivers and streams to overflow onto adjacent banks and floodplains. The severity of a flood may be determined by the amount and duration of rainfall, the saturation and permeability of the soil and the degree of vegetative clearing.

There are two types of floods: flash floods and general floods. Flash floods are usually caused by periods of heavy and localized precipitation, but may be caused by dam or levee failure. They may also be caused by heavy precipitation on impermeable surfaces.

There are three types of general flooding: riverine, coastal and urban flooding. Riverine flooding may occur when excess precipitation causes a river or stream to overflow its banks. Coastal flooding may be a result of storm surge, wind-driven waves and/or precipitation associated with a hurricane or tropical storm. Urban flooding may occur when man-made structures or developments have disrupted the natural flow of water and/or decreased the permeability of soil.

According to FEMA, floodplain areas are “lowlands, adjacent to rivers, lakes, and oceans that are subject to recurring floods.” (Understanding Your Risks, 2001) FEMA has currently mapped most of the floodplains in the United States. These maps designate the 100-year flood zone, the Base Flood Elevation and Special Flood Hazard Areas. A 100-year flood zone is an area that has a one percent chance of flooding in any given year. The base flood elevation relates to the 100-year flood zone and is the elevation of the water surface resulting from a 100-year flood.

Historical Occurrences – City of Red Bluff

Flood Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Red Bluff	1969		Rain					
Red Bluff	1983		Rain					
<u>Countywide</u>	01/12/1998	01:00	Rain	N/A	0	0	0	0
<u>Countywide</u>	01/18/1998	10:00	Rain	N/A	0	0	0	0

Damage has been reported in the City of Red Bluff from Flood Events; probability and potential occurrences are medium. Flood Events will be addressed later in Appendix B Number 5.

2. Tornadoes

Description

According to FEMA, “a tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm (or sometimes as a result of a hurricane) and produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly” (FEMA web site). Most of the damage from a tornado is a result of the high wind velocity and wind-blown debris. Although tornados are not predictable, tornado season is generally March through August, and tend to occur in the afternoons and evenings.

Historical Occurrences – City of Red Bluff

Tornado Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
<u>TEHAMA</u>	03/05/1978	16:00	Tornado	F	0	0	3K	0
<u>TEHAMA</u>	03/05/1978	18:00	Tornado	F	0	0	0K	0
<u>TEHAMA</u>	05/09/1980	19:05	Tornado	F2	0	0	25K	0
<u>TEHAMA</u>	09/24/1986	14:15	Tornado	F2	0	1	2.5M	
<u>TEHAMA</u>	03/14/1987	18:05	Tornado	F0	0	0	250K	
<u>Red Bluff Muni Arpt</u>	05/15/2000	12:01	Funnel Cloud	N/A	0	0	0	0

No damage has been reported in the City of Red Bluff from Tornado events; probability and potential occurrences are very low. Tornado events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

3. Winter Storms

Description

Winter storms may be caused by various elements such as heavy snow, sleet, or ice accumulation from freezing rain. They vary in size and intensity and may be accompanied by strong winds that may create blizzard conditions and dangerous wind chills. There are three types of winter storms may be defined by their severity: a blizzard, heavy snow storms and ice storms. A blizzard may be considered the most dangerous winter storm because it combines low temperatures, heavy snowfall and winds above thirty-five miles per hour. Heavy snowstorms are those that drop four or more inches of snow within a twelve-hour period. Ice storms may also be dangerous because the moisture that falls freezes upon impact causing dangerous conditions for transportation.

Historical Occurrences – City of Red Bluff

Winter Storms Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD

No events or damage has been reported in the City of Red Bluff from Winter Storm Events; probability and potential occurrences are very low. Winter Storm Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

4. Severe Thunderstorms

Description

FEMA describes a thunderstorm as being formed from a combination of moisture, rapidly rising warm air and a force capable of lifting air such as a warm and cold front, a sea breeze or a mountain. Thunderstorms may contain lightning and winds and may occur singly, in clusters or in lines. Because of this it is possible for several thunderstorms to affect one location in the course of a few hours. FEMA contends that some of the most severe weather occurs when a single thunderstorm affects one location for an extended time.

Historical Occurrences – City of Red Bluff

Thunderstorm Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD

No events or damage has been reported in the City of Red Bluff from Thunderstorm Events; probability and potential occurrences are very low. Thunderstorm Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

5. Wildfire

Description

According to FEMA a wildfire is “an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.” (Understanding Your Risk, 2001) There are two types of wildfires: wildland fires and urban-wildland interface fires. Wildland fires occur in undeveloped areas that contain just roads, railroads, power lines and similar facilities. Urban-wildland interface fires occur in those areas where urban developments meet wildlands or forests.

Historical Occurrences – City of Red Bluff

Wildland Fire Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
<u>Countywide</u>	06/29/1997	14:00	Wildland	N/A	0	0	0	0
<u>Red Bluff</u>	09/29/2000	00:01	Wildland	N/A	0	0	547.0M	0
<u>Red Bluff</u>	10/01/2000	00:01	Wildland	N/A	0	0	547K	0

No damage has been reported in the City of Red Bluff from Wildland Fire Events; probability and potential occurrences are medium. Wildland Fire Events will be addressed later in Appendix B Number 5.

6. Earthquake

Description

According to the FEMA web site, an earthquake is “a sudden, rapid shaking of the Earth caused by the breaking and shifting of rock beneath the Earth's surface.” Earthquakes can be one of the earth’s most damaging hazards because the shaking of the earthquake may cause buildings and bridges to collapse; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge, destructive ocean waves (tsunamis). This makes buildings or trailers and manufactured homes that are not tied down to a reinforced foundation anchored to the ground at risk since they can be shaken off of their mountings during an earthquake. Earthquakes are also dangerous because they can occur at any time and because there are no proven warning signs for an earthquake.

The following is an abbreviated description of the 12 levels of Modified Mercalli intensity taken from the USGS website:

- I.** Not felt except by a very few under especially favorable conditions.
- II.** Felt only by a few persons at rest, especially on upper floors of buildings.
- III.** Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibrations similar to the passing of a truck. Duration estimated.
- IV.** Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
- V.** Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
- VI.** Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.

- VII.** Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
- VIII.** Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
- IX.** Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
- X.** Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
- XI.** Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
- XII.** Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Historical Occurrences – City of Red Bluff

Earthquake Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD

No events or damage has been reported in the City of Red Bluff from Earthquake Events; probability and potential occurrences are low. Earthquake Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

7. Landslides

Description

FEMA describes a landslide as the downward movement of a slope and the materials under the force of gravity. A wide variety of ground movement can be categorized as a landslide, including; rock falls, deep failure of slopes and shallow debris flows. Landslides can be caused by human activities and natural geological factors, such as precipitation and topography.

Historical Occurrences – City of Red Bluff

Landslide Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD

No events or damage has been reported in the City of Red Bluff from Landslide Events; probability and potential occurrences are very low. Landslide Events have been eliminated from assessment by the City of Red Bluff. Should an event occur a tiny limited area of the community would be vulnerable.

8. Drought

Description

The term drought implies a lack of moisture for an extended period of time, which in turns causes, a deficit of moisture in the soil. The severity of a drought depends on the degree of the moisture deficiency, the time period, and the size of the area affected. The timing is also a significant factor with the onset/duration of droughts.

Droughts may have a significant effect on agriculture if the drought occurs before or during the growing season. They may also cause a shortage of drinking water for areas that rely on ground water for their household needs. In the case of a severe drought, it may even affect those areas that rely on rivers or lakes for their water needs by decreasing the water levels in those sources which may cause the water to be more polluted.

Historical Occurrences – City of Red Bluff

Drought Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD

No events or damage has been reported in the City of Red Bluff from Drought Events; probability and potential occurrences are very low. Drought Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

9. Hail

Description

Hailstones are balls of ice that grow as they are held up by winds, known as updrafts, that blow upward in thunderstorms. These updrafts carry droplets of water at a below freezing temperature that are not yet ice. The water droplets hit the balls of ice and freeze instantly, making the hailstones grow larger. The faster the updraft, the bigger the stones can grow. Typically, hailstones are smaller in diameter than a dime, but stones weighing more than a pound have been recorded.

Historical Occurrences – City of Red Bluff

Hail Events

Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
<u>TEHAMA</u>	05/09/1980	18:30	Hail	2.25 in.	0	0	0	0
<u>Red Bluff</u>	07/04/2000	19:20	Hail	0.75 in.	0	0	0	0
<u>Red Bluff</u>	02/22/2001	13:40	Hail	1.00 in.	0	0	0	0
<u>Red Bluff</u>	02/22/2001	15:32	Hail	1.00 in.	0	0	0	0

No damage has been reported in the City of Red Bluff from Hail Events; probability and potential occurrences are very low. Hail Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

10. Dam Failure

Definition

A dam failure is when downstream flooding occurs because of a collapse or failure of an impoundment. Dam failures may be the result of prolonged rainfall and flooding or, because of erosion during very dry conditions. The primary danger associated with a dam failure is the swift, unpredictable flooding of those people or structures immediately downstream of the dam.

Historical Occurrences – City of Red Bluff

Dam Failures Events

Red Bluff would be affected by a structural failure of Shasta Dam, 42 miles to the north. Both this dam and the smaller Keswick Dam to the south are major impoundments of drainage waters of the Sacramento River and its northern tributaries. Lake Shasta has a holding capacity of 4.5 million acre feet of water and Keswick Reservoir has a capacity of 0.02 million acre feet. A failure of Shasta Dam would release considerable floodwaters into the main channel of the Sacramento River, and depending on the quantity released, the consequences could be catastrophic.

No events or damage has been reported in or around the City of Red Bluff from Dam Failure Events; probability and potential occurrences are very low. Dam Failure Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be devastated. Flooding as a result of releases from Shasta Dam will be considered.

11. Volcanoes

Definition

A volcano is a mountain or hill, usually more or less conical in form, from which lava, cinders, steam, sulphur gases, and the like, are ejected. Volcanoes can not be predicted and may cause property and life loss to those that can not escape the path of the lava flow.

Historical Occurrences – City of Red Bluff

Volcano Events

The City of Red Bluff is located 45 miles west of Mount Lassen, the 10,452 foot high mountain which was the most recent large-scale volcanic eruption in California. The volcano erupted sporadically between 1914 and 1921 and in its eruptions on June 14, 1914, and May 19, 1915 produced vertical clouds of vapor and ashes to a height of over five miles in the atmosphere. These clouds were witnessed from Red Bluff which was not affected by debris fallout due to the lack of high winds and the distance involved. Additional recent volcanic activity occurs near Paynes Creek, 21 miles to the northeast of Red Bluff. Tectonically, Red Bluff is situated on as much as 2,000 feet of sedimentary materials in the Great Valley structural trough, which is more a product of ancient plate tectonic movement than the volcanic eruptions which characterize the Cascades geologic province.

No events or damage has been reported in and around the City of Red Bluff from Volcano Events; probability and potential occurrences are very low. Volcano Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community would be vulnerable.

12. Hazardous Materials

Definition

The release or threatened release of a hazardous material (solid, liquid, or gas) that may impact the public health, safety and/or the environment.

Historical Occurrences – City of Red Bluff

Hazardous Materials Events

Damage has been reported in the City of Red Bluff from Hazardous Materials Events; probability and potential occurrences are medium. Hazardous Materials Events will be addressed later in Appendix B Number 5.

13. Terrorism

Definition

The threat of terrorism affects all communities both nationally and internationally. History has shown that no community is immune. Terrorism transcends all geographic and demographic boundaries. All jurisdictions, suburban, urban, and rural, are at risk. Terrorist, both international and “home grown,” have demonstrated they have the knowledge and capability to strike anywhere in the world.

Historical Occurrences – City of Red Bluff

Terrorism Events

No events or damage has been reported in and around the City of Red Bluff from Terrorism Events; probability and potential occurrences are very low. Terrorism Events have been eliminated from assessment by the City of Red Bluff. Should an event occur the entire community could be vulnerable.

E. Hazard Ratings (201.6(c)(2)(ii))

The following is the Hazard Analysis that was performed by the Emergency Preparedness Personnel. These analysis ranks each hazard in terms of the history of occurrence, the vulnerability, the maximum threat and the probability. The following is the explanation of this rating system.

EXPLANATION OF HAZARD RATING SYSTEM

To assess and evaluate hazards, four criteria have been established and each is given a rating of low, medium, or high.

1. **History** - Record of occurrences.
2. **Vulnerability** - Number of people and value of property that could be affected.
3. **Maximum Threat** - Assuming the greatest event possible and the greatest impact (worst case).
4. **Probability** - The likelihood and event will occur (chances per year).

In the scoring system, each of the four criteria identified for describing and analyzing potential hazards is assigned a rating and their respective numerical scores are:

Low -1 point Medium - 5 points High - 10 points

Since some criteria are judged to be more important than others are, a weighting factor was established to "balance" out the total scoring. The following weights are used:

History - 2 Vulnerability - 5 Maximum Threat - 10 Probability - 7

A composite score for each hazard is arrived at by multiplying the score value assigned to each criterion by its weight and then summing the four totals. For example:

Hazard: Flood

History - High 10 pts. x 2 weighting factor = 20 pts.
Vulnerability - Low 1 pt. x 5 weighting factor = 5 pts.
Maximum Threat - Medium 5 pts. x 10 weighting factor = 50 pts.
Probability - Medium 5 pts. x 7 weighting factor = 35 pts.
Total Score 110 pts.

MAXIMUM SCORES:

LOW – 24 POINTS MEDIUM – 120 POINTS HIGH – 240 POINTS

HOW TO EVALUATE RATING:

All information has been compiled and created as to the various hazards in the City of Red Bluff (See numerical analysis scores). Those hazards with the highest numerical scores will be receiving priority attention for planning and/or mitigation purposes. Scores below 100 will not be subject to vulnerability consideration. * **Dam Failure has a 209 score, which is a high rating, however it will not be considered, because the City of Red Bluff has no control over Shasta Dam and Dam Failures. Flooding is considered in this report.**

The following is the Numerical Hazard Analysis:

CITY OF RED BLUFF NUMERICAL ANALYSIS

THREATS	RATING	HISTORY	VULN.	THREAT	PROB.	TOTAL	ASSESS. NEEDED
FLOODING	MEDIUM	10	25	50	35	120	YES
TORNADOES	LOW	02	25	50	07	84	NO
WINTER STORMES	LOW	10	5	25	35	75	NO
SEVERE THUNDERSTORMS	LOW	10	5	10	07	32	NO
WILDFIRE	MEDIUM	10	25	50	35	120	YES
EARTHQUAKE	LOW	02	25	50	07	92	NO
LANDSLIDE	LOW	02	5	10	07	24	NO
DROUGHT	LOW	10	5	10	07	32	NO
HAIL	LOW	02	5	10	07	24	NO
DAM FAILURE	HIGH*	02	100	100	07	209	NO*
VOLCANOES	LOW	02	5	10	07	24	NO
HAZARDOUS MATERIALS	MEDIUM	10	25	100	07	142	YES
TERRORISM	LOW	02	5	10	07	24	NO

Appendix B

Community Hazard Vulnerability Assessment

A. Introduction

The staff conducted numerous vulnerability assessments for the City of Red Bluff during the planning process. These assessments were created through research done on each jurisdiction and the use of Geographic Information System (GIS) technology. These assessments build on the identification of hazards in the community and the risk that the hazards pose to the community. The vulnerability assessment process examines more specifically how the facilities, systems and the City of Red Bluff would be damaged or disrupted by the hazard events identified in the Hazard Identification and Analysis.

This appendix is broken up into the following ten sections:

- 1. Geographic Profiles**
- 2. Demographic Profiles**
- 3. Economic Profiles**
- 4. Natural, Historic and Cultural Profiles**
- 5. Hazard Prone Areas**
- 6. Repetitive Loss Inventory**
- 7. Critical Facilities Inventory**
- 8. Development Trend and Implications**
- 9. Summary / Impact**
- 10. Community Vulnerability Maps**

1. Geographic Profiles

The City of Red Bluff is located in the northern end of the Sacramento River Valley of California. It is also located in the central portion of the Governor's Office of Emergency Services Inland Region North. Red Bluff is surrounded by mountains on three sides, with the Coast Ranges roughly 30 miles to the west, the Sierra Nevada about 40 miles to the east, and the Cascade system about 45 miles to the northeast and north. It is adjacent to Butte County, Glenn County, Lassen County, Shasta County and Trinity County.

2. Demographic Profile

Subject	Number	Percent	Subject	Number	Percent
Total population	13,147	100.0	HISPANIC OR LATINO AND RACE		
SEX AND AGE			Total population	13,147	100.0
Male.....	6,230	47.4	Hispanic or Latino (of any race).....	1,799	13.7
Female.....	6,917	52.6	Mexican.....	1,458	11.1
Under 5 years	1,010	7.7	Puerto Rican.....	35	0.3
5 to 9 years	1,093	8.3	Cuban	10,296	0.1
10 to 14 years	1,038	7.9	Other Hispanic or Latino.....	11,348	2.3
15 to 19 years	1,025	7.8	Not Hispanic or Latino.....	10,538	86.3
20 to 24 years	912	6.9	White alone.....		80.2
25 to 34 years	1,733	13.2	RELATIONSHIP		
35 to 44 years	2,030	15.4	Total population	13,147	100.0
45 to 54 years	1,405	10.7	In households.....	12,612	95.9
55 to 59 years	538	4.1	Householder.....	5,109	38.9
60 to 64 years	430	3.3	Spouse	2,165	16.5
65 to 74 years	792	6.0	Child.....	4,025	30.6
75 to 84 years	794	6.0	Own child under 18 years.....	3,405	25.9
85 years and over.....	347	2.6	Other relatives.....	527	4.0
Median age (years).....	33.7	(X)	Under 18 years	223	1.7
18 years and over.....	9,370	71.3	Non-relatives.....	786	6.0
Male.....	4,281	32.6	Unmarried partner.....	359	2.7
Female.....	5,089	38.7	In group quarters.....	535	4.1
21 years and over.....	8,785	66.8	Institutionalized population.....	479	3.6
62 years and over.....	2,179	16.6	No institutionalized population.....	56	0.4
65 years and over.....	1,933	14.7	HOUSEHOLD BY TYPE		
Male.....	684	5.2	Total households	5,109	100.0
Female.....	1,249	9.5	Family households (families).....	3,238	63.4
RACE			With own children under 18 years.....	1,847	36.2
One race.....	12,751	97.0	Married-couple family.....	2,165	42.4
White.....	11,397	86.7	With own children under 18 years	1,087	21.3
Black or African American.....	81	0.6	Female householder, no husband present.....	845	16.5
American Indian and Alaska Native.....	294	2.2	With own children under 18 years.....	595	11.6
Asian	211	1.6	Non-family households	1,871	36.6
Asian Indian.....	79	0.6	Householder living alone.....	1,567	30.7
Chinese.....	37	0.3	Householder 65 years and over.....	717	14.0
Filipino.....	41	0.3	Households with individuals under 18 years	2,005	39.2
Japanese.....	15	0.1	Households with individuals 65 years and over ..	1,336	26.1
Korean.....	12	0.1	Average household size.....	2.47	(X)
Vietnamese.....	11	0.1	Average family size.....	3.07	(X)
Other Asian ¹	16	0.1	HOUSING OCCUPANCY	5,567	100.0
Native Hawaiian / Other Pacific Islander....	9	0.1	Total housing units.		
Native Hawaiian.....	5	---	Occupied housing units	5,109	91.8
Guamanian or Chamorro.....	2	5.8	Vacant housing units.....	458	8.2
Samoan.....	-		For seasonal, recreational, or		
Other Pacific Islander ²	2		occasional use.....	24	0.4
Some other race	759		Homeowner vacancy rate (percent).....	2.7	(X)
Two or more races	396	3.0	Rental vacancy rate (percent).....	8.4	(X)
Race alone or in combination with one or more other races: 3			HOUSING TENURE Occupied housing units	5,109	100.0
White.....	11,775	89.6	Owner-occupied housing units.....	2,479	48.5
Black or African American.....	139	1.1	Renter-occupied housing units.....	2,630	51.5
American Indian and Alaska Native.....	466	3.5	Average household size of owner-occupied units	2.46	(X)
Asian	280	2.1	Average household size of renter-occupied units	2.48	(X)
Native Hawaiian and Other Pacific Islander.....	19	0.1			
Some other race	883	6.7			

4. Natural, Historic and Cultural Resources

Natural - Historic

Downtown Red Bluff is the Antique dealer's shopper's delight, community gathering place, and governmental hub. People live, work, shop and play downtown, making it a lively and inviting place. Historic buildings have been preserved, while less distinctive structures have been replaced or remodeled in keeping with Red Bluff's historic character. A continued public safety commitment makes downtown a safe place at any time of day or night. The old town extends from Rio Street west to Monroe Street and from Breckenridge Street south to Willow Street.

Red Bluff's vibrant riverfront is the City's downtown showcase that respects and celebrates the river.

Cultural

Downtown is also the city's cultural heart; the State Theater Arts Center and Cone and Kimball Plaza are the site of numerous concerts, plays, festivals, and other events. The central city is tied to the larger community by numerous linkages. These linkages provide opportunities for citizens to walk, bicycle and ride the bus to the Downtown.

Red Bluff is rich in areas for artists and their audiences. Heritage murals representing the "Western Era" can be found throughout the downtown commercial area. Indoor facilities include historic Kelly-Griggs House Museum, Gaumer's Mineral Museum, William B. Ide Adobe State Historic Park, and Sacramento River Discovery Center.

5. Hazard Prone Locations (201.6(c)(3)(ii))

(See Hazard Vulnerability Maps within this plan)

FLOODING

The major natural hazard system affecting the City of Red Bluff is natural seasonal flooding. The construction of Shasta Dam was part of the Central Valley Project, a scheme which involves a system of twenty dams and reservoirs, as well as canals, power plants, and other facilities. The Red Bluff Diversion Dam which diverts water from the Sacramento River into the Tehama-Colusa Canal, and affects the impoundment of water into "Lake Red Bluff," is a part of this project. Shasta Dam was intended by the U.S. Bureau of Reclamation to be a major flooding control storage facility, thus lessening the threat of natural winter-spring flooding to communities downstream, such as Red Bluff.

The flooding of the City of Red Bluff, while not severe overall, is most notable along the following streams: Red Bank, Grasshopper, Reeds, Brickyard, Brewery, Dibble, and Blue Tent Creeks.

Local flooding problems occur in the following areas:

- Most homes on Musick Avenue and along Aloha Street from South Jackson Street to Aloha Court are located in the 100-year plain.
- Vista School at Vista Way and South Jackson Street would suffer from drainage problems.
- An area east of Airport Boulevard and north of Kimball Road would suffer from runoff backup.
- A potential exists for some inundation of Forward Park.
- Mobile Home Park on Gilmore Road.

WILDLAND FIRES

The City of Red Bluff has a very effective “Weed Abatement Program”. Should an event occur the entire community where grass and brush are not removed would be vulnerable during severe weather conditions.

HAZARDOUS MATERIALS

To date all hazardous materials incidents within the City of Red Bluff have been small in nature. The potential of having a large event is very possible with the Union Pacific Railroad and Interstate 5 running through our community.

6. Repetitive Loss Properties (201.6(c)(3)(ii))

Another indication of the hazards threatening Red Bluff is the frequency with which properties are repeatedly damaged by disaster events. The properties, which may be buildings, roads, utilities, or similar construction, are termed “repetitive loss properties.” Properties can fall into this classification based on repeated damages from a variety of hazards.

There are homes located along Reeds Creek that suffer damage from time to time during winter storms and high creek flows.

7. Critical Facilities

Critical facilities are those facilities that are essential to the health and welfare of a community during and after a hazard event. A critical facilities inventory is an integral part of a hazard mitigation plan. This inventory will identify the structures and infrastructures that are integral to the response and recovery of Red Bluff during and after a hazard event. It is important to consider not just the effects of a hazard event on a structure but also the effects that the interruption of services that the structure provides.

There is no definitive definition of what is to be considered a critical facility. The definition will differ for each community. For the purposes of the RBHMP, a critical facility is a structure from which essential services and functions are provided. These services include any activity that ensures that public safety activities and disaster response and recovery continue during and after a hazard event.

The following is a list of types of critical facilities that were identified in this plan:

CITY OF RED BLUFF CRITICAL FACILITIES

PRIORITY 1:

Major Government Buildings

- Fire Stations
- Police / Sheriff Stations
- Public Works Yards
- City Halls

Medical Facilities

- Hospitals
- Emergency Clinics
- Convalescent / Residential Care Facilities

PRIORITY 2:

Transportation

- Freeways
- Major Arterial Roads
- Airports
- Railways
- Bridges, Overpasses

Essential Lifeline / Utility System Sites

- Electric
- Gas
- Water
- Sewage
- Telephone

Educational Facilities

- All Schools

PRIORITY 3:

High Occupancy Structures/Locations

- Shopping Malls
- Stadiums, arenas
- High Rise Buildings
- Large Industrial Complexes

High Risk Construction/Engineering

- Dam
- Reservoirs / Flood control basins
- Tilt-up Buildings
- Un-reinforced Masonry Buildings

High Risk HAZMAT Locations

- Oil Refineries
- Chemical/Waste Processing and Treatment Plants
- Gas Stations
- Identified High Risk HAZMAT carriers/handlers
- Pipelines for petroleum

8. Development Trends

The sleepy little community of Red Bluff is no more. In the past year, development in the Red Bluff area has been very active. Listed below are the development projects in progress at this time:

- **Residential**

Meadow Vista	82 units with an additional 61 units to come
Kimball Crossing	52 units
Highlands Bluff Extension	263 single family units (SFD)
Villa Point	56 SFD
Willow Creek	80 SFD
Aloha	20 SFD
Habitat for Humanity	20 SFD
Oak Creek	49 SFD
Northern View	60 SFD
Beasly	56 SFD
Greystone	24 SFD
Red Bluff Family Dev.	61 SFD

- **Commercial**

Applebee's
Del Taco
Home Depot
Wendy's
Hampton Inn
Helser Chevrolet
Butte Community Bank
AutoZone

Approximately 300 permitted active projects are being inspected.

9. Summary / Impact (201.6(c)(2)(ii))

FLOODING (see vulnerability map)

The major natural hazard system affecting the City of Red Bluff is natural seasonal flooding. The construction of Shasta Dam was part of the Central Valley Project, a scheme which involves a system of twenty dams and reservoirs, as well as canals, power plants, and other facilities. The Red Bluff Diversion Dam which diverts water from the Sacramento River into the Tehama-Colusa Canal, and affects the impoundment of water into "Lake Red Bluff," is a part of this

project. Shasta Dam was intended by the U.S. Bureau of Reclamation to be a major flooding control storage facility, thus lessening the threat of natural winter-spring flooding to communities downstream, such as Red Bluff.

The flooding of the City of Red Bluff, while not severe overall, is most notable along the following streams: Red Bank, Grasshopper, Reeds, Brickyard, Brewery, Dibble, and Blue Tent Creeks. A maximum of 100 homes and businesses could be affected.

Local flooding problems occur in the following areas:

- Most homes on Musick Avenue and along Aloha Street from South Jackson Street to Aloha Court are located in the 100-year plain.
- Vista School at Vista Way and South Jackson Street would suffer from drainage problems.
- An area east of Airport Boulevard and north of Kimball Road would suffer from runoff backup.
- A potential exists for some inundation of Forward Park.
- Mobile Home Park on Gilmore Road.

WILDLAND FIRES

The City of Red Bluff has a very effective “Weed Abatement Program”. Should an event occur the entire community where grass and brush are not removed would be vulnerable during severe weather conditions. Up to 200 homes and apartment complexes, along with 50 commercial or industrial buildings could be vulnerable.

EARTHQUAKE

An earthquake could impact either segments of or the total population including 5100 homes and 830 commercial buildings.

HAZARDOUS MATERIALS (see vulnerability map)

To date all hazardous materials incidents within the City of Red Bluff have been small in nature. The potential of having a large event is very possible with the Union Pacific Railroad and Interstate 5 highway running through our community.

The City has some industry, and therefore could be affected by stationary hazardous materials users. Pipeline ruptures or illegal dumping could affect the City.

A transportation incident such as an air crash, train derailment or trucking incident could impact areas within the City.

Citizens within the safe/refuge area will need to be decontaminated, evacuated and sheltered during a hazardous materials incident.

TERRORISM

A civil unrest or terrorist incident could impact areas within the City. Because of security issues those areas won't be identified.

Tehama County is considered as a minor risk area for a nuclear event or act of terrorism; therefore both sheltering and evacuation should be considered. Neither the City of Red Bluff nor the County of Tehama has the capability to plan for the organized evacuation of the area; therefore, the extent of planning at this time is restricted to assisting and expediting spontaneous evacuation. In the increased readiness stage, expedient shelters will be utilized as appropriate and information will be provided to the public as the City no longer maintains public fallout shelters.

The City of Red Bluff is not within the planned range of a radioactive plume of a nuclear power plant.

CONCLUSION

Any single incident or a combination of events could require evacuation and/or sheltering of the population.

The City has its own police and fire department. The City also has a city attorney, city engineer, community development, parks and recreation, and public works departments. (The City also relies on local volunteer organizations, RACES, and American Red Cross, for assistance, in emergency communications and other necessary emergency services.)

(Although City personnel have been designated to coordinate all SEMS functions, City staff members are insufficient to conduct the tasks, and the City will therefore rely on assistance from other agencies and volunteers.)

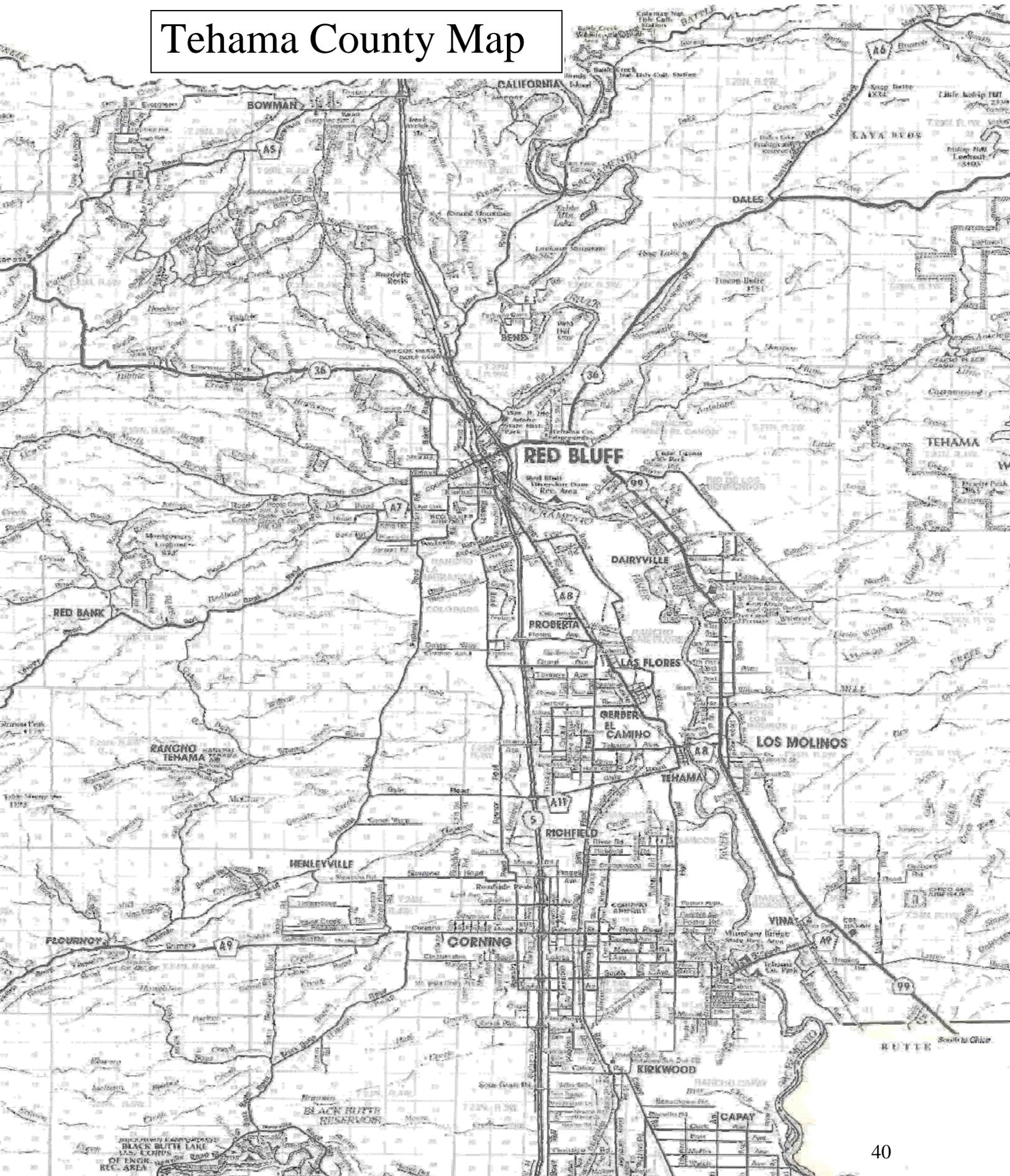
During the response phase, the TCFD/ECC or Red Bluff Police Dispatch Center is the coordination and communication point and the access to the Tehama Operational Area.

10. Community Vulnerability Maps

The following is a list of the maps that are included in the RBHMP:

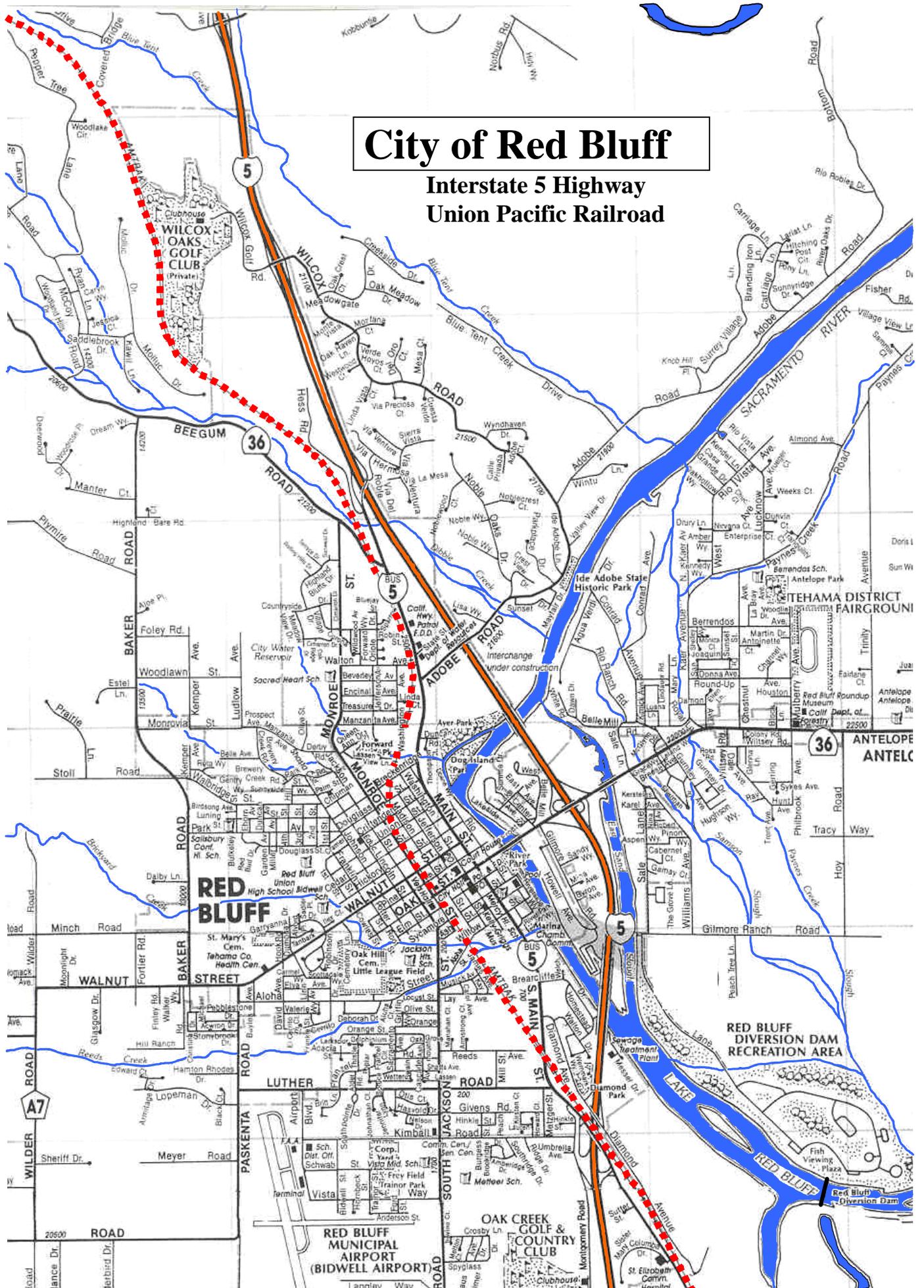
- 1. Tehama County**
- 2. City of Red Bluff – Interstate 5 – Union Pacific Railroad**
- 3. Earthquake Seismic (see City of Red Bluff SEMS Multihazard Functional Plan)**
- 4. Inundation Areas (see City of Red Bluff SEMS Multihazard Functional Plan)**
- 5. Hazard Vulnerability - Flooding**

Tehama County Map

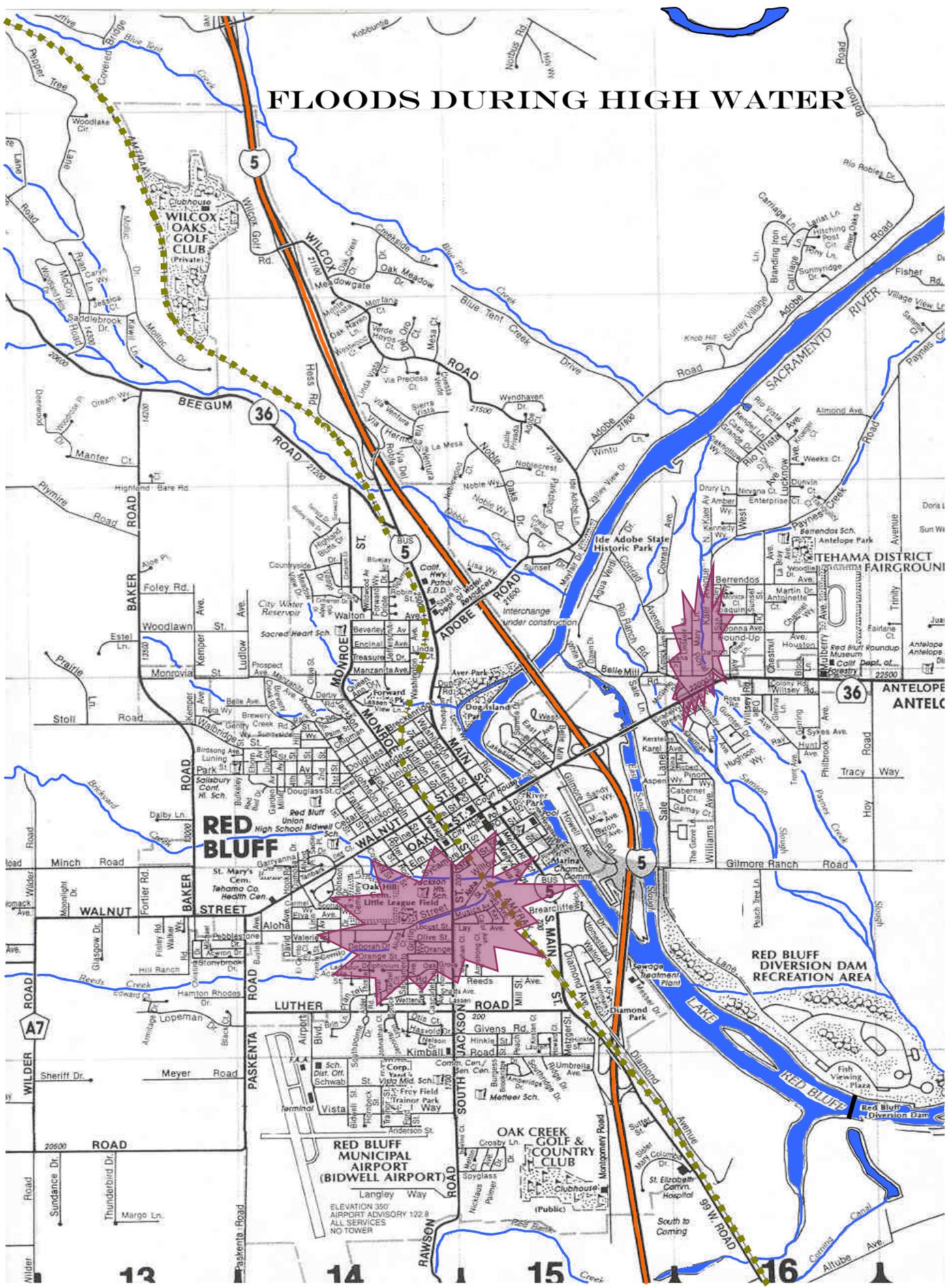


City of Red Bluff

Interstate 5 Highway
Union Pacific Railroad



FLOODS DURING HIGH WATER



13

14

15

16

Appendix C

Mitigation Capabilities Assessment *

(This section is not required in the State of California plan)

A. Jurisdiction Policies for Control of Vulnerabilities

An important aspect of the vulnerability assessment process is to determine if the local government jurisdictions have policies, plans, codes or requirements in place that are intended to avoid or minimize the continuing development of properties that could be in harm's way from a future disaster. If local government's policies, plans and requirements address the hazards posing the greatest risk to the community, then the vulnerability to future disasters can be reduced. The following table provides a list of identified policies and codes in the City of Red Bluff that relate to the hazard mitigation:

Appendix D

Alternative Funding Sources

The following is a list of alternative funding sources that may be utilized to fund some of the mitigation goals, objectives and plans discussed in the RBHMP. These sources are non-governmental funding sources to which agencies may apply for grants and loans.

The Acron Foundation Inc.	Community based projects dedicated to building a sustainable future	(510) 834-2995 (510)834-2998	c/o Common Counsel Foundation 1221 Preservation Park Way Oakland, CA94612-1206
Eastman Kodak Charitable Trust	Community Centers, and Volunteer Services	(716) 724-1980 (716) 724-1376 fax	343 State Street Rochester, NY 14650-0517
Gannet Foundation	Neighborhood Improvement Community Problem Solving	(703) 284-6000	1100 Wilson Boulevard Arlington, VA 22234
The Home Depot	Civic and Public Affairs	(770) 433-8211	Director of Community Affairs 2455 Paces Ferry Road Atlanta, GA 30339-4024
The Levinson (Max and Anna) Foundation	Environment, Social Causes	(505)982-3662	Charlotte Talbeth, Executive Director PO Box 6309 Santa Fe, NM 87502-6309
Borden Foundation, Inc.	Social Services	(614) 225-4580	180 East Broad Street Columbus, Ohio 43215-3799
Boyce Mertz-Gilmore Foundation	Community Development	(212) 475-1137	218 East 18th Street New York, NY 10003-3697
Kieckhefer (J.W.) Foundation	Social Services	(520) 445-4010	116 East Gurley Street PO Box 750 Prescott, AZ 86302

APPENDIX E

January 18, 2005

Honorable Mayor and Members of the City Council
Red Bluff, California

SUBJECT: RESOLUTION NO. 11-2005; A RESOLUTION ADOPTING A HAZARD MITIGATION PLAN

BACKGROUND:

The federal Disaster Mitigation Act of 2000, mandates that all communities must have in place prior to November 1, 2004, a state approved Hazard Mitigation Plan in order to receive HMGP project grants and federal disaster assistance funds.

The City of Red Bluff submitted its Hazard Mitigation plan to OES on October 5, 2004 for approval. OES returned the plan for additional information, the plan was resubmitted, OES forwarded the plan on to FEMA for review and approval on November 12, 2004. Prior to FEMA approval, the plan must be formally adopted by the Red Bluff City Council.

RECOMMENDATION:

That the City Council adopts Resolution No. 11-2005 implementing the new City of Red Bluff Hazard Mitigation Plan.

Respectfully submitted,

Michael J. Damon
Fire Chief

Susan R. Price
City Manager

CITY OF RED BLUFF
RESOLUTION NO. 11-2005

A RESOLUTION ADOPTING A HAZARDOUS MITIGATION PLAN

WHEREAS, the City of Red Bluff has submitted a plan dated October 5, 2004, which plan is available in the City Clerk's Office and incorporated herewith by this reference and is referred to as "Plan".

WHEREAS, this plan will become operational when adopted by Resolution of the City Council of the City of Red Bluff.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Red Bluff as follows:

1. The City of Red Bluff has prepared this State of California approved Hazard Mitigation Plan (Plan) to ensure the most effective and economical allocation of resources for the maximum benefit and protection of the civilian population in time of emergency.
2. The Plan is an extension of the Tehama County Hazard Mitigation Plan.
3. The City Council gives its full support to this Plan and urges all officials, employees, and citizens, individually and collectively, to do their share in the total emergency effort of the City of Red Bluff.
4. That said Plan be adopted and approved as the Hazard Mitigation Plan of the City of Red Bluff.
5. The City Clerk shall attest to the adoption of this Resolution.

PASSED AND ADOPTED by the Red Bluff City Council at a meeting of January 18,

2005 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Mayor

APPROVED AS TO FORM:

ATTEST:

City Attorney

City Clerk

Section Three

Mitigation Action Plans

A. Category (201.6(c)(3)(iii))

Each mitigation action plan will fall under one or more of the following mitigation technique classifications. These classifications include a wide array of activities that can be considered to achieve the goals and objectives of the RBHMP. The mitigation technique will be included in the Mitigation Action Plan Worksheet.

A. Preventative Activities (PA)

Preventative activities are those activities that are intended to reduce a community's vulnerability to future hazard events. The following is a list of potential preventative activities and measures:

- a. Planning and Zoning
- b. Building codes
- c. Floodplain regulations
- d. Water Quality regulations
- e. Fire Prevention codes
- f. Drainage system maintenance
- g. Capital improvement programming

B. Property Protection (PP)

Property protection activities are intended to protect existing structures by retrofitting, relocating or modifying the structure to withstand a hazard event. The following is a list of potential property protection measures:

- a. Property acquisition
- b. Property relocation
- c. Building elevation
- d. Critical facilities protection
- e. Retrofitting vulnerable properties
- f. Participation in an insurance program
- g. Development of safe rooms

C. Natural Resource Protection (NR)

Natural resource protection activities reduce the effects of a hazard event on the natural resources within a region by preserving and/or restoring natural areas along with their mitigation functions. The following is a list of natural resource protection activities:

- a. Floodplain protection
- b. Wetland preservation and restoration
- c. Erosion and sediment control
- d. Fire resistant landscape
- e. Tree protection / Landscaping ordinances
- f. Wastewater permitting
- g. Open space preservation

D. Structural Projects (SP)

Structural mitigation activities reduce the impacts of a hazard event by modifying the physical environment to withstand the particular hazard. The following is a list of structural mitigation activities:

- a. Creation of reservoirs
- b. Levees / dikes / floodwalls
- c. Diversion canals / detention areas / retention areas
- d. Infrastructure construction / modifications / repairs
- e. Storm sewers
- f. Dam construction
- g. Channel modification / dredging

E. Emergency Services (ES)

Emergency service measures minimize the impact of a hazard by preparing these services to respond efficiently and rapidly during and after a hazard event. The following is a list of potential emergency services activities:

- a. Warning systems
- b. Evacuation planning and management
- c. Sandbagging for flood protection
- d. Emergency shelter preparation
- e. Debris removal plan

F. Public Information and Awareness (PI)

Public information and awareness activities advise residents, potential buyers and visitors about hazards, potentially hazardous areas and mitigation techniques. The following is a list of potential public information and awareness activities:

- a. Outreach projects
- b. Speaker series / demonstration events
- c. Hazard and flood map information
- d. Real estate disclosure
- e. Library materials
- f. Hazard expositions
- g. Warning system drills
- h. Vulnerability inspections for residents and business owners
- i. Radio advertisements

1. Activity – This section should include a brief description of the project or program that the City would like to undertake.

2. Objectives Addressed – Each mitigation action plan should work to achieve one or more of the objectives in the RBHMP. The number of each objective that an action plan could work to achieve should be placed in this category.

3. Priority – The City has ranked each mitigation action plan with a high (1), moderate (2) or low (3) priority ranking. This ranking will show which action plans are the highest priority for completion and, therefore, which activities should be given a priority for funding. Budget constraints can significantly deter the implementation of mitigation actions. Environmental mitigation actions that do not have an adverse effect on the environment, that comply with Federal, State and local environmental regulations, and that are consistent with the community's environmental goals will be implemented. The mitigation actions with highest priority were the most cost effective and most compatible with the communities'

social and cultural values. This ranking can be reviewed and modified after hazard event and during the three- and five-year update of the RBHMP.

4. Possible Funding Sources – This category will list possible funding sources that could be utilized to undertake or complete each particular action plan. It is important for each participating jurisdiction to determine any possible funding source, if excess funds or grants were to become available that could be used to achieve each mitigation action plan. This determination does not represent a commitment of these funds for a mitigation activity, but just an example of how the activity could be funded.

5. Responsible Agency – It is important for the City to determine which agency or person has the expertise and responsibility to undertake each of the mitigation action plans. This will make implementation of a mitigation action plan efficient and effective.

6. Timeframe – The City must determine whether each project is a short-term or long-term project. This will be important in the determination of funding and other resources. Projects can be: Pending – On going – In progress –Dated – Funding Needed or Grant

B. Jurisdictional Mitigation Plans (201.6(c)(3)(ii)) (201.6(c)(4)(ii))

As a participant in the National Flood Insurance Program (NFIP) the City of Red Bluff doesn't allow new construction within a floodway or within 30' of a floodway.

Properties that fall within a Flood Plain are required to obtain pre and post construction elevation certificates and to maintain flood insurance policies and any other requirements contained in Chapter 26 "Flood Damage Prevention" of the Red Bluff City Code.

As part of the final steps of the RBHMP, a Hazard Mitigation Action Plan Worksheet must be filled out. This worksheet contains proposed mitigation projects or programs that the City would like to undertake if the funding were available. To receive Hazard Mitigation Grant Program funding, the project must be generally or specifically included in the RBHMP as one of the City's action plans. The following is a list of the mitigation action plans:

These plans will be input as they are received.

ACTION PLAN FOR THE CITY OF RED BLUFF (201.6(c)(3)(iii))

Following are the proposed projects/programs/actions to be undertaken by the City of Red Bluff in an effort to achieve the goals and objectives identified through the Hazard Mitigation Plan:

(Abbreviation for "Type" is as follows: "PA" is Preventive Activities, "PP" is Property Protection Activities, "NB" is Natural and Beneficial Functions/Resource Preservation Activities, "ES" is Emergency Services Activities, "SP" is Structural Projects Activities, and "PI" is Public Information Activities; "GIS" is Geographic Information Systems Activities.)

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority 1 high-3 low
			Timeframe		HAZARDS
PA	City has adopted, and enforces the Uniform Building and California Fire Codes	Building & Codes	General Fund ----- On going	Minimize threat from hazards; educate community members; minimize vulnerability to homes, businesses; economic stability; protect quality of life	<u>1</u> All Hazards
PA	Continue to provide coordination of City's storm water management regulations	Engineering	General Fund ----- On going	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; quality of life.	<u>1</u> Flooding Haz-Mat
PA	Continue enforcement of zoning regulations, Subdivision and Land Development Regulations	Planning	General Fund ----- On going	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> Flooding Wildland Haz-Mat
PA	Continue providing information to citizens regarding none structural mitigation actions.	Emergency Preparedness	General Fund/ Grant Funding ----- Funding/ On going	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>2</u> All Hazards
PP	Promote standards for existing homes to be retrofitted to that exceed minimal codes	Building & Codes	General Fund ----- Pending	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>2</u> Flooding Earthquake
PP	Seek funding for retrofitting, demolishing or relocating repetitively flooded properties if suitable candidates can be identified	Building & Codes	Grant Funding ----- Funding / Pending	Minimize threat from hazards; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> Flooding
GIS	Develop and maintain storm drainage inventory maps and database.	GIS & Engineering	General Fund & Storm Water Fee Funding ----- In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>2</u> Flooding Haz-Mat Earthquake
ES	Continue Terrorist Response Training	Emergency Preparedness	Grant Funding ----- Funding / In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; minimize vulnerability of homes, businesses; economic stability; quality of life.	<u>1</u> Terrorism

Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority 1 high-3 low
			Timeframe		HAZARDS
ES	Continue coordinating Emergency Operations Center activities in the event of a hazard event	Emergency Preparedness	General Fund ----- On going	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; minimize vulnerability of homes, businesses; economic stability; quality of life.	<u>1</u> All Hazards
ES	Evaluate existing City owned facilities for hazard resistance and retrofit facilities if needed where feasible.	Public Buildings & Engineering	General Fund/ Grant Bond Funding ----- 1-15 yrs	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; quality of life.	<u>1</u> Earthquake
ES	Sponsor training programs for medical providers on topics of interest such as decontamination procedures, etc.	Emergency Preparedness; EMS	General Fund & Grant Funding ----- Pending	Minimize threat from hazards; emergency operations; educate community members; economic stability; disaster resistant region; quality of life.	<u>2</u> Haz-Mat Terrorism
ES	Continue coordinating the Anti-Terrorism Task Force of specially trained police, fire and EMS personnel to respond to terrorist acts.	Emergency Preparedness	Grant Funding ----- In progress	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; quality of life.	<u>1</u> Terrorism Haz-Mat
ES	Continue to promote interest in the Community Emergency Response Training (CERT) program	Emergency Preparedness	Grant Funding ----- 1-2 yrs	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; quality of life.	<u>1</u> All Hazards
PA	Continue the drainage system maintenance and clearing program. Grasshopper Creek Floodplain Restudy – Urban Streams Grant - Brickyard Creek.	Public Works	General Fund/ Grant ----- In process Funding On going	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> Flooding
PA	Continue right of way and drainage easement permitting considering emergency vehicle access and flood zone related issues in permitting decisions	Public Works	General Fund ----- Spring 2006	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> Flooding
SP	Implement an elevation reference mark inspection Program.	Engineering	General Fund & Grant Funding ----- GIS project 2006 / 07	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> Flooding
Type	Activity	Lead Agency	Funding Source	Goal(s) addressed	Priority 1 high-3 low

			Timeframe		HAZARDS
PA	Continue the road repair / construction program, considering needs during evacuation and soil liquefaction potential in prioritization decisions.	Public Works	General Fund/Grant Funding ----- Funding Pending	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> All Hazards
PI	Continue providing speakers to civics groups regarding hazard related activities.	Emergency Preparedness	General Fund ----- In progress On going Funding	Minimize threat from hazards; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> All Hazards
PI	Conduct outreach initiatives to the small business community to encourage businesses to prepare for hazard events.	Emergency Preparedness	General Fund ----- In progress On going Funding	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>2</u> All Hazards
PI	Continue programs aimed towards providing resources to local schools to enhance their ability to educate students regarding hazard events and hazard events preparation.	Emergency Preparedness	Grant Funding ----- In progress On going Funding	Minimize threat from hazards; emergency operations; no disruption of community infrastructure and services; educate community members; improve hazard loss reduction programs; minimize vulnerability of homes, businesses; economic stability; disaster resistant region; quality of life.	<u>1</u> All Hazards

Additional Recommended Projects may be added to this project list.

The mitigation actions listed above; address all hazards within the City of Red Bluff, which would affect both new, and existing buildings or infrastructure.

The process for arranging the above mitigation actions was achieved through the planning committee voting on and assigning a priority number 1-3 for each action. It should be noted that all fiscal related actions are based on availability of funding for the project.