

**Mayor**  
Lois Wynne  
**Mayor Pro Tem**  
Jeff Chedester  
**Council Members**  
Ray Madrigal  
Eddie Neal  
William Siegel



**Office of the  
City Manager**

119 Fox Street  
Lemoore, CA 93245  
Phone (559) 924-6700  
Fax (559) 924-9003

## Staff Report

ITEM NO. 2-9

**To:** Lemoore City Council  
**From:** Jeff Laws, City Manager  
**Date:** February 13, 2015 **Meeting Date:** February 17, 2015  
**Subject:** Approval and Adoption of the Kings County Multi-Jurisdictional  
Local Hazard Mitigation Plan – Resolution 2015-04

### Discussion

The purpose of natural hazards mitigation is to reduce or eliminate long-term risk to people and property from natural hazards. Lemoore and the participating jurisdictions of Avenal, Corcoran, Hanford and Kings County developed this multi-hazard mitigation plan to reduce future losses to the county and its communities resulting from natural hazards. The plan also was prepared to meet the requirements of the Disaster Mitigation Act of 2000 and to achieve eligibility for the Federal Emergency Management Agency (FEMA) Grant Programs.

The Kings County Operational Area used Office of Homeland Security (OHS) grant funds in 2011 to hire Howell & Associates to prepare the federally required countywide Multi-Hazard Mitigation Plan. The Disaster Mitigation Act of 2000 (DMA 2000) requires all local governments to address risks and measures that can be taken in advance to reduce future losses from natural and other closely related hazards.

The planning process followed a methodology prescribed by the Federal Emergency Management Agency (FEMA), which began with the formation of a Hazard Mitigation Planning Committee (HMPC) comprised of key stakeholders from Kings County and participating jurisdictions. The HMPC conducted a risk assessment to examine the recorded history of losses resulting from natural hazards, assess probability and magnitude of future hazard events, and analyze the cities assets at risk to hazards. The assessment only included review of natural disasters / events, not those that are technological or man-made. The risk assessment indicated that earthquakes, floods, droughts, and extreme heat are the hazards most likely to significantly affect people and property in the county. Based upon the risk assessment, the HMPC identified goals and objectives for reducing risk to natural hazards. To meet identified goals and objectives, the plan recommends mitigation actions to be completed prior to the next Local Hazard Mitigation Plan (LHMP) update. The HMPC also developed an implementation plan for each action, which identifies priority levels, activity description and responsible agency,

The approved mitigation plan will assure that Kings County and the City of Lemoore maintain their eligibility for future (FEMA) Grant funding. The approved plan also may help reduce flood insurance premiums currently paid by City residents and encourage greater participation in the National Flood Insurance Program (NFIP) by those exposed to this risk.

This plan has been approved by the Governor's Office of Emergency Services (OES) and (FEMA), pending approval and adoption by each jurisdiction participating in the process. The Kings County Multi-Jurisdictional Local Hazard Mitigation Plan is attached for your review.

**Budget Impact**

None at the time. However, having an approved LHMP will allow Kings County and the City of Lemoore to apply for FEMA grant funds which has the potential to reduce the impacts of natural disasters.

**Recommendation**

That the City Council, by motion, approve Resolution 2015-04 and adopt the Kings County Multi-Jurisdictional Local Hazard Mitigation Plan for the City of Lemoore.

**RESOLUTION NO. 2015-04**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LEMOORE  
ADOPTING THE KINGS COUNTY MULTI-JURISDICTIONAL  
LOCAL HAZARD MITIGATION PLAN**

At a Regular Meeting of the City Council of the City of Lemoore duly called and held on February 17, 2015 at 7:30 p.m., it was moved by Council Member \_\_\_\_\_, seconded by Council Member \_\_\_\_\_ and carried that the following Resolution be adopted:

**WHEREAS**, the City Council of the City of Lemoore (the “Council” and the “City” respectively”) recognizes the threat that natural hazards pose to people and property within the City; and

**WHEREAS**, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

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

**WHEREAS**, the City fully participated in the FEMA-prescribed mitigation planning process to prepare this 2012 Multi-Hazard Mitigation plan which shall replace the previous 2008 Multi-Hazard Mitigation Plan; and

**WHEREAS**, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the “Kings County, California Multi-Hazard Mitigation Plan” (the “Plan”) and approved it contingent upon this official adoption by the Council.

**NOW, THEREFORE, BE IT RESOLVED** as follows:

1. That the Council hereby adopts the Plan as its official multi-hazard mitigation plan.
2. That the Council will submit this Adoption Resolution to the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials to enable the Plan’s final approval.

**PASSED AND ADOPTED** at a Regular Meeting of the City Council of the City of Lemoore held on the 17<sup>th</sup> day of February 2015 by the following vote:

AYES:  
NAYS:  
ABSENT:

ATTEST:

APPROVED:

\_\_\_\_\_  
Mary J. Venegas, City Clerk

\_\_\_\_\_  
Lois Wynne, Mayor



**December 2012**

**Kings County Multi-jurisdictional Local Hazard Mitigation Plan  
*Including the Participating Jurisdictions of the Cities of  
Avenal, Corcoran, Hanford and Lemoore***



## **Acknowledgements**

Howell Consulting would like to thank those Departments and Agencies who participated in the planning and development of this document, particularly Trudy Maletta, retired (2012) Kings County Office of Emergency Management.

The official Kings County Local Hazard Mitigation Planning Team provided the oversight and dedication to this project that was required and without their commitment; this project would not be possible. The Planning Team members are as follows:

### **LHMP Planning Team Members**

Trudy Maletta	Kings County Office of Emergency Management
Courtney Espinoza	Kings County Office of Emergency Management
Michelle Speer	Kings County Office of Emergency Management
Chief William Lynch	Kings County Fire Department
Mike Virden	Kings County Fire Department
Supervisor Joe Neves	Kings County Board of Supervisors
Alex Torres	Tachi Palace Hotel and Casino
Tim Niswander	Kings County Department of Agriculture
Chief Tim Ironimo	City of Hanford
Greg Gatzka	Kings County Community Development Agency
Chuck Kinney	Kings County Community Development Agency
Jeremy Kinney	Kings County Community Development Agency
Angie Sorrento	Kings County Office of Education
Chief Jack Amoroso	City of Avenal
Pat Mundy	City of Lemoore
Gary Cramer	City of Corcoran

### **Howell Consulting Team**

Brenna Howell	Project Manager
Neal O'Haire	Lead Planner/Facilitator
Jim Kniss	Mapping Coordinator

As with any working plan, this revision represents planning strategies and guidance as understood as of the date of this plan's release. This plan identifies natural hazards and risks and identifies the hazard mitigation strategy to reduce vulnerability and should assist the communities of Kings County to be more disaster resistant and sustainable.

## **Formal Plan Adoption Documentation**

Kings County and the following jurisdictions Avenal, Corcoran, Hanford and Lemoore will submit this 2012 Kings County Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) to the Kings County Board of Supervisors and the City Councils upon successful completion of state and federal review and conditional approval. Kings County wishes to receive approval pending adoption. The plan will be submitted to the Board of Supervisors/City Councils as a regularly scheduled agenda item with room for additional public and departmental comment.

(Resolution from Kings County adopting the LHMP inserted here)

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## Introduction and County Overview

### Introduction and Purpose of Plan

Each year, natural disasters in the United States take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars each year to help communities, organizations, businesses, and individuals recover from disasters. These losses only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Additionally, many natural disasters are predictable. Many more are repetitive, often with the same results. Many of the damages caused by these events can be alleviated or even eliminated.

The Federal Emergency Management Agency (FEMA) has made reducing losses from natural disasters one of its primary goals. Hazard mitigation planning and subsequent implementation of projects, measures, and policies developed through those plans, is the primary mechanism in achieving these goals. Mitigation planning has resulted in the implementation of projects that have successfully reduced disaster damages.

This revised plan was developed pursuant to the regulations of the Disaster Mitigation Act (DMA) of 2000. The DMA revises the Robert T. Stafford Disaster Relief and Emergency Assistance Act by adding Section 322, which provides new and revitalized emphasis on hazard mitigation, including a new requirement for local mitigation plans. These new local mitigation planning regulations are implemented through 44 CFR Part 201.6.

The DMA requires state and local governments to develop multi-hazard mitigation plans to maintain their eligibility for certain federal disaster assistance and hazard mitigation funding programs. Communities at risk from natural disasters cannot afford to jeopardize this funding.

More importantly, proactive mitigation planning at the local level can help reduce the cost of disaster response and recovery to property owners and government by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption. Kings County and its participating jurisdictions have been affected by several disasters in the past and are committed to reducing disaster impacts and maintaining eligibility for federal mitigation grant funding.

### What's New in the 2012 LHMP?

#### Santa Rosa Rancheria/Tachi Yokut Tribe

The Santa Rosa Rancheria and the Tachi Yokut Tribe have elected to participate in the 2012 LHMP planning process to continue their participation and partnership with the County and other jurisdictions and agencies, **however they are not seeking multi-jurisdictional approval.** Representatives from the Tachi Yokut Tribe's Public Safety Division actively participated in the planning process and provided critical information in the development of their Community Profile Annex, **the Tribe does not wish to seek approval at this time, however, they will continue to participate in the overall planning process.** The Tribe identified some mitigation activities/actions that they would like to complete in the future in partnership with Kings County should there be opportunity.

### **Update on the 2007 Mitigation Projects**

Since the initial plan was adopted in 2007, Kings County and the participating jurisdictions have completed several of the mitigation actions outlined in the initial 2007 plan. The Planning Team also reviewed the incomplete projects from the 2007 plan and has created a revised implementation plan for each action, which identifies priority level, background information, responsible agency, timeline, cost estimate, potential funding sources, and more. A list of those projects is located in Element D.

### **AB 2140 Compliance**

The revised and updated LHMP was prepared in coordination with the Kings County Community Development Agency's Health and Safety Element of the Kings County General Plan, as the planning effort has many common overlapping issues. The LHMP and Health and Safety Element are considered complimentary documents that address natural hazards and works toward enhancing mitigation efforts.

### **Goals and Objectives**

The Planning Team voted to retain the goals and objectives listed in the 2007 LHMP to ensure consistency for the projects carried over from that plan into this planning effort. These goals and objectives were still consistent with the overall direction of the county regarding mitigation efforts and based upon the risk assessment completed. Those goals and objectives are as follows:

#### **Goal 1 Reduce impacts of natural hazards to life, property, and the environment**

- Promote education and awareness about natural hazards risk, mitigation, and preparedness to citizens, public agencies, elected officials, nonprofit organizations, and businesses.
- Ensure protection and enhancement of key emergency access routes.
- Protect critical facilities and infrastructure to minimize loss of critical services.
- Minimize growth and development in hazard areas.
- Continue to improve enforcement of existing standards and regulations.

#### **Goal 2 Minimize impacts of natural disasters to agriculture and the economies of Communities**

- Encourage water conservation measures among urban, rural, and agricultural users.
- Increase water storage to mitigate flooding and drought.
- Develop plans for post-disaster recovery.
- Strengthen disaster resistance and resiliency of major employers.

#### **Goal 3 Implement identified mitigation activities**

- Promote hazard mitigation as integrated policy among communities in the county and with the region and state.
- Increase communication regarding hazard mitigation among communities in the county.
- Seek funding sources and partners for future mitigation activities.
- Improve organizational capabilities to address health and safety issues in mitigation and

- Response.

To meet identified goals and objectives, the plan recommends 26 mitigation actions; those mitigation actions are located in Element C and in each of the jurisdictional annexes.

## Scope

Hazard mitigation is defined as sustained action taken to reduce or eliminate long-term risk to human life and property from hazards. Hazard mitigation planning is the process through which hazards that threaten communities are identified; likely impacts are determined, prioritized and implemented. This revised plan continues the natural hazard mitigation planning process for Kings County (including school districts and the Tachi Yokut Tribe) and participating cities including Avenal, Corcoran, Hanford, and Lemoore, identifies natural hazards and risks within Kings County and identifies the hazard mitigation strategy to reduce vulnerability and make the communities of Kings County more disaster resistant and sustainable. Information in this plan can be used to help guide and coordinate mitigation activities and local land use decisions.

Kings County and participating jurisdictions initially developed this hazard mitigation plan to reduce future losses to the county and its communities resulting from natural hazards. The revised plan also was prepared to meet the evolving requirements of the Disaster Mitigation Act of 2000 and subsequently changes to the guidance and revised crosswalks. The revised plan seeks to maintain eligibility for the FEMA Pre-Disaster Mitigation (PDM) and Hazard Mitigation Grant Programs (HMGP).

The Kings County Local Hazard Mitigation Plan continues to be a multi-jurisdictional plan that covers the following local governments who participated in the planning process:

- Kings County
- City of Avenal
- City of Corcoran
- City of Hanford
- City of Lemoore
- Santa Rosa Rancheria/Tachi Yokut Tribe
- Kings County Office of Education Representing the School Districts of:
  - Armona Union Elementary School District
  - Central Union School District
  - Corcoran Unified School District
  - Hanford Elementary School District
  - Hanford Joint Union High School District
  - Island Union Elementary School District
  - Kings County Office of Education District
  - Kings River-Hardwick School District
  - Kit Carson Elementary School District
  - Lakeside Union Elementary School District
  - Lemoore Union Elementary School District

- Lemoore Union High School District
- Pioneer Union Elementary School District
- Reef-Sunset Unified School District

The planning process followed and continues the methodology prescribed by FEMA, which began with the formation of a Local Hazard Mitigation Planning Team comprised of key stakeholders from Kings County, participating jurisdictions, and state and federal agencies. The Planning Team conducted a revised risk assessment to examine the recorded history of losses resulting from natural hazards, assess probability and magnitude of future hazard events, and analyze the county's assets at risk to hazards. The risk assessment indicated that earthquakes, floods, droughts, and extreme heat are the hazards most likely to significantly affect people and property in the county. Planning Team members are listed on the Acknowledgements page.

## **County Overview**

### **History**

When the first white settlers arrived in Kings County, the indigenous population consisted of the Tachi tribe of the Yokut Indians. The Yokuts controlled the entire San Joaquin Valley from the delta to Tejon Pass. The first white settlement was a ferry situated on the south bank of the Kings River where the Overland stage route crossed. Known as Kingston, this town was part of Tulare County until a bridge replaced the ferry in 1873, and the town went into decline and was abandoned.

A few small settlements followed the initial settlement at Kingston, but the first incorporated community was Lemoore, first surveyed in 1872. The Southern Pacific railroad arrived in the town in 1877, and the second permanent community began along the railroad tracks shortly after its arrival. Named for James Madison Hanford, the paymaster of the Southern Pacific, the second town was incorporated in 1891. Hanford became the county seat two years later, when Kings County was formed from the western half of Tulare County.

The early economy of the county centered on ranching and farming. The first vineyard was established in 1890 and the first dairy came three years later. Settlement in Kings County remained modest throughout much of the county's first century. The third incorporated community, Corcoran, was established along the San Francisco and San Joaquin Railroad in 1905. In 1929, the fourth incorporated town, Avenal, was established on the west side of the county following the discovery of oil in the hills.

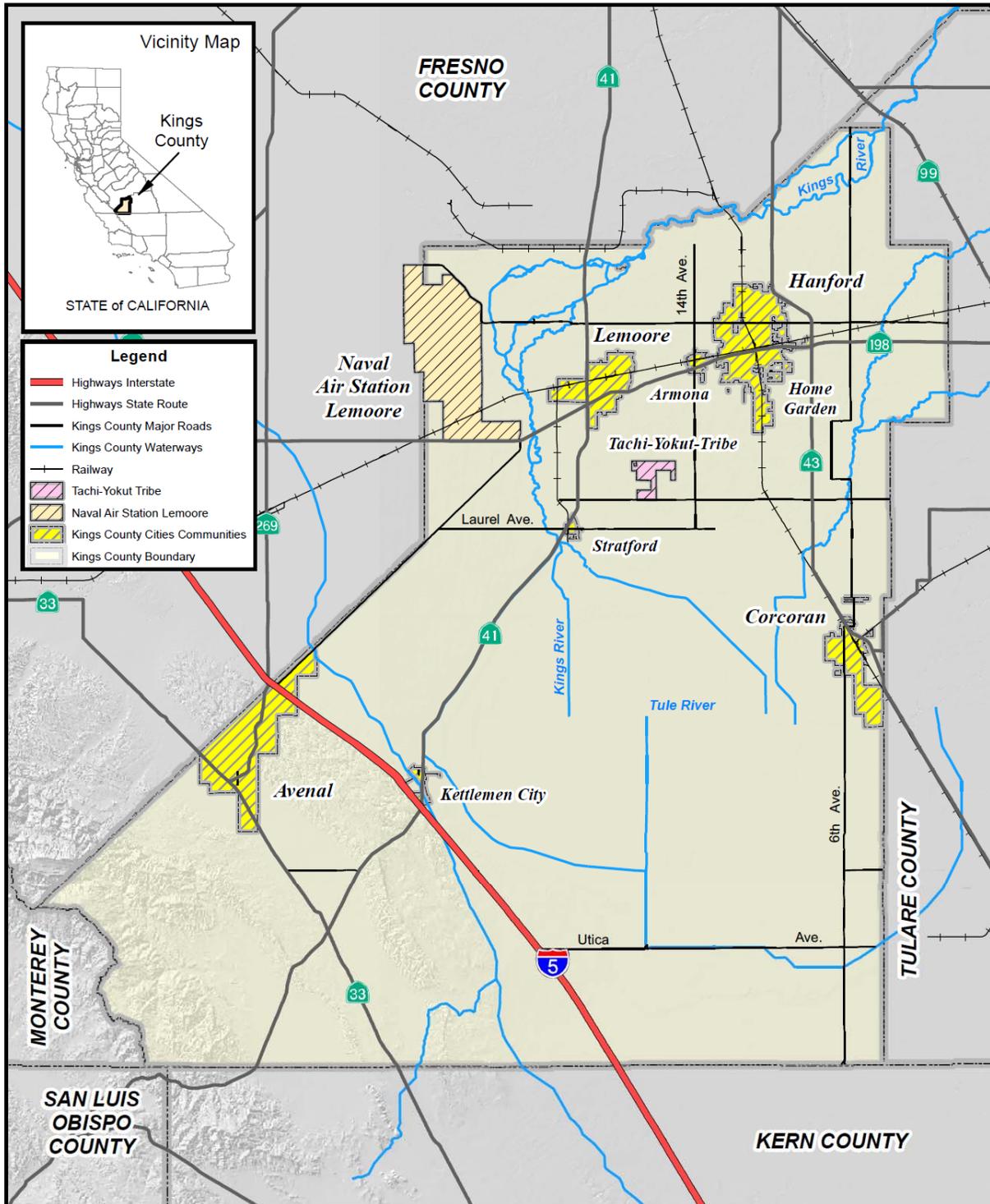
Kings County encompasses approximately 1,435 square miles. It is located slightly south of the geographic center of California and occupies part of the San Joaquin Valley and a portion of the eastern slope of the California Coast Ranges. The county is bounded on the southwest by the Coast Ranges, on the north and west by Fresno County, to the east by Tulare County, and to the south by Kern County.

There are four incorporated cities in the county—Avenal, Corcoran, Hanford, and Lemoore—and four community service areas—Armona, Home Garden, Kettleman City, and Stratford. Kings County is also home to the Lemoore Naval Air Base, two state prisons, and the Tachi Yokut tribe, who live on 170 acres of tribal land at the Santa Rosa Rancheria. The

Board of Supervisors is the governing body for Kings County and many county special districts.

Topography in most of the county is relatively flat. However, elevation ranges from a low of 175 feet above mean sea level in the Tulare Lake bed, to 3,500 feet above mean sea level in the southwest, near the Kettleman Hills and the Kreyenhagen Hills. The county is located in the Tulare Lake hydrologic region that comprises the extreme southern portion of the Central Valley. The rivers in this region include the Kings, Kaweah, Tule, and Kern, which all historically drained into the Tulare Lake. The climate in Kings County can be classified as Mediterranean with average rainfall rates of 7.6 inches annually, occurring primarily between November and April. A map of Kings County is located on the following page.

### Kings County Planning Area Map



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

### Kings County Multi-Hazard Mitigation Plan County Planning Area



**Population**

The total estimated county population in 2010 was 152,982 up from 147,729 people in 2007. Population estimates for the unincorporated areas from the 2010 U.S. Census are included in the table below.

**Unincorporated Kings County Population**

Census-designated place	Total Population	White	African American	Native American	Asian	Pacific Islander	Other races	Two or more races	Hispanic or Latino (of any race)
Armona	4,156	2,058	99	64	85	13	1,597	240	2,784
Grangeville	469	393	15	5	5	0	41	10	145
Hardwick	138	63	5	0	0	0	67	3	86
Home Garden	1,761	652	221	63	50	8	677	90	1,189
Kettleman City	1,439	478	4	8	1	0	887	61	1,383
Lemoore Station	7,438	4,883	729	70	560	53	418	725	1,445
Stratford	1,277	574	16	17	19	1	617	33	1,069
All others not CDPs (combined)	17,488	11,304	377	755	267	18	3,991	776	7,851

Source: 2010 U.S. Census

**Economy**

Kings County is located in the heart of California’s rapidly growing San Joaquin Valley, the richest agricultural area in the world. With that distinction also come the challenges of an economy, which has historically been dependent on seasonal agriculture and low wages. Government is the largest employer, followed by agriculture, trade, transportation & utilities, education & health care, and manufacturing.

It appears 2011 is the start of a rebuilding period for Kings County cities and unincorporated communities. Though property values remain low, there are some encouraging signs in the housing sector. On the brighter side, the Central San Joaquin Valley is currently experiencing growth in food processing, warehousing and distribution, education, and health care. Though population growth is temporarily stable, the Valley is seeing a trend of nonfarm job growth as businesses consider a location in the ‘Affordable California’ (Kings County Economic Development Commission).

More detailed information on the general overview of the county and participating jurisdictions are located in the jurisdictional annexes attached to this plan.

**Plan Organization and Structure**

The Plan has been developed using a structure similar to, but modified from its previous format. The Plan is divided into several primary sections, each covering a component of the document as required under state and federal planning guidance. The primary sections are further supported by front documents, sectional attachments, and appendices that support specific issues attached to the plan.

- **Introduction**
- **Element A: Planning Process**
- **Element B: Hazard Identification & Risk Assessment**
- **Element C: Mitigation Strategy**
- **Element D: Plan Review, Evaluation and Implementation**
- **Element E: Plan Adoption**
- **References**
- **Planning Process Documentation**
- **Community Profile Annexes**
  - **Unincorporated Kings County**
  - **Kings County School Districts**
  - **Santa Rosa Rancheria/Tachi Yokut Tribe**
  - **City of Avenal**
  - **City of Corcoran**
  - **City of Hanford**
  - **City of Lemoore**

## Element A: Planning Process

**Requirement §201.6(b): An open public involvement process is essential to the development of an effective plan.**

More often than not, communities are faced with having to deal with the aftermath of an unwanted hazard that can devastate areas of a community. While we cannot prevent disasters from happening, their effects can be reduced or eliminated through hazard mitigation planning, but only if a local government has the foresight to assess likely hazards and craft preventative measures before the next hazard event occurs. This Chapter describes the background of the hazard mitigation planning process in Kings County.

The Kings County Office of Emergency Management (OEM) recognized the need and importance of revising this plan and was responsible for its initiation and for securing funding through a FEMA Homeland Security Grant. The county contracted with Howell Consulting in early 2012 to facilitate the revision and update to their existing 2007 LHMP. Howell Consulting's role was to assist Kings County in the following:

- Form a local hazard mitigation Planning Team and include key stakeholders and representatives
- Follow FEMA's planning guidance and follow the requirements set forth in the DMA 2000
- Facilitate the planning process and identify the data requirements
- Facilitate the process for public involvement and input
- Work closely with the California Emergency Management Agency (Cal EMA) on the development and review of the revised plan and planning process
- Ensure coordination with Cal EMA and FEMA Region on review, approval and formal adoption of the plan by the Kings County Board of Supervisors/City Councils

Kings County utilized many of FEMA's multi-hazard mitigation planning guidance documents including the *Planning How-To Guides* to structure the overall facilitation and development of the planning process. The following sections describe the planning process.

### Multi-Jurisdictional Participation

Each jurisdiction participating in this plan developed and revised its own annex, which provides a revised and more detailed assessment of each jurisdiction's unique risks, as well as their mitigation strategy to reduce long-term losses. Each jurisdictional annex continues to address the following items:

- Community profile summarizing geography, history, economy, and population
- Hazard information on geographically specific hazards
- Hazard map(s) at an appropriate scale for the jurisdiction, if available
- Number and value of buildings, critical facilities, and other community assets located in hazard areas, if available
- Vulnerability in terms of future growth and development in identified hazard areas

- Capability assessment describing existing regulatory, administrative, technical, and fiscal resources and tools, as well as outreach efforts and partnerships, and past mitigation projects
- Mitigation actions specific to the jurisdiction

Each jurisdiction was required to meet strict plan participation requirements defined at the beginning of the process, which included the following:

- Designating a representative to serve on the Kings County Hazard Mitigation Planning Team
- Participating in most, if not all of the Planning Team meetings
- Providing data and information to complete the jurisdictional annex, including identifying at least one mitigation action and completing the *Information Collection Tool*
- Reviewing and commenting on plan drafts
- Informing the public, local officials, and other interested parties about the planning process and providing opportunity for them to comment on the plan and annex within their own jurisdiction
- Formally adopting the mitigation plan and the jurisdictional annex

All of the jurisdictions with annexes to this plan met all of these participation requirements. In most cases, the representative for each jurisdiction brought together a Planning Team to help collect data, identify mitigation actions and implementation strategies, and review annex drafts.

### Element A.1. Planning Process

**Requirement §201.6(c)(1):** *[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

The Kings County Operational Area is an active county where emergency management issues are discussed, presented and recommended for approval by the Kings County Board of Supervisors as well as the Cities of Avenal, Corcoran, Hanford and Lemoore City Councils. The Kings County OEM staff distributed a formal invitation to key stakeholders, county, city, special districts, state and federal representatives to participate in the planning process by attending the official planning team/project kickoff meeting. The following describes the planning process.

#### **Hazard Mitigation Planning Team Tasks**

Specific tasks were identified for the Planning Team in order to ensure that project goals for the plan revision were undertaken and completed. The following represents those primary Planning Team tasks:

- Coordinate tasks and activities with the Office of Emergency Management to develop all-hazards disaster mitigation plan and oversee the planning process.
- Prioritize hazards vs. resources.

- Select highest and best mitigation recommendations and develop those recommendations for further action by the Kings Operational Area and the participating jurisdictions of Avenal, Corcoran, Hanford and Lemoore and together with their own agencies (local participating jurisdictions)
- Review planning drafts, recommendations and updates
- Develop and implement long and short term goals
- Integrate the plan with all phases of comprehensive emergency management planning
- Provide for the implementation of Planning Team decisions
- Encourage, coordinate and provide a methodology for the implementation of public input
- Establish Hazard Mitigation Planning Team tasks locally (Kings County and Cities of Avenal, Corcoran, Hanford and Lemoore) to include but not be limited to the following:
  - Determine implementation ability and constraints for proposed hazard mitigation planning steps and development of strategies
  - Bring forward community concerns through private and public input
  - Identify implementation resources
  - Provide for the update of comprehensive Emergency Management Plans on a scheduled basis
  - Evaluate and carry out mitigation activities
  - Assist in implementation of funding identification and procurement
- Ensure that adjacent jurisdictions, pertinent private entities and citizens are informed of the hazard mitigation planning process and offer each the opportunity for input into the plan.

A Planning Team was developed that included members from all participating jurisdictions. The Planning Team representatives decided to work collectively on the plan and the jurisdictional annexes. Planning Team members were responsible for bringing specific information and data to and from the Planning Team, from their respective jurisdictions and agencies seeking approval, such as Kings County, the Cities of Avenal, Corcoran, Hanford and Lemoore. Within each jurisdiction, staff met with the Planning Team representative to develop and update their specific annex. The titles of the staff for each jurisdiction and their meeting frequency is as follows:

**City of Avenal**

- Police Chief/Emergency Manager – Official Planning Team Representative
- City Manager
- Community Development Department Director (Floodplain Manager)
- Public Works Department Director (Building Official)

The City of Avenal Planning Team met collectively at their regularly scheduled Department Head meetings which were held each week. This meeting included a roundtable discussion which is where the Hazard Mitigation Plan update was discussed by the Avenal Police Chief. Discussions included the overall project scope and planning process participation, hazard identification and analysis, vulnerability assessment, development trends, continued public involvement, mitigation goals and strategy development, mitigation projects and actions updates/revisions and new project development, and draft plan review and approval processes.

#### **City of Corcoran**

- Deputy Police Chief – Official Planning Team Representative
- Police Chief/Emergency Manager
- City Manager (Floodplain Administrator)
- Community Development Department Director
- Public Works Department Director
- Finance Department Director
- Human Resources Department Director

The City of Corcoran Planning Team met collectively at their regularly scheduled Department Head meetings held every Tuesday. This meeting included a roundtable discussion where the Hazard Mitigation Plan update was discussed by the Emergency Manager. In Corcoran, the Deputy Police Chief was assigned to the Official Planning Team and was invited to attend the Department Head meetings when requested by the Police Chief to brief the City Management team after each Official Planning Team meeting. Discussions included the overall project scope and planning process participation, hazard identification and analysis, vulnerability assessment, development trends, continued public involvement, mitigation goals and strategy development, mitigation projects and actions updates/revisions and new project development, and draft plan review and approval processes.

#### **City of Hanford**

- Fire Chief/Emergency Manager – Official Planning Team Representative
- City Manager
- Community Development Department Director (Floodplain Manager)
- Public Works Department Director

The City of Hanford Planning Team met collectively at their regularly scheduled Department Head meetings which were held each week. This meeting included a roundtable discussion, which is where the Hazard Mitigation Plan update was discussed by the Fire Chief. Discussions included the overall project scope and planning process participation, hazard identification and analysis, vulnerability assessment, development trends, continued public involvement, mitigation goals and strategy development, mitigation projects and actions updates/revisions and new project development, and draft plan review and approval processes.

#### **City of Lemoore**

- City Manager
- Police Chief/Emergency Manager

- Planning Department Director (Floodplain Administrator)
- Public Works Department Director (Building Official)

The City of Lemoore Planning Team met collectively at their regularly scheduled Department Head meetings, which were held each week. This meeting included a roundtable discussion, which is where the Hazard Mitigation Plan update was discussed by the Fire Chief. In Lemoore, a Police Department Sergeant was assigned to the Official Planning Team. This representative briefed the Police Chief after each Planning Team meeting, who in turn coordinated the planning process at the Department Head level for the City. Discussions included the overall project scope and planning process participation, hazard identification and analysis, vulnerability assessment, development trends, continued public involvement, mitigation goals and strategy development, mitigation projects and actions updates/revisions and new project development, and draft plan review and approval processes.

The Cities of Avenal, Corcoran, Hanford and Lemoore jurisdictional annexes were developed and discussed in coordination with the Official Planning Team meeting schedule as noted in the table on **Page 19** either at their regularly scheduled Department Head meetings or immediately following those meetings. Also, the lead Planning Team member for each jurisdiction contacted key departments directly for additional information. In addition, this hazard mitigation planning process fit in well with the ongoing updating of the some of the participating jurisdictions safety elements of their general plans.

### **Planning Meetings and Process**

The planning process officially began with a project introduction meeting in Hanford, California, on March 22, 2012. The overall schedule for the project was discussed, highlighting major project milestones and ending with the anticipated final revised draft plan submitted to FEMA for approval in December 2012. The Howell Consulting Team gave a presentation to all attendees on Hazard Mitigation Planning and the planning process. Members of the public were also solicited to serve on the Planning Team and since many of the governmental representatives on the Planning Team also resided within Kings County those members served a dual role.

At the second meeting of the Planning Team also in Hanford, on July 12, 2012, the consultants provided information updates, survey results to date, public meeting results, asked for updates in data needed from the jurisdictions and provided an overview of the 2007 Mitigation Strategies. The focus of this meeting however, was the Hazard Identification and Risk Assessment process. The risk assessment process identifies and profiles relevant hazards and assesses the exposure to lives, property and infrastructure to these hazards. The goal of the risk assessment is to estimate the potential losses in Kings County along with the participating jurisdictions from a hazard event. Planning Team members at this meeting evaluated the hazards in the 2007 plan and profiled which hazards occurred over the 5-year planning cycle. Element B covers this topic in detail.

The third Planning Team meeting was held on September 27, 2012 at the Fire Administration HQ in Hanford. The planning team meeting participants were lead through a series of discussions on current capabilities and mitigation actions and strategies. The most important output of this meeting was the collaboration of the progress the jurisdictions had made on existing hazard mitigation projects, despite receiving limited federal and state support, many of the initial 2007 projects have been completed by Kings

County jurisdictions. The Planning Team thoroughly reviewed the existing Mitigation Strategies, developed new strategies to meet the goals and objectives and prioritized those strategies for the operational area. The Planning Team members took the newly developed strategies back to their jurisdictions to gain input and feedback.

On October 24<sup>th</sup> and 25<sup>th</sup>, 2012 the consulting team met individually with the cities of Avenal, Corcoran, Hanford and Lemoore to discuss their mitigation strategies and actions. The purpose of these workshops with the local representatives was to refine the proposed 2012 actions and discuss the status of the 2007 mitigation actions and programs with the City Departmental representatives. This meeting was in addition to the normal Planning Team meetings and at the request of the City’s Official Planning Team member to provide additional information on what was needed for the mitigation strategies both past and future.

In November 2012, the draft plan was reviewed by the Kings County Fire Chief (designated Director of Emergency Services), the Emergency Services Coordinator, the Planning Team and several other key county staff, such as the Community Development Agency key personnel. In addition, each participating jurisdiction participated in a detailed review of the draft plan.

In December 2012, Howell Consulting held a conference call due to the holiday schedule with participating Planning Team Members. The purpose of this meeting was to brief on the final draft plan and release it for comments to include the public. The plan was placed on the county website for public review and comment, placed at strategic locations around the county including, the Fire Department Administration and at each of the participating jurisdictional City Manager’s Offices as part of the planning process. Additionally, fliers were posted on community bulletin boards in the less populated areas within each jurisdiction.

The following table shows a summary of the planning process meetings, their topics, dates, and locations.

<b>Meeting Number</b>	<b>Title</b>	<b>Date</b>	<b>Location</b>
1	Kick-off/Planning Team roles and expectations	03/22/12	Hanford
2	Hazard Identification/Analysis, general update	07/12/12	Hanford
3	Mitigation Strategy	09/27/12	Hanford
4	Jurisdictional Site Visits, Mitigation Strategy, general update	10/24-25/12	Avenal, Corcoran, Hanford, Lemoore
5	Final Draft Briefing	12/2012	Hanford - Conference Call

Additionally, the Planning Team communicated during the planning process with a combination of in-person meetings, conference calls, email correspondence and communication through an online documents/data-sharing site. The meeting topics along with sign-in sheets and agendas are located in the Planning Process Documentation section of this plan.

The official Planning Team is as follows:

Name	Title	Department	Jurisdiction
<b>LHMP Planning Team Members</b>			
Jack Amoroso	Police Chief	Avenal Police Department	City of Avenal
Gary Cramer	Deputy Chief	Corcoran Police Department	City of Corcoran
Tim Ironimo	Fire Chief	Hanford Fire Department	City of Hanford
Pat Mundy	Sgt.	Lemoore Police Department	City of Lemoore
Michelle Speer	Emergency Services Coordinator	Kings County Office of Emergency Management	Kings County
Courtney Espinoza	Emergency Services Coordinator	Kings County Office of Emergency Management	Kings County
Trudy Maletta	Emergency Services Manager	Kings County Office of Emergency Management	Kings County
Joe Neves	County Supervisor	County of Kings Board of Supervisors	Kings County
William Lynch	Fire Chief	Kings County Fire Department	Kings County
Mike Virden	Fire Marshal	Kings County Fire Department	Kings County
Greg Gatzka	Director	Kings County Community Development Agency	Kings County
Chuck Kinney	Manager	Kings County Community Development Agency	Kings County
Jeremy Kinney	Manager	Kings County Community Development Agency	Kings County
Tim Niswander	Agricultural Commissioner	Kings County Department of Agriculture	Kings County
Alex Torres	Public Safety Manager	Santa Rosa Rancheria Division of Public Safety	Santa Rosa Rancheria
Angie Sorrento	Administrator	Kings County Office	Kings County

Name	Title	Department	Jurisdiction
		of Education	
Howell Consulting Team			
Brenna Howell	Project Manager	Howell Consulting	Howell Consulting
Neal T. O’Haire	Lead Project Planner/Facilitator	Howell Consulting	Howell Consulting
Jim Kniss	GIS Mapping Coordinator	Howell Consulting	Howell Consulting

## Element A.2. Coordination with other Communities

**Requirement §201.6(b)(2): An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process.**

Since the inception of this planning process a major forum for sharing this planning with adjacent jurisdictions is the Mutual Aid Regional Advisory Committee for California Mutual Aid Region V. Region V’s members are contiguous counties to Kings County. The value to this collaboration is that these counties share many of the same characteristics as Kings County such as similar threats, politics, geography and culture. This coordinated process has been made possible by the support of many federal grant programs. Since many of the counties in Region V have already gone through the hazard mitigation planning process, their experience and advice has proven invaluable to Kings County. Each of these meetings includes a local roundtable discussion where Kings County has been able to freely and collaboratively share their local hazard mitigation planning process.

In addition, the Planning Team developed a list of neighboring communities, local and regional agencies involved in hazard mitigation activities, as well as other interests, to invite by letter to review and comment on the draft of the Kings County Local Hazard Mitigation Plan. A copy of this letter is provided in the Planning Process Documentation section of this plan, entitled “Interested Parties”. The comments resulting from this effort were incorporated into the plan, as appropriate. The stakeholders invited to comment on the plan were the following:

- Kings County LHMP Planning Team
- Kings County Board of Supervisors
- Avenal City Council
- Corcoran City Council
- Hanford City Council
- Lemoore City Council
- Heads of County Departments
- Heads of City Departments
- Kings County Community Action Organization
- Kings County Commission on Aging

- Kings County Water District
- Kings River Conservation District
- Westlands Water District
- Tachi Yokut Tribe - Casino
- Tachi Yokut Tribe – Santa Rosa Rancheria
- Kern County Office of Emergency Services
- Tulare County Office of Emergency Services
- Fresno County Office of Emergency Services
- California Emergency Management Agency (Fresno Office)
- Corcoran State Prisons
- Avenal State Prison
- Lemoore Naval Air Station
- U.S. Bureau of Reclamation (Fresno office)
- National Weather Service – Hanford Station
- American Red Cross

As part of the coordination with other agencies, the Planning Team collected and reviewed existing technical data, reports and plans. Kings County and the cities located there use a variety of comprehensive planning mechanisms, such as land use and general plans, emergency operations plans, and municipal ordinances and building codes, to manage community growth and development. This information was used in the development of the hazard identification, vulnerability assessment, and capability assessment and in the formation of goals, objectives, and mitigation actions. These sources are documented throughout the plan and specifically in the capability assessment sections of each jurisdictional annex.

### **Element A.3. Public Involvement**

***Requirement §201.6(b)(1): An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval; Requirement §201.6(c)(1) [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.***

At the beginning of the planning project it was decided by Kings County OEM that early public outreach in all stages of the plan development would be a high priority. Copies of those advertisements are located in the Planning Process Documentation section of this plan. In addition to the solicitation for Planning Team support, there was a Public Survey that was developed and distributed through various means such as posted on the Kings County website, posted on local message boards and handed out to various members of the public at events in within Kings County and the participating jurisdictions. The survey provided an opportunity for the public to share their opinions and participate in the mitigation planning process. The information provided aided in helping the Planning Team better understand the hazard concerns and identified area policies and projects that could potentially help lessen the impact of future hazard events in Kings County. The survey along

with the survey results, are located in the Planning Process Documentation section of this plan.

There were also three separate public workshops held by the consulting team in coordination with the county/cities. These workshops were held in the evenings, during the week at selected, accessible locations within Kings County, so that the public could easily attend. The overall purpose of these meetings were to inform the public on the purpose and planning process for the local hazard mitigation plan development, present the types of hazards in or possibly affecting Kings County, and seek input from the public on priorities for risk reduction.

Corcoran advertised their meeting in the *Corcoran Journal*. Avenal advertised their meeting in their local newspaper and Kings County advertised all of the meetings by flyers placed in each unincorporated area of the county (Armona, Kettleman City, Home Garden, and Stratford) at fire stations, libraries, and/or posted in grocery stores and other places frequented by local residents and the county website, which most of the City websites link. Meeting dates are provided below.

- **Monday May 14, 2012 - City of Hanford/Lemoore and Kings County Unincorporated Areas**
- **Tuesday May 15, 2012 - City of Corcoran and Kings County Unincorporated Areas**
- **Wednesday May 16, 2012 - City of Avenal and Kings County Unincorporated Areas**

Once the first draft of the revised multi-jurisdictional plan and annexes had been developed, Kings County made it available on their website at [www.countyofkings.com](http://www.countyofkings.com). A hard copy was also available at the following locations: Kings County Fire Administration (Hanford), the local libraries, and the City Manager's Offices for the participating cities. The jurisdictions announced the availability of the draft plan and the public comment. A copy of the notice is provided in Planning Process Documentation section of this plan.

A record of the public input, surveys and remaining planning process documentation are on file with Kings County OEM. There were no public comments from the workshops or the final review from the public.

The overall process included the discussion of the hazard mitigation planning process into various public meetings such as Board or Supervisors meetings, Emergency Management meetings, Local and Regional Public Health meetings, Fire Chief's meetings, School Board meetings and participating jurisdictional meetings and forums.

The agendas, presentations and attendance rosters for each of these public meetings are located in the Planning Process Documentation section attached to this plan.

#### **Element A.4. Review and Incorporation of Existing Plans**

**Requirement §201.6(b)(3): Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.**

Based on the capability assessment described throughout this plan, communities in Kings County continue to plan and implement programs to reduce losses to life and property from natural hazards. This plan builds upon the momentum developed through previous and related planning and mitigation efforts and recommends implementing projects through the following plans, where possible:

- General Plans and zoning codes of participating jurisdictions
- Kings County Emergency Operations Plan
- Capital Improvements Plans in the county
- Other community plans within the county, such as water master plans, storm water management plans, and parks and recreation plans
- The Fresno-Kings Unit Pre-Fire Management Plan and any Local Fire Safe Plans and Community Wildfire Protection Plans that may be developed in the future
- Other plans and policies outlined in the capability assessment section of this plan

The General Plan for Kings County has been updated. The mitigation plan will be a primary source used to update the 2010 Safety Element of the General Plan. The Safety Element is updated on a five-year cycle consistent with the mitigation plan to improve efficient use of county resources and to improve consistency within county plans and policies.

### **Element A.5. Plan Maintenance Process**

***Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.***

Kings County is dedicated to involving the public directly in review and updates of the Kings County Local Hazard Mitigation Plan. Copies of the plan will be catalogued and kept at all appropriate agencies in the County as well as at the main library and posted on official websites.

Public meetings will be held as part of each annual review and the required five-year update of the plan. The meetings will provide a forum for public input to the plan. In addition to public meetings, the OEM office will provide an update to the Board of Supervisors on the process of mitigation planning in Kings County. This will allow the public to comment and capture any relevant comments into the public record.

### **Element A.6. Continued Public Involvement**

***Requirement §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five year cycle.***

The Kings County Operational Area Local Hazard Mitigation Planning Team has made the commitment to annually bring this plan before the public through public meetings and community posting so that citizens may make input as strategies and implementation actions change. Each jurisdiction is responsible for assuring that their citizenry are informed when deemed appropriate by the standing Planning Team. This plan will also be on the standing agenda of the Kings County Operational Area meeting. This meeting occurs at least twice annually in January and June and is led by the Operational Area Coordinator.

The Kings County Fire Department, Office of Emergency Management, Coordinator will be responsible for the monitoring, evaluating, and updating of the plan for the Operational Area. The following are the designated positions in the participating jurisdictions that will also take lead in ensuring the plan is continually monitored, evaluated and updated.

Name	Title	Department	Jurisdiction	Monitoring	Evaluating	Updating
Jack Amoroso	Police Chief	Avenal Police Department	City of Avenal	X	X	X
Gary Crammer	Deputy Chief	Corcoran Police Department	City of Corcoran	X	X	X
Tim Ironimo	Fire Chief	Hanford Fire Department	City of Hanford	X	X	X
Pat Mundy	Sgt.	Lemoore Police Department	City of Lemoore	X	X	X
Michelle Speer	Emergency Services Coordinator	Kings County Office of Emergency Management	Kings County	X	X	X

## **Element B: Hazard Identification and Risk Assessment**

**Requirement §201.6(c)(2)(i):** *[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*

**§201.6(c)(2)(ii):** *[The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:*

**§201.6(c)(2)(ii)(A):** *The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;*

**§201.6(c)(2)(ii)(B):** *An estimate of the potential dollar losses to vulnerable structures identified in ... this section and a description of the methodology used to prepare the estimate.*

**§201.6(c)(2)(ii)(C):** *Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.*

Risk to natural hazards is a combination of hazard, vulnerability and capability. This section of the LHMP will look at both hazards and vulnerability. The risk assessment process identifies and profiles relevant hazards and assesses the exposure to lives, property and infrastructure to these hazards. The goal of the risk assessment is to estimate the potential losses in Kings County from a hazard event. This process also allows communities in Kings County to better understand their potential risk to natural hazards and provides a framework for developing and prioritizing mitigation actions to reduce the risks from future hazard events in Kings County.

In the early meetings with Kings County and the Planning Team, data was reviewed from the following sources on hazards affecting the county, those sources were: the Federal and State Disaster Declaration History, the State of California Hazard Mitigation Plan (2010), the Health Safety Element of the Kings County 2035 General Plan (2010), and interviews of staff that live and work in Kings County.

The Planning Team, during their July 2012 meeting, came to agreement on significant hazards to Kings County. The Planning Team agreed not to address technological or human-caused hazards, which are addressed in emergency operations plans for the county/cities. The hazards contained in this planning effort are in alphabetical order and listed below.

- Dam Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Fog
- Freeze

- Landslide
- Tornado
- Wildfire

**Non-Profiled Hazards**

The Planning Team reviewed data and discussed several other hazards, which were eliminated from further discussion because they occur rarely and/or their impacts are not significant. The list below details these hazards and provides a brief explanation for their omission from further profiling.

- Avalanche - Snowfall is extremely rare to nonexistent across the planning area.
- Coastal Erosion/Storm - Hazard does not occur due to distance from coasts and ocean.
- Hailstorm - Severe thunderstorms during which hail normally occurs are rare.
- Hurricane - Hazard does not occur due to distance from ocean.
- Land Subsidence - Land subsidence does occur in many areas but primarily affects water wells, which local agencies address.
- Tsunami - Hazard does not occur due to distance from ocean.
- Severe Winter Storm - Very little to no snowfall recorded throughout county; temperatures fall below 32 degrees Fahrenheit only a few days of the year.
- Windstorm - High winds occur but are not common.
- Volcano - The U.S. Geological Survey does not include Kings County in their map of areas identified as subject to hazards from potential eruptions in California.

The remainder of this section begins with an overview of the history of declared disasters in Kings County followed by the profiles of identified hazards.

**Disaster Declaration History**

One method to identify hazards is to look at the events that have triggered federal and/or state disaster declaration that included Kings County. The following table lists the disaster declarations where Kings County was designated federal and/or state disaster declarations from 1950 to the present.

**Kings County Disaster Declaration History 1950-present**

Hazard Type	Disaster Name	Disaster Number	State Declaration	Federal Declaration
Flood	1969 Storms	OEP DR-253	01/29/69	01/26/69
Flood	Heavy Snow Runoff	OEP DR-2270	01/28/69	08/15/69
Severe Storm, Freeze	Freeze/ Severe Weather		04/17/72	not declared
Drought	1976 Drought		02/13/76	not declared
Severe Storms	Winter '78 Storms	DR-547	02/27/78	02/15/78

Hazard Type	Disaster Name	Disaster Number	State Declaration	Federal Declaration
Flood	Winter Storms	DR-682	03/03/83	02/09/83
Severe Storm	Severe Winter Storms	DR-1044	01/17/95	01/13/95
Severe Storm, Flood	Late Winter Storms	DR-1046		01/10/95
Flood	January 1997 Floods		01/31/97	
Flood	El Nino		02/02/98	not declared
Freeze	Freeze	DR-1267	02/09/99	02/09/99
Freeze	Severe Freeze	DR-1689	3/13/2007	3/13/07
Severe Storm	08 January Storms	OES 2008-01	1/2008	not declared
Drought	Central Valley Drought	OES 2008-03	06/12/08	
Flood	December 2010 Statewide Storms	DR-1952 OES 2010-17	12/21/10	01/26/11

Source: Kings OEM, Cal EMA and FEMA

The majority of declarations and all but two federal disaster declarations were declared for severe storms and flooding. These occurred twice in 1969, once each in 1978 and 1983, and twice in 1995 and again in 2010-2011. A federal disaster declaration for freeze in February was declared in 1999 and in 2007. The remaining declaration was a state declaration for drought in 1976 and 2008.

The federal government may also issue a disaster declaration through the U.S. Department of Agriculture (USDA) and/or the Small Business Administration, as well as through FEMA. The quantity and types of damage are the determining factors. A USDA declaration makes all qualified farm operators in the designated areas eligible for low-interest emergency loans from the USDA's Farm Service Agency. As part of an agreement with the USDA, the Small Business Administration offers low interest loans for eligible businesses that suffered economic losses in declared and contiguous counties. The USDA declarations are located in the following table since the last plan update in 2007.

### USDA Agricultural Declarations Since 2007 Plan Update

USDA Declaration	Date of Occurrence
Drought; Primary County	3/1/2008 and continuing
Extreme High Temperatures; Primary County	6/17-22/2008
Drought; Contiguous County	1/1/2009 and continuing
Freeze, followed by Excessive Heat; Primary County	4/4-22/2009
Freeze; Contiguous County	4/8-9/2011
Hail, Rain, Cold Temperatures; Primary County	4/11-13/2012
Drought	1/1/2012 and continuing

### Methodology

The hazards identified in Kings County by the Planning Team are profiled in this section. Hazard profiles provide information on the hazard description, extent and magnitude, previous occurrences, and probability of future occurrence. The sources used to collect this information for Kings County included the following:

- Disaster declaration history from the California Emergency Management Agency (Cal EMA) and FEMA.
- California State Multi-Hazard Mitigation Plan (2010).
- Kings County Emergency Operations Plan (2008) and the Safety Element of the Kings County General Plan (2010).
- Geographic information systems (GIS) data from Cal EMA and other state agencies, the U.S. Geological Survey, and the Kings County Planning Department.
- Information collection from the Planning Team meetings and completed by each participating jurisdiction profiling hazards in their area.

A detailed profile for each of the identified hazards compiles information on the following characteristics of the hazard:

#### Geographic Extent and Potential Magnitude

This section describes the potential severity of disaster and any secondary events caused by the hazard and the extent or location of the hazard in the planning area. Magnitude is classified by the following:

**Catastrophic:** More than 50 percent of the planning area affected

<b>Critical:</b>	Between 35-50 percent of the planning area affected
<b>Limited:</b>	10-25 percent of the planning area affected
<b>Negligible:</b>	Less than 10 percent of the planning area affected

### **Previous Occurrences**

This section includes information on historic incidents, including impacts, if known. An Information Collection Tool was used to capture information from participating jurisdictions on past occurrences. Information from the Planning Team was combined with other data sources such as the National Weather Service.

### **Probability of Future Occurrences**

The frequency of past events is used to gauge the likelihood of future occurrences. Based on historical data, the probability of future occurrences is categorized into one of the following classifications:

<b>Highly Likely:</b>	Near 100 percent chance of occurrence next year or happens every year
<b>Likely:</b>	Between 10 percent and 100 percent chance of occurrence in next year or has a recurrence interval of 10 years or less
<b>Occasional:</b>	Between 1 percent and 10 percent chance of occurrence in the next year or has a recurrence interval of 11 to 100 years
<b>Unlikely:</b>	Less than 1 percent chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years

The probability, or chance of occurrence, was calculated where possible based on existing data. Probability was determined by dividing the number of events observed by the number of years and multiplying by 100. This gives the percent chance of the event happening in any given year. An example would be three droughts occurring over a 30-year period, which suggests a 10 percent chance of that hazard occurring in any given year.

## **Element B.1 Hazard Descriptions**

### **Element B.2 Previous Occurrences and Probability of Future Occurrences**

**Requirement §201.6(c)(2)(i):** *[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*

The profiles for each of the identified hazards are listed below in alphabetical order. Dam failure is addressed in the flood section due to its similar impacts.

#### ***DROUGHT***

##### **Hazard Description**

Drought is a gradual phenomenon. Normally, one dry year does not constitute a drought in California, but rather serves as a reminder of the need to plan for droughts. California's

extensive system of water supply infrastructure (reservoirs, groundwater basins, and interregional conveyance facilities) generally mitigates the effects of short-term dry periods for most water users.

Drought can have secondary impacts. For example, drought is a major determinant of wildfire hazard, in that it creates greater propensity for fire starts and larger, more prolonged conflagrations fueled by excessively dry vegetation, along with reduced water supply for firefighting purposes. Drought is also an economic hazard. Significant economic impacts on California's agriculture industry can occur as a result of short- and long-term drought conditions; these include hardships to farmers, farm workers, packers, and shippers of agricultural products. In some cases, droughts can also cause significant increases in food prices to the consumer due to shortages.

The drought issue is further compounded by water rights specific to any state or region. Water is a commodity possessed under a variety of legal doctrines. The prioritization of water rights between agriculture and federally protected fish habitat in the state is also at issue.

### **Geographic Extent and Potential Magnitude**

Droughts are generally widespread events that could affect all of Kings County and surrounding counties. Impacts include water restrictions associated with domestic supplies, agricultural and livestock losses and economic impacts, hydroelectric power reductions, and increased costs for water. Secondary effects include susceptibility to wildfires and increased groundwater pumping that can contribute to land subsidence problems and degraded water quality.

The magnitude of a drought's impact is directly related to the severity and length. Droughts can be a short-term event over several months or a long-term event that lasts for years or even decades. In Kings County, the onset of drought is often signalled by a lack of significant winter precipitation and snowfall in the Sierra Nevada Mountains. Hot and dry conditions that persist into spring, summer, and fall can aggravate drought conditions, making the effects of drought more pronounced as water demands increase during the growing season and summer months. Impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline (California Department of Water Resources 2012).

### **Previous Occurrences**

Historically, California has experienced severe drought conditions. The state's available record for determining hydrologic risks is short, only going back about 100 years. Recent droughts affecting Kings County are summarized below using data from Cal EMA and from the County Agricultural Commissioner's Office.

- **1928-1937**—This drought affected the entire state and is the longest, most severe drought on record with a recurrence interval of greater than 100 years.
- **1947-1950**—Drought affected the entire state but was most extreme in Southern California. The drought in winter of 1950 affected the area from the Kern River

basin north to the American River basin. The drought caused two deaths and \$33 million in damages.

- **1976-1977**—The drought of 1976-1977 was most severe in the northern three-quarters of California, but the impact was experienced statewide because of the dependence of southern California on water transfers from the north. The water year 1977 was the driest year of record at almost all gauging stations in the affected area in California, and the water year 1976 was among the five driest in the central and northern Sierra Nevada. The two-year deficiency in runoff accumulated during the drought is unequalled at gauging stations in the affected area; and this deficiency has a recurrence interval that exceeds 80 years. Crop damages statewide were \$2.67 billion.
- **1987-1992**—During this multiyear, multi-county drought, the runoff from the San Joaquin Valley was 47 percent of average. In 1991, the U.S. Department of Agriculture Economic Research Report *Agricultural Outlook* reported that the Kings River flow would be inadequate to provide sufficient water for agricultural uses for the fifth consecutive year. A USDA drought disaster declaration was declared.
- **2004-2005**—On January 26, 2005, the USDA designated Kings County a primary disaster area due to drought that had occurred since January 1, 2004.
- **2008-2009** – In June 12, 2008, The Governor proclaimed Kings County as a state disaster area due to the Central Valley Drought.
- **2012** – In September 2012, the USDA designated Kings County a contiguous disaster area due to drought that occurred since January 1, 2012.

### **Probability of Future Occurrences**

Based on the historical record of droughts that have occurred in California since 1862 (143 years). This indicates that California experiences drought on average every 10 years, which is a 10 percent chance of occurring in any given year. In Kings County, based on these probabilities, drought will continue to occur **occasionally** in the future.

## **EARTHQUAKE**

### **Hazard Description**

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. The magnitude of earthquakes is usually measured using the Richter scale; a logarithmic scale calculated from the amplitude of the largest seismic wave recorded for the earthquake.

Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of damage to structures during earthquakes. Seismologists have developed the Mercalli scale to quantify the shaking intensity of an earthquake's effects, which is measured by how an earthquake is felt by humans and the damage to buildings.

Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks such as water, power, gas, communication, and transportation

lines. Other damage-causing effects of earthquakes are surface rupture, fissuring, settlement, and permanent horizontal and vertical shifting of the ground. Secondary impacts can include landslides, seiches, liquefaction, and dam failure.

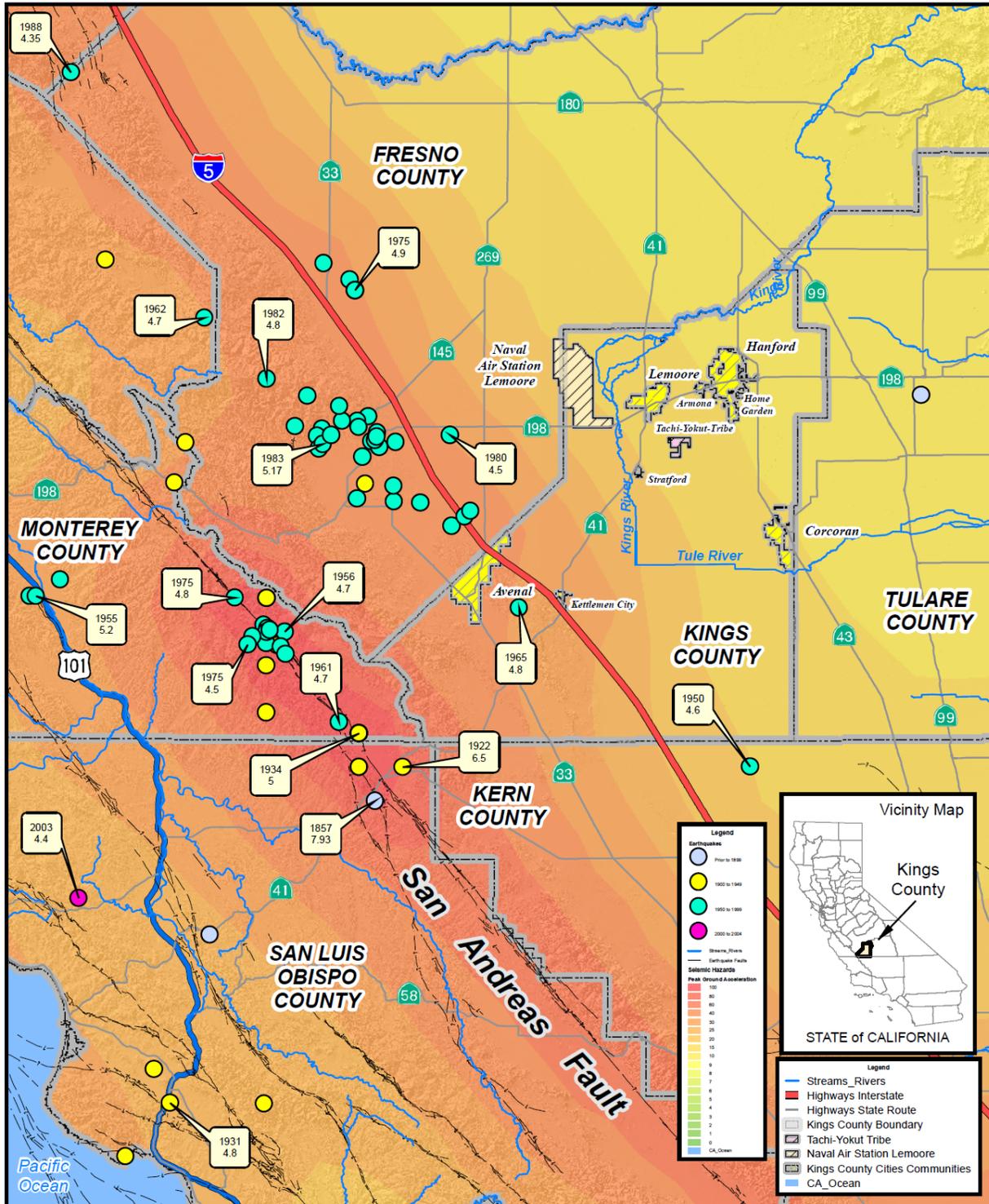
In populated areas, the greatest potential for loss of life and property damage can come as a result of ground shaking from a nearby earthquake. The degree of damage depends on many interrelated factors. Among these are the Richter magnitude, focal depth, distance from the causative fault, duration of shaking, type of surface deposits or bedrock, presence of high ground water, topography, and finally, the design, type, and quality of building construction.

### **Geographic Extent and Potential Magnitude**

No major fault systems are known to exist in Kings County, so the potential for extensive surface rupture is minimal. Minor surface rupture could occur in areas of minor faulting, which occur primarily in the southwestern part of the county along the Kettleman Hills. Ground shaking is the most likely damaging effect of an earthquake. The Planning Team reported that shaking was felt during the Coalinga earthquake of magnitude (M) 6.4 in 1983. The epicenter of the Coalinga earthquake was located approximately 20 miles from the county's western border.

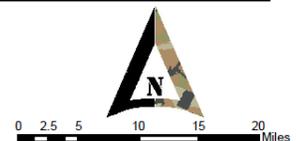
The San Andreas Fault is located less than four miles west of the Kings County line. The San Andreas occurs where the North American and Pacific plates come together and grind in a side-by-side motion relative to each other. Another large known fault, the White Wolf fault, is located to the south near Arvin and Bakersfield and produced a severe M 7.7 earthquake in 1952. The map on the following page shows the known faults, historic epicenters, and potential for ground shaking resulting from earthquakes in and near Kings County.

### Kings County Earthquakes Map



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

### Kings County Multi-Hazard Mitigation Plan Earthquake Hazards



The potential for ground shaking is discussed in terms of the percent probability of exceeding peak ground acceleration (% g) in the next 50 years. It varies from 20-30% g in the northeast third of the county, including the cities of Hanford, Lemoore, Corcoran, and the Santa Rosa Rancheria to 30-40% g in the central part of the county, which is primarily agricultural. Earthquake hazard is more severe in the southwest third of the county and the City of Avenal. The potential for ground shaking in this area ranges from 40-50% g to 70-80% g at the southwestern county line.

Earthquakes can occur at any time of the day or night and any time of the year. Earthquakes are particularly dangerous due to their rapid onset, generally without warning. Aftershocks can occur for days, weeks, and even months following a major earthquake. This additional damage to structures already weakened by the main earthquake increases the danger to rescue and recovery personnel.

Earthquakes can result in many secondary effects, including fires and landslides, which are covered in separate sections of this plan. Ground settlement and soil compaction also may occur as a result of seismic ground shaking. When unconsolidated valley sediments are saturated with water, water from voids is forced to the ground surface, where it emerges in the form of mud spouts or sand boils. If soil liquefies in this manner (liquefaction), it loses its supporting capacity, which can result in the minor displacement to total collapse of structures.

These types of unconsolidated sediments represent the poorest kind of soil condition for resisting seismic shock waves. Most of Kings County east of Interstate 5 and west of the railroad are mapped as having liquefaction potential referenced in the liquefaction map shown in the landslide hazards section of this plan.

### **Previous Occurrences**

There have not been any damaging earthquakes greater than M 6.0 recorded in Kings County in over 200 years, though several have been very close. The most recent large earthquake near Kings County was the Kettleman Hills earthquake of magnitude 6.1 on August 4, 1985, whose epicenter was located four miles from the Kings County border just north of Avenal. This earthquake was the third in a sequence of moderate earthquakes that occurred along a shallowly dipping thrust fault on the eastern border of the San Joaquin Basin. It was preceded by two earthquakes located approximately 20 miles from Kings County, the 1982 New Idria earthquake (M 5.4) and the 1983 Coalinga (M 6.5). The Kettleman Hills earthquake did not result in any surface rupture. There was a low level of ground shaking and low local magnitude reported (2007 Kings County LHMP).

Major earthquakes have occurred near Kings County and resulted in ground shaking felt in the county. Figure 4.2 shows the historic epicenters of earthquakes in California from 1800-2000. The Fort Tejon earthquake in 1857 of M 7.9 was one of the greatest earthquakes ever recorded in the United States and the largest in California. It left an amazing surface rupture scar over 215 miles in length along the San Andreas Fault. The epicenter is now thought to have been located near Cholame, approximately 34 miles northwest of the Kings County border near Avenal. During the Fort Tejon earthquake, strong shaking lasted from one to three minutes. As a result of the shaking, the current of the Kern River was turned upstream, and water ran four feet deep over its banks. The waters of Tulare Lake were thrown upon its shores, stranding fish miles from the original lakebed. Property loss was heavy at Fort Tejon, one of the only settlements at the time, an Army post in south-central

Kern County about four miles from the San Andreas fault. In 1857, two buildings were declared unsafe, three others were damaged extensively but were habitable, and still others sustained moderate damage. One person was killed in the collapse of an adobe house at Gorman.

### **Probability of Future Occurrences**

Unfortunately, the number and variations of all potential earthquakes are so large that it is not possible to develop scenarios for all of them, nor would it be possible to rank them by importance if such scenarios were developed. To get an idea of the overall scope of the risk of losses from earthquakes and to determine which areas are most vulnerable, CGS uses an alternate approach based on probabilistic seismic hazard analysis (PSHA), which considers all possible earthquakes on all of the possible sources. Using this approach, CGS estimates an expected direct annual loss in California of about \$2.2 billion. This is approximately 0.14 percent of the \$1.6-trillion total value of the building inventory in the HAZUS database. (HAZUS is FEMA's hazard mapping and damage estimation software and database system.) Indirect losses, such as unemployment, business interruption, loss of market share to other regions or countries, and other economic effects, could be as much as twice the direct losses (California SHMP 2012).

Along the San Andreas Fault, segments exist where no large earthquakes have occurred for long intervals of time. These areas accumulate potential energy and provide clues as to where the next earthquake may occur and when. Scientists term these segments "seismic gaps" and, in general, have been successful in forecasting the time when some of the seismic gaps will produce large earthquakes. Geologic studies show that over the past 1,400 to 1,500 years, large earthquakes have occurred at about 150-year intervals on the southern San Andreas Fault. As the last large earthquake on the southern San Andreas was the Fort Tejon earthquake in 1857, that section of the fault is considered a likely location for an earthquake within the next few decades (USGS 1997).

Based on the earthquake shaking potential mapped for Kings County, the proximity to the San Andreas Fault and the history of shaking but no surface rupture, the probability of damaging seismic ground shaking in Kings County is **occasional**.

### ***EXTREME HEAT***

#### **Hazard Description**

The tables on the following page show the Heat Index (HI) as a function of heat and relative humidity. The Heat Index describes how hot the heat-humidity combination makes the air feel. As relative humidity increases, the air seems warmer than it actually is because the body is less able to cool itself via evaporation of perspiration. As the Heat Index rises, so do health risks. Specifically:

- When the Heat Index is 90°F, heat exhaustion is possible with prolonged exposure and/or physical activity.
- When it is 90° to 105°F, heat exhaustion is probable with the possibility of sunstroke or heat cramps with prolonged exposure and/or physical activity.
- When it is 105° to 129°F, sunstroke, heat cramps or heat exhaustion is likely, and heatstroke is possible with prolonged exposure and/or physical activity.
- When it is 130°F and higher, heatstroke and sunstroke are extremely likely with continued exposure. Physical activity and prolonged exposure to the heat increase the risks.

The National Weather Service (NWS) will initiate its Heat Index Program Alert procedures when the high temperature is expected to exceed 105° to 110° (depending on local climate) for at least two consecutive days (California SMHP, 2012).

**Heat Index Chart**

		<i>The Heat Index</i>											
Air Temp (° F)	Relative Humidity												
	40	45	50	55	60	65	70	75	80	85	90	95	100
110°	136	143	152										
105°	123	129	135	141	148								
100°	111	115	119	124	129	135	141	147					
95°	101	104	107	110	114	117	122	126	131	136	141		
90°	92	94	96	98	100	103	106	109	112	115	119	127	132
85°	84	85	86	88	89	91	93	95	97	99	102	104	107
80°	80	80	81	81	82	82	83	84	84	85	86	86	87

*Exposure to full sunshine can increase Heat Index values by up to 15° F.*

Source: California SHMP, 2012

**Geographic Extent and Potential Magnitude**

The climate in Kings County is hot and arid, and the entire county is susceptible to extreme heat. The agriculturally dominated central region of the county is likely to experience the greatest impacts from large or unseasonable temperature variations. The chart on the following page shows average and extreme temperatures at the Hanford weather station in the northeastern part of the county (1981-2010) and the Kettleman City weather station in the southwestern part of the county (1981-2010). At both stations, the highest temperature on record is 116°F. The average high is 95°F in Hanford in the summer and 97°F in Kettleman City. On average, there are 103 days over 90°F in the summer in Hanford and 114 days per year over 90°F in Kettleman City. The hottest months are July and August.

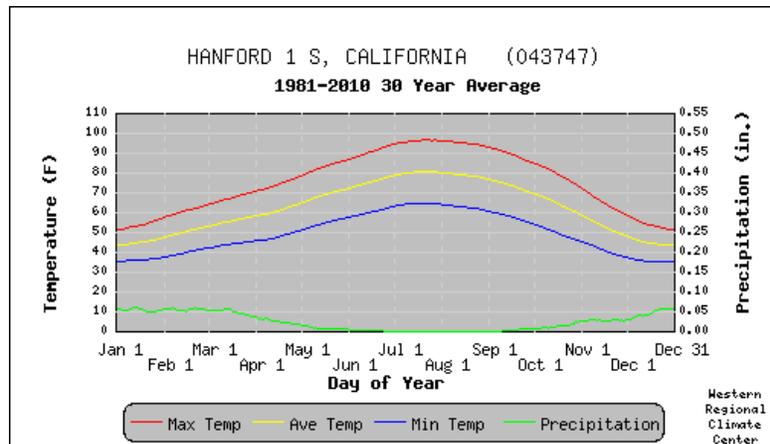
In Kings County, the agricultural industry is most at risk to extreme temperatures. Hot and cold temperature extremes damage crops, affecting the economy and potentially resulting in lost farming jobs. Field workers are susceptible to heat exhaustion and heat stroke. Elderly residents who may live alone and are limited in their mobility are also vulnerable during heat waves.

Problems with power loss and water distribution also occur during periods of extreme heat. Power outages and rolling brownouts can result when high temperatures increase air conditioner use. Power outages can prevent water-pumping stations from operating.

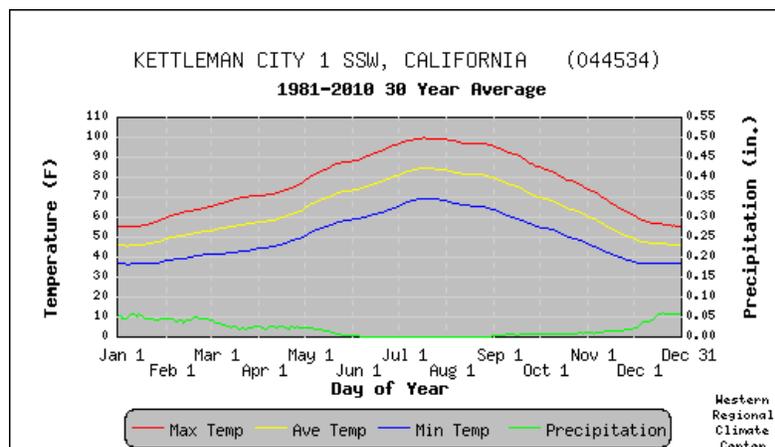
**Previous Occurrences**

The SHEL DUS database lists two incidents of extreme heat in Kings County from 1960-2005. These occurred in June 1961, with \$14,700 in crop damages reported, and in September 1998. No damages are known for the 1998 event. During 2005, 2006, 2008, and

2009 Kings County received USDA emergency designations twice for heat waves and again in 2012.



Source: Western Regional Climate Center



Source: Western Regional Climate Center

**Legend**  
 Max. Temp. is the average of all daily maximum temperatures recorded for the day of the year between the years 1981 and 2010.  
 Ave. Temp. is the average of all daily average temperatures recorded for the day of the year between the years 1981 and 2010.  
 Min. Temp. is the average of all daily minimum temperatures recorded for the day of the year between the years 1981 and 2010.  
 Precipitation is the average of all daily total precipitation recorded for the day of the year between the years 1981 and 2010.

**Probability of Future Occurrences**

Temperatures at or above 95°F are common most summer days throughout Kings County, and it is **highly likely** that extreme heat will continue to occur on an annual basis in the future.

**FLOOD**

**Hazard Description**

The primary types of flood events in Kings County are riverine and urban. Flooding could also occur as a result of dam failure. Regardless of the type of flood, the cause is often the

result of severe weather and excessive rainfall, either in the flood area, upstream, or from winter snowmelt.

**Riverine flooding** is the most common type of flood event and occurs when a watercourse exceeds its “bank-full” capacity. Riverine flooding generally occurs as a result of prolonged rainfall, or rainfall that is combined with already saturated soils from previous rain events. The duration of riverine floods may vary from a few hours (flash flood) to many days (slow-rise flooding). Factors that directly affect the amount of flood runoff include precipitation amount, intensity and distribution, the amount of soil moisture, seasonal variation in vegetation, snow depth, and the water resistance of the surface due to urbanization. The warning time associated with slow-rise floods assists with life and property protection.

As the slope of the river flattens, the velocity slows and the material is deposited. As a result, the lower reaches of many streams pass through the sandy alluvial plains that they have formed (Kings County LHMP, 2007). Flood flows can cause these streams to migrate, resulting in a higher and wider floodplain. Developed areas on land originally outside the defined floodplain can later flood.

The area adjacent to a river channel is the floodplain. Floodplains are illustrated on inundation maps, which show areas of potential flooding and water depths. In its common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a one percent chance in any given year of being equalled or exceeded. The 100-year flood is the national minimum standard to which communities regulate their floodplains through the National Flood Insurance Program (NFIP).

**Urban flooding** can occur in any terrain. It is particularly aggravated where natural cover has been removed to construct buildings, roads, and parking lots. Streets become rivers, inundating vehicles and causing damage to residential and industrial properties situated along stream channels (Kings County LHMP, 2007).

**Dam failure** may also result in flooding, often creating a flash flood. Dams are manmade structures built for a variety of uses including flood protection, power, agriculture, water supply, and recreation. When dams are constructed for flood protection, they usually are engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If a larger flood occurs, then that structure will be overtopped. Overtopping is the primary cause of earthen dam failure in the United States. Dam failures can result from any one or a combination of the following causes: prolonged periods of rainfall and flooding resulting in excess overtopping flows, earthquake, improper design and/or maintenance, inadequate spillway capacity, internal erosion, or failure of upstream dams.

Failed dams can create floods that are catastrophic to life and property as a result of the tremendous energy of the released water. A catastrophic dam failure could easily overwhelm local response capabilities and require mass evacuations to save lives. Factors that influence the potential severity of a full or partial dam failure are the amount of water impounded and the distance to, density, type, and value of development and infrastructure located downstream.

The potential for flooding can change and increase through various land use changes and changes to land surface, which result in changes to the floodplain.

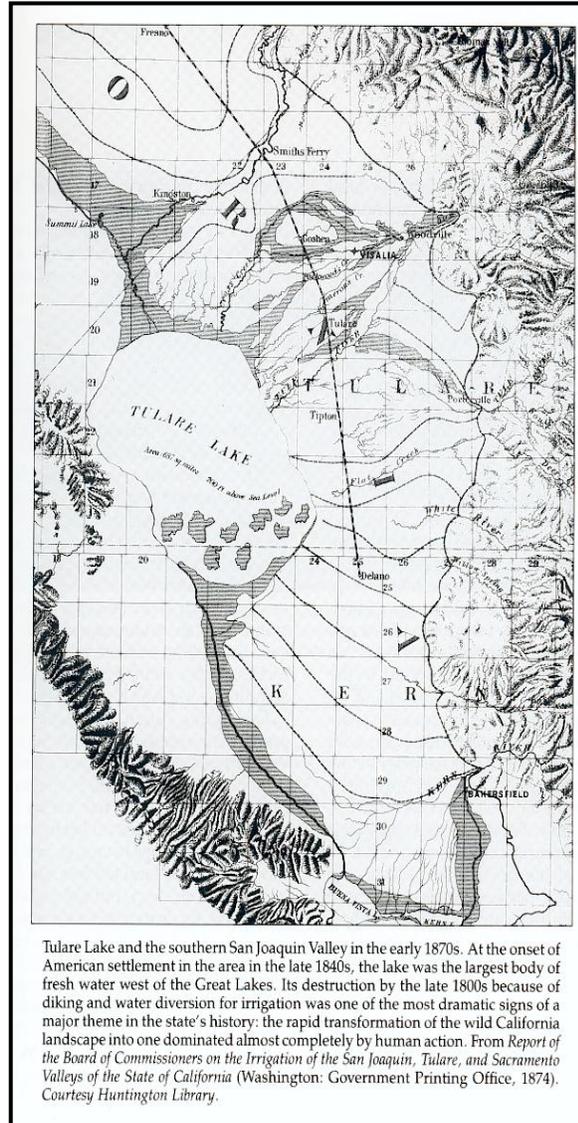
Environmental changes can create localized flooding problems in and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity.

### **Geographic Extent and Potential Magnitude**

Kings County, and in particular the Tulare Lake Basin, once served as the natural drainage of the Kings River, Cross Creek, and Tule River as a part of the hydrologic watershed of the Sierra Nevada Mountains along the east side of the San Joaquin Valley. Canal and flood control development in the late 1800's and early 1900's redirected water flow and managed waterways through a series of canals, water storage and agricultural levies. This led to the conversion on thousands of acres of lake basin land into farmable ground. These waterways and the lake basin remain the predominant flood prone areas as defined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Historically, floods have been the major cause of disaster in Kings County, and past flooding events have shown that the lake basin has been

turned to as a default emergency overflow for extreme incidences of floodwater. The primary cause of local flooding is due to the drainage patterns that flow towards the Tulare Lake Basin, in southern Kings County. This area has no outlet to the ocean unless the water is pumped by artificial means out of the Tulare Lake Basin.

The Federal Emergency Management Agency (FEMA) and the Federal Insurance Administration have assessed flood hazards for major streams in Kings County. Projected geographic areas and extent of flooding are shown in the map on the following page. The following map shows the extent of flooding from both a 100-year and 500-year flood event. From the map it is clear that a 100-year and 500-year flood are both critical events in Kings County which covers at least 35 to 50 percent of the County. In 2009, FEMA completed their Digital Flood Insurance Rate Map (DFIRM) conversion and updated a number of flood zone areas using 2005 levee certification criteria. In 2007, the California Department of Water Resources completed their Awareness Floodplain Mapping of Kings County to identify all pertinent flood hazard areas that are not mapped under FEMA's program, which provides an additional resource for identifying special flood hazard areas within the County.



The average flooding season in Kings County occurs from November through June with the rainy season occurring between November and April and snowmelt in the nearby mountainous area occurring from April to June.

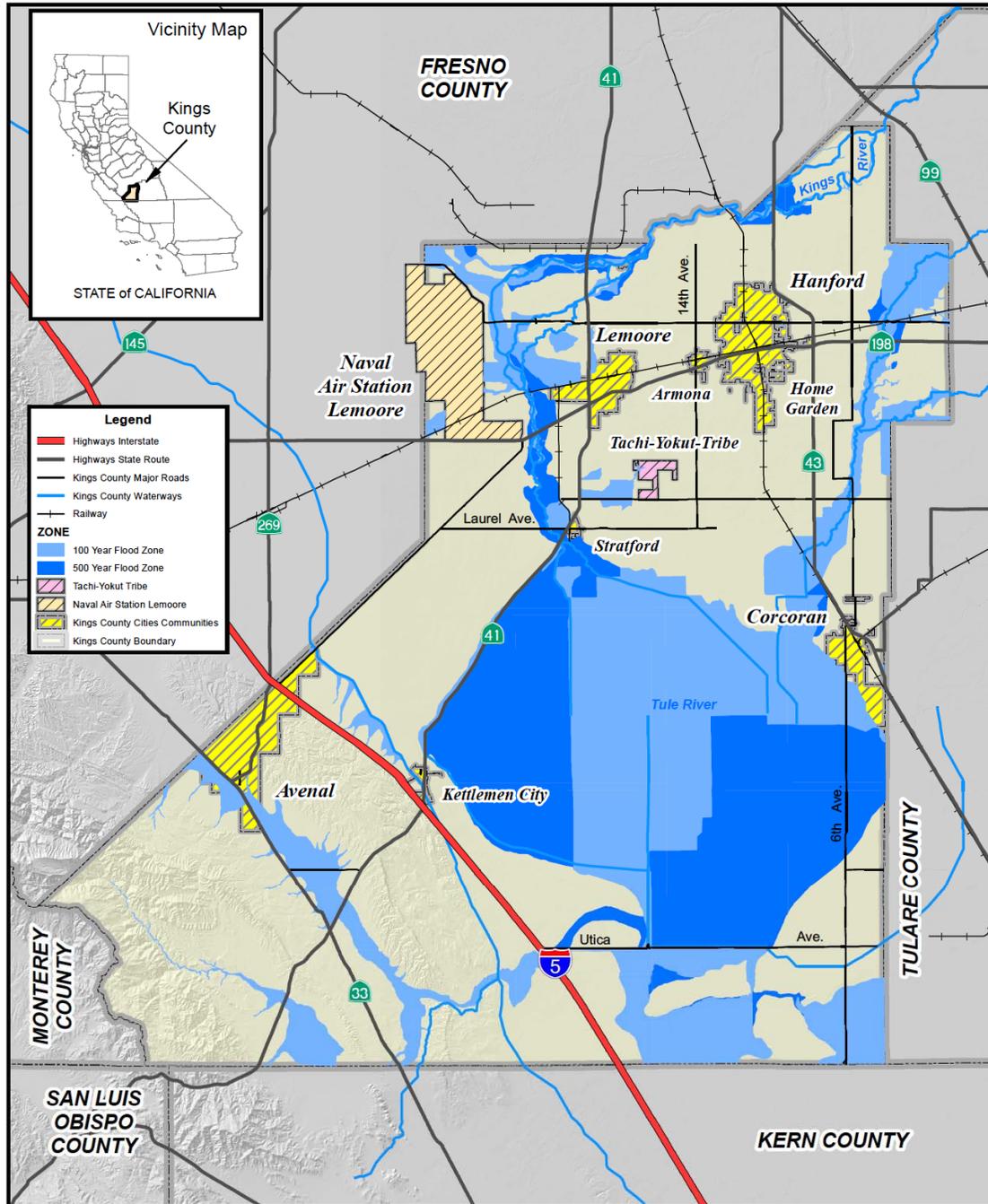
California is divided into 10 hydrologic regions, and Kings County is in the Tulare Lake hydrologic region that comprises the extreme southern portion of the Central Valley. It is defined by the Sierra Nevada Mountains, the divide between the San Joaquin and Kings rivers, the Coast Range, and the Tehachapi Mountains (Kings County LHMP, 2007). Rivers in this region include the Kings, Kaweah, Tule, and Kern, which all historically drained into the Tulare Lake.

Through the late 1800s, Tulare Lake fluctuated but was of substantial size during wet periods. In 1849, the lake measured 570 square miles. Its size fluctuated from year to year due to varying levels of rainfall and snowfall, but it ranked as the largest freshwater lake west of the Great Lakes. A number of small reclamation districts were established in the area in the early 1900s that over time built levees and reclaimed the more than 200,000-acre lakebed for agriculture. The Kaweah, Kern, Kings and Tule rivers were diverted upstream and canals were built to drain the lake. By the end of the nineteenth century the lake had almost completely disappeared. Aggressive groundwater pumping since the draining of the lake has resulted in a significant lowering of the water table, causing subsidence of the land. Because the lake's basin remains, the lake occasionally reappears during floods following unusually high levels of precipitation, as it did in 1997 and 2005. The entire county is criss-crossed by a large number of irrigation canals and ditches operated by several different irrigation districts and companies.

FEMA has assessed flood hazards for major streams in Kings County; these areas are also shown in the map on the following page. Winter rainfall directly affects flooding in Cross Creek and the Tule River. Snowmelt flooding in the spring often causes the Tulare Lakebed to flood, affecting Cross Creek and the Tule River indirectly. The flood hazards in each jurisdiction are discussed in more detail in the jurisdictional annexes to this plan.

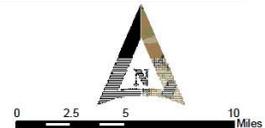
The geographic extent and potential magnitude of flooding in Kings County is Critical: between 35-50 percent of the planning area affected.

### Kings County 100 and 500 Year Flood Boundary Map

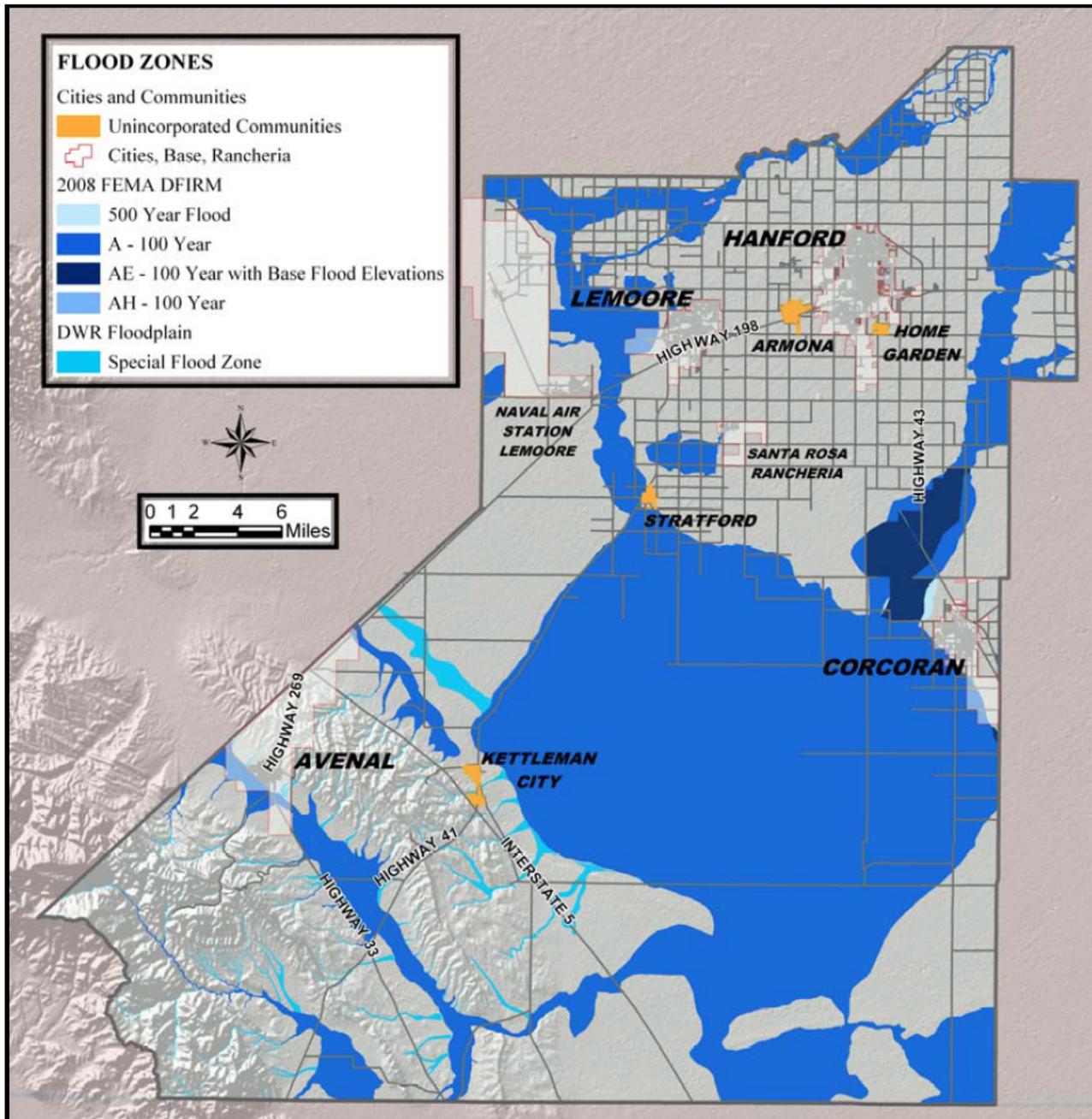


Print Date : November 14, 2012  
Data Sources: Kings County, Cal EMA, FEMA

**Kings County**  
**Multi-Hazard Mitigation Plan**  
**Flood Hazards**  
100 & 500 Year Flood Boundary



According to the Kings County General Plan, Land Use Element, the Federal Emergency Management Agency (FEMA) has updated the County's Flood Insurance Rate Maps with a new 2008 Digital Flood Insurance Rate Map (DFIRM) shown below, that defines areas subject to 1% chance occurrence (100 year) and 500 year floods. 2008 DFIRM expanded flood plains throughout the County as a result of 2005 post-Katrina Hurricane Levee Certification Guidelines (Code of Federal Regulations, Title 44, Section 65.10) and added approximately 148,000 acres into the County's high risk 100 year flood zone. Additional "Special Flood Hazard" areas have also been identified by the State Department of Water Resources (DWR). Local areas subject to flood hazard are shown on the map below as of





The Terminus, Success, and Pine Flat dams, located in the east of the valley floor on the Kaweah, Tule, and Kings Rivers respectively, in addition to improvements made to other flood control facilities in the Kings County area, have significantly reduced local natural flood hazards. Significant dams near and in Kings County are shown on the map of the previous page. According to the U.S. Army Corps of Engineers inundation maps, the failure of Success Dam would not affect inhabited portions of Kings County. Pine Flat and Terminus are the only dams in the region, which, if breached, might cause flooding of significance to local inhabited areas (Kings County LHMP, 2007). The mapped inundation area for the failure of Terminus Dam covers the area east of Hanford and the railroad, and north of Corcoran to the eastern county line. The inundation area for the failure of Pine Flat Dam is much larger, covering the northern third of the county, east of the Lemoore Naval Air Station and west of Corcoran, south to the El Rico Main Canal. Controlled releases sometimes result in localized flooding or complete inundation of flood-prone areas within Kings County. Severe weather, unexpected runoff, or mechanical malfunctions may generate these releases (Kings County LHMP, 2007).

### **Previous Occurrences**

Between 1992 and 2002, every county in California was declared a federal disaster area at least once for a flooding event. California has a chronic and destructive flood history. Half of the 72 federally declared disasters in California between 1950 and 2000 were flood related. Historically, floods have been the most frequent cause of disaster in Kings County. The primary cause of local flooding is the drainage pattern in the Tulare Lake Basin. This area has no outlet to the ocean unless the water is pumped by artificial means out of the Tulare Lake Basin (Kings County LHMP, 2007).

Significant flooding occurs in Kings County approximately every five years. Kings County was declared a disaster area by the federal government eight times between 1955 and 2012. FEMA's Flood Insurance Study listed flooding events in 1950, 1952, 1955, 1958, 1962, 1963, 1966, 1967, 1969, 1970, 1971, 1973, 1978, 1980, 1982, 1985, 1986, 1995, 1997 and 2010. Heavy snow runoff caused flooding in Kings County in January of 1969. Kings was the only county designated in this federal disaster declaration. Damage included \$1.56 million in public costs and \$1.25 million in private costs for a total of \$2.81 million.

### **Probability of Future Occurrences**

Due to the history of past flooding events and the natural drainage pattern of the planning area, flooding in the Tulare Lake Basin is **likely** to continue to occur. There is no evidence to indicate that flooding due to dam failure is likely.

### **FOG**

#### **Hazard Description**

Fog results from air being cooled to the point where it can no longer hold all of the water vapour it contains. For example, rain can cool and moisten the air near the surface until fog forms. A cloud-free, humid air mass at night can lead to fog formation, where land and water surfaces that have warmed up during the summer are still evaporating water into the atmosphere. This is called radiation fog. A warm moist air mass blowing over a cold surface also can cause fog to form, which is called advection fog. The interior California valleys have a unique fog problem called the tule fogs. Tule fogs are "radiated" out of the ground and can develop into several layers of fog that can be thousands of feet thick. The fog develops in the San Joaquin Valley when calm, stable air conditions combine with moisture in the ground and a chilling factor. The tule fogs get their name from the tule reeds, which grew around

the swamps and deltas of the great Tulare Lake that once covered the southern end of the San Joaquin Valley.

### **Geographic Extent and Potential Magnitude**

The tule fog season in Kings County is typically December through February. Fog typically forms rapidly in the early morning hours. Tule fogs can last for days, sometimes weeks. Fog can have devastating effects on transportation corridors in the county. Nighttime driving in the fog is dangerous and multi-car pileups have resulted from drivers using excessive speed for the conditions and visibility.

Fog contributes to transportation accidents and is a significant life safety hazard. These accidents can cause multiple injuries and deaths and could have serious implications for human health and the environment if a hazardous or nuclear waste shipment were involved. Other disruptions from fog include delayed emergency response vehicles and school closures.

### **Previous Occurrences**

Between 1962 and 2003, the SHELDUS database recorded 13 incidents of damaging fog, responsible for 4 deaths, 23 injuries, and approximately \$200,000 in property damage. Since the 2007 planning effort, between 2003 and 2012, the same SHELDUS database has recorded 7 additional incidents of damaging fog with 4 injuries and 0 deaths, and approximately \$159,000 in property damage. Most damages are a result of automobile accidents. All incidents occurred between the months of November and February.

### **Probability of Future Occurrences**

Fog occurs every year in Kings County, and damaging fog events have occurred every three years on average since 1962. Probability is **highly likely** that fog will occur on an annual basis and that damaging fog events will continue to occur every few years.

## ***FREEZE***

### **Hazard Description**

Unseasonable cold temperatures can have large impacts on crops in Kings County. The growing season is approximately 257 days per year, and the frost-free period usually extends from mid-February to mid-November. The mean frost-free period in the western part of the county is 225-250 days.

### **Geographic Extent and Potential Magnitude**

The entire county is susceptible to extreme temperatures.

Average annual snowfall at both Hanford and Kettleman City is zero. The maximum amount of snowfall recorded was two inches in Hanford, which occurred in January 1962; there has not been any measurable snowfall recorded since then. There is no recorded snowfall in Kettleman City.

Prolonged freezing temperatures can damage or destroy crops, affecting the economy and agricultural jobs in Kings County. Water infrastructure is also at risk from freezing, including line breaks and frozen valve gates affecting the distribution system.

### **Previous Occurrences**

The SHELDUS database records six incidents of freezes and severe cold between 1970 and 2005. No injuries or deaths are recorded but millions of dollars in crop damage occurred. There have been two state emergency declarations, in 1972, 1999 and 2007 for freezes in Kings County.

In 1999 and 2007, a state emergency was declared for severe freeze events that occurred. In 2007, 2009 and 2011 and 2012 the USDA designated Kings County as a disaster area due to Freeze and extreme cold. During these events, California's San Joaquin Valley farming communities were hit with freezing temperatures that severely affected the region's crops and resulted in Presidential disaster declarations. The declarations made federal funds available to supplement unemployment compensation for farm laborers and other farm industry workers put out of work as a direct result of lost seasonal crops.

### **Probability of Future Occurrences**

In the past, severe freezes have occurred every few years. Damaging freezes are recorded for the last 36 years, which is an average of once every five years or a probability of 19 percent in any given year. Therefore, the probability of future occurrence is **likely**.

## **LANDSLIDE**

### **Hazard Description**

Landslides can refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence. Common names for landslide types include slump, rockslide, debris slide, lateral spreading, debris avalanche, earth flow, and soil creep. Although landslides are primarily associated with steep slopes (i.e., greater than 15 percent), they may also occur in areas of generally low relief and occur as cut-and-fill failures, river bluff failures, lateral spreading landslides, collapse of mine-waste piles, and failures associated with quarries and open-pit mines. Debris flows are another type of landslide, which generally occur in the immediate vicinity of existing drainage swales or steep ravines. Debris flows occur when near-surface soil in or near steeply sloping drainage swales becomes saturated during unusually heavy precipitation and begins to flow downslope at a rapid rate.

Landslides may be triggered by both natural and human-induced changes in the environment resulting in slope instability. Precipitation, topography, and geology affect landslides and debris flows. Human activities, such as mining, road construction, and changes to surface drainage areas, also affect the landslide potential. Landslides often accompany other natural hazard events, such as floods, wildfires, or earthquakes. Landslides can occur slowly or very suddenly and can damage and destroy structures, roads, utilities, and forested areas and cause injuries and death.

### **Geographic Extent and Potential Magnitude**

Landslide hazards are uncommon through much of the county due to the flat topography. Risk is greater in the southwestern part of the county, including the Kettleman Hills, due to the more varied elevations and steeper slopes.

Winter and spring are typically the landslide/rock-fall seasons in California as rain falls and snow melts and saturates soils and temperatures enter into freeze/thaw cycles. Debris and mud flows generally occur during summer cloudbursts. Debris and mudslides and rock-fall can occur rapidly with little warning during torrential rains. Landslides typically have a slower onset and can be predicted to some extent by monitoring soil moisture levels and ground cracking or slumping in areas of previous landslide activity. The map on the following page shows the landslide hazards in Kings County.

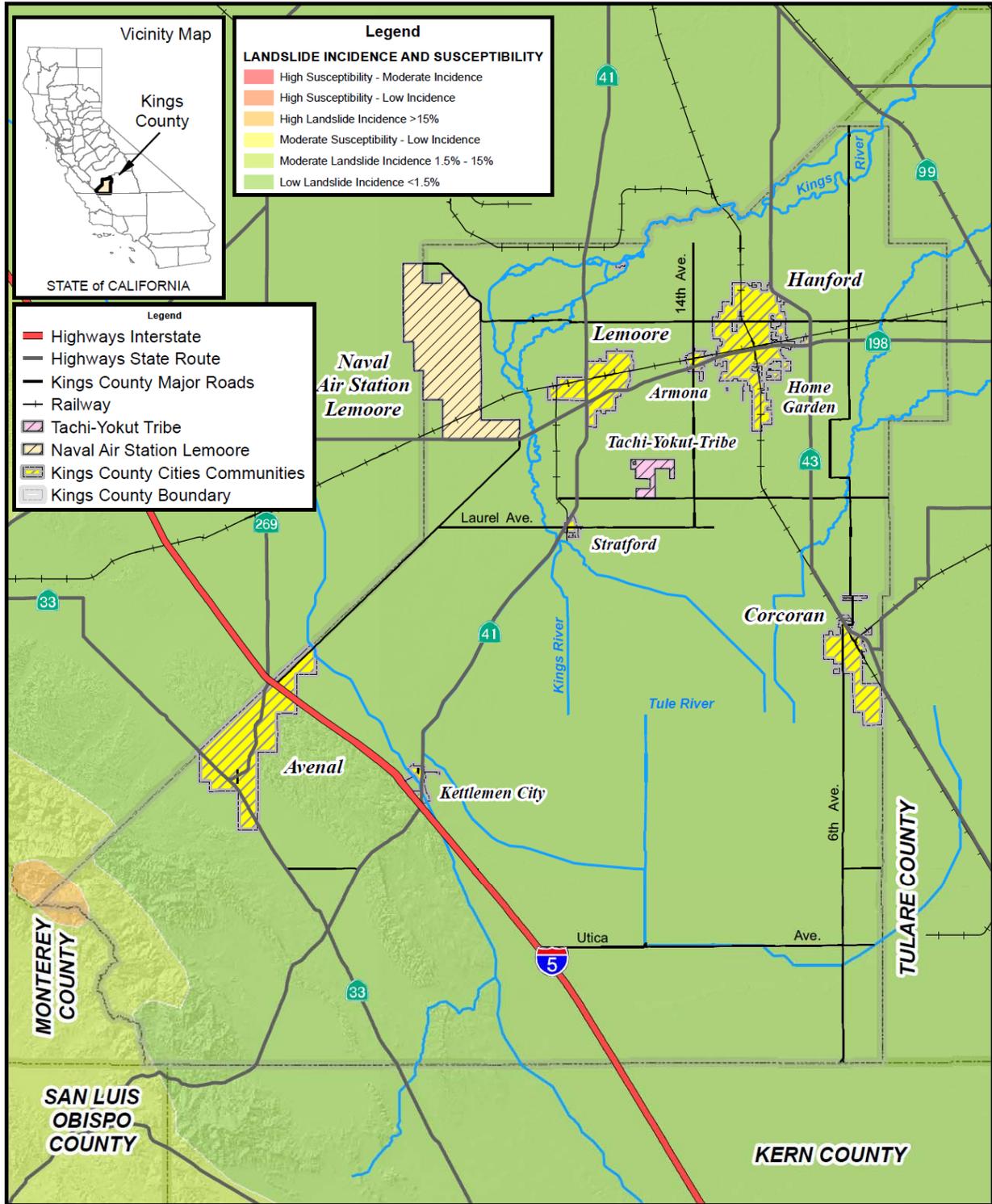
### **Previous Occurrences**

The Planning Team noted that in the past, landslides have occurred in the western part of the county, particularly in burn areas and after heavy rains. Heavy rain events caused a slope failure around a water line for Avenal in 1995, 1998, 2008 and 2010.

### **Probability of Future Occurrences**

There is limited data on past events, but **occasional** landslides and debris flows are likely to occur in the western part of to the county in the future.

### Kings County Landslide Hazard Map



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

*Kings County*  
**Multi-Hazard Mitigation Plan**  
**Landslide Hazard**



## **TORNADO**

### **Hazard Description**

Tornadoes are rotating columns of air marked by a funnel-shaped downward extension of a cumulonimbus cloud whirling at destructive speeds of up to 300 miles per hour (mph). They usually accompany a thunderstorm. Tornado magnitude is ranked according to the Enhanced Fujita scale listed below:

#### **Enhanced Fujita Tornado Scale**

- EF0: 65-85 mph
- EF1: 86-110 mph
- EF2: 111-135 mph
- EF3: 136-165 mph
- EF4: 166-200 mph
- EF5: Over 200 mph

### **Geographic Extent and Potential Magnitude**

Based on National Climate Data Center (NCDC) data, tornado behavior, tornadoes are more likely to hit the flatter, lower elevations of Kings County and are more common in the eastern parts of the county around Hanford, Lemoore, and Corcoran. Tornadoes develop rapidly and can occur without warning. The National Weather Service can predict the weather patterns that produce tornadoes and issue tornado warnings or watches when warranted. Most tornadoes last less than 10 minutes, though some have been observed to last an hour. Tornadoes in California are rarely severe, however, even small tornadoes can be damaging if they hit a populated area. Because the likelihood is small and the duration typically short, the expected average damage from a tornado in Kings County is considered to be slight.

### **Previous Occurrences**

The NCDC and the SHELDCUS databases report six occurrences of tornados and several funnel clouds on record between 1960 and 2005 in Kings County. All of these events occurred during fall and spring between October and April. Most of the tornados were ranked as F0 on the Fujita Scale and did not result in property damage. However, on November 22, 1996, a F1 tornado caused about \$250,000 in damage at the Lemoore Naval Station. Damage included roof removal of the base recycling center, and wind damage to several administrative structures, power lines and poles, and fixed structures (NCDC, 2012). The table on the following page lists recorded tornado events for Kings County.

In 2008, soon after the adoption of the previous LHMP in late 2007, the City of Avenal experienced a severe windstorm in January 2008. The windstorm pelted the City and brought winds of up to 70 mph that left widespread property damage and power outages. A few injuries were reported, but no fatalities. The property damage was estimated to be \$2 million, most of which were roofs, windows and fences. The single largest structural damage was at the Avenal High School where the auditorium roof spanning 4,600 square feet was torn off. Even though this event was not classified as a tornado, the National Weather Service referred to the incident as a “savage windstorm” marked by extreme gusts of wind rushing through the valley. An emergency proclamation was proclaimed by Kings

County and later by the Governor.

**Recorded Tornadoes in Kings County, 1950-2006**

Location	Date	Magnitude	Deaths/Injuries	Property Damage	Crop Damage
Kings	11/01/1964	F0	0/0	0	0
Kings	04/05/1980	F2	0/1	\$250,000	0
Kings	10/12/1991	F0	0/0	0	0
Lemoore	03/05/1994	F0	0/0	0	0
Hanford	03/12/1996	F0	0/0	\$10,000	0
Lemoore Naval Air Station	11/12/1996	F1	0/0	\$250,000	0

Source: NCDC, 2012

**Probability of Future Occurrences**

During the 56 years of record, 6 days of tornadoes have been recorded in Kings County or one tornado every 7 years on average. This equates to an annual chance of occurrence of about 11 percent. There are no official recurrence intervals calculated for tornadoes. However, if one assumes a tornado affects only one square mile and there are 1,435 square miles in Kings County, the annual probability of a tornado hitting any particular square mile in the planning area is .107 in 1,435 or a 0.007 percent chance. Probability is **occasional**.

**WILDFIRE**

**Hazard Description**

Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in the air. These conditions, when combined with high winds and periods of drought, increase the potential for wildfire. Fires also occur in areas where development has expanded into rural areas. In this wildland-urban interface, fires can result in major losses of property and structures. Generally, there are three major factors that sustain wildfires and are used to predict a given area’s potential to burn: fuel, topography, and weather.

Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and include everything from dead tree needles and leaves, twigs, and branches to standing dead trees, live trees, brush, and cured grasses. Manmade structures and other associated combustibles are also fuel sources. The type of prevalent fuel directly influences the behavior of wildfire. Light fuels, such as grasses, burn quickly and serve as a catalyst for fire spread. The volume of available fuel is described in terms of fuel loading.

Topography affects an area’s susceptibility to wildfire spread. Fire intensities and rates of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The natural arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes. Topography also affects the ability of response crews and vehicles to reach fires in a timely manner due to steep and winding roads.

Weather components, such as temperature, relative humidity, wind, and lightning, also affect the potential for wildfire. High temperatures and low relative humidity dry out the

fuels that feed the wildfire creating a situation where fuel will more readily ignite and burn more intensely. Wind is the most treacherous weather factor. The greater wind speed, the faster a fire will spread, and the more intense it will be. In addition to high winds, wind shifts can occur suddenly due to temperature changes or the interaction of wind with topographical features, such as slopes or steep hillsides. Related to weather is the issue of recent drought conditions contributing to concerns about wildfire vulnerability. During periods of drought, the threat of wildfire increases.

### **Geographic Extent and Potential Magnitude**

In most of Kings County, the California Department of Forestry and Fire Protection (Cal Fire) ranks fuel loading as low. Fuels are mainly crops and grasses. In the southwest corner, there are some brush, pine, and grass fuels, which are ranked as moderate fuel hazards, primarily in the area west of Interstate 5 and north of Highway 41. See the map on the following page that shows the wildfire hazard in Kings County.

Most of Kings County is flat, sloping slightly towards a topographic low point in the Tulare Lake Basin, which reduces the fire hazard through much of the county. However, elevations in the southwestern portion of the county are more varied, ranging from 500 feet at the Kettleman Plains to an elevation of 3,499 feet at Table Mountain. Fire hazard is high in the more steeply sloped areas of this southwestern section.

Generally, fire season in Kings County extends from early spring to late fall. Onset can happen suddenly due to lightning or human causes and wildfires can last from a few hours to a few months. Secondary effects from wildfire include increased erosion, degraded air and water quality, and economic impacts from burned landscapes.

### **Previous Occurrences**

There have not been any state or federal disaster declarations in Kings County related to wildfire in the past. The Planning Team noted that although there are many fire starts, the fuels are “flashy” and fires are usually quickly put out. The table below shows historic fires mapped by Cal Fire. Except for the Braley-Jones Ranch fire in 1951 near Stratford, all other mapped fires occurred west of Interstate 5. The largest was the Skyline fire in 1996, which burned over 20,000 acres along the west side of Interstate 5, north of Highway 41 and east of Avenal.

**Fire History in Kings County, 1950-2007**

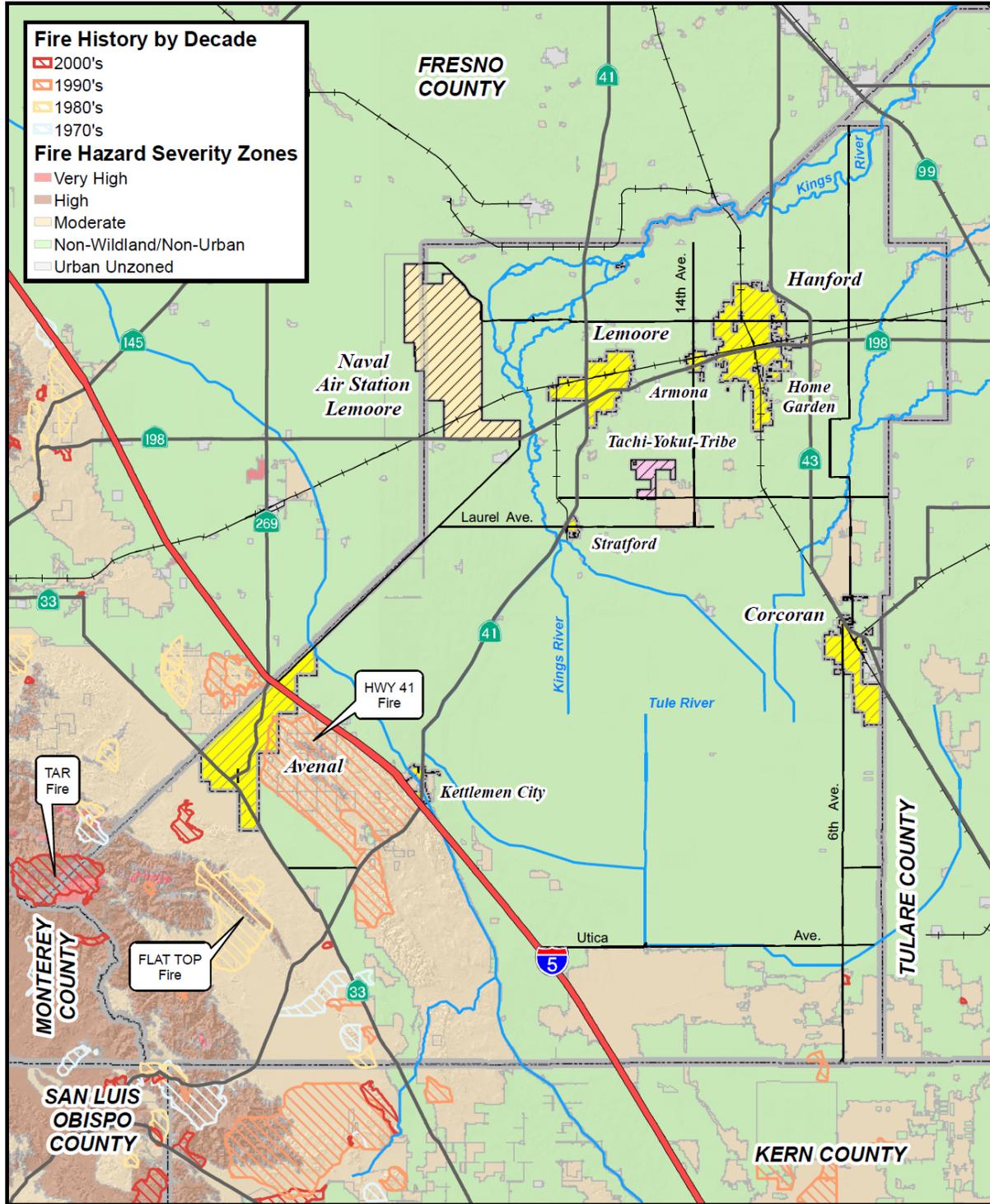
Date	Name of Fire	Acres Burned	Agency
06/04/1951	Braleley-Jones Ranch	468	Cal Fire
09/22/1968	Hughs	776	Cal Fire
07/30/1969	Avenal Canyon	983	Cal Fire
05/22/1979	Pyramid Hills	693	Cal Fire
07/01/1979	State of California #32	2,292	Cal Fire
05/25/1984	Flat Top	7,218	Cal Fire
06/03/1989	Cal Oil	492	Cal Fire
06/12/1994	York	1,012	Cal Fire
09/04/1995	Tar	126	Cal Fire
09/08/1995	Pyramid	397	Cal Fire
04/27/1996	Skyline	20,567	Cal Fire
05/01/1996	Hwy 41	3,198	Cal Fire
08/13/1999	33	243	Cal Fire
08/27/2001	Taylor	26	Cal Fire
08/10/2007	Tar	5,644	Cal Fire

Source: Cal Fire Redbooks

**Probability of Future Occurrences**

Fire starts are highly likely during each fire season; though, they rarely result in large-scale wildfires. Information obtained from the Cal Fire Redbook lists multiple fires, the largest consuming less than 300 acres and most being controlled at less than 10 acres. Fifteen major fires are mapped for the last 56 years, which averages to almost one fire every four years, or a 25 percent chance of occurrence in any given year. Based on climate and weather in Kings County and the fuels, topography, and fire history in the southwestern part of the county, it is **likely** that fires will continue to occur in the future.

### Kings County Wildfire Hazards Map



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
Wildfire Hazards**



**Summary of Hazards**

The table below summarizes the results of the hazard profiles and assigns a level of overall planning significance to each hazard of low, medium, or high. Significance was determined based on the hazard profile, focusing on key criteria such as frequency and resulting damage, including deaths/injuries and property, crop, and economic damage. This assessment was used by the Planning Team to prioritize those hazards of greatest significance to the operational area; thus enabling the County to focus resources where they are most needed. Those hazards that occur infrequently or have little or no impact on the operational area were determined to be of low significance.

**Hazard Profile Summary by Jurisdiction**

The following tables summarize the data provided by the Planning Team on the potential magnitude and the probability of occurrence for each of the identified hazards across the planning area.

**Probability of Occurrence for Identified Hazards in Kings County**

Hazard	Kings County	Avenal	Corcoran	Hanford	Lemoore
Dam Failure	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Drought	Occasional	Occasional	Occasional	Occasional	Occasional
Earthquake	Occasional	Occasional	Occasional	Occasional	Occasional
Extreme Heat	Highly Likely				
Flood	Likely	Likely	Likely	Occasional	Occasional
Fog	Highly Likely				
Freeze	Likely	Occasional	Likely	Likely	Likely
Landslide	Occasional	Occasional	Unlikely	Unlikely	Unlikely
Tornado	Occasional	Unlikely	Occasional	Occasional	Occasional
Wildfire	Likely	Occasional	Unlikely	Unlikely	Unlikely

Source: Kings County Planning Team

**Potential Magnitude of Identified Hazards in Kings County**

Hazard	Kings County	Avenal	Corcoran	Hanford	Lemoore
Dam Failure	Catastrophic	Negligible	Critical	Critical	Catastrophic
Drought	Critical-Catastrophic	Critical	Critical	Critical	Limited
Earthquake	Critical	Critical	Critical	Critical	Critical
Extreme Heat	Limited	Limited	Limited	Limited	Limited
Flood	Critical	Critical	Critical	Limited	Limited
Fog	Limited	Limited	Limited	Limited	Negligible
Freeze	Limited	Limited	Limited	Limited	Negligible
Landslide	Negligible	Critical	Negligible	Negligible	Negligible
Tornado	Negligible	Negligible	Limited	Limited	Limited
Wildfire	Critical	Limited	Negligible	Negligible	Negligible

Source: Kings County Planning Team

### **B.3. Vulnerability Assessment**

**§201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods.**

**§201.6(c)(2)(ii)(A): The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;**

**§201.6(c)(2)(ii)(B): An estimate of the potential dollar losses to vulnerable structures identified in ... this section and a description of the methodology used to prepare the estimate.**

**§201.6(c)(2)(ii)(C): Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.**

#### **Methodology**

The vulnerability assessment further defines and quantifies populations, buildings, critical facilities, and other community assets at risk to natural hazards. The vulnerability assessment for this plan followed the methodology described in the FEMA 386-2, *Understanding Your Risks – Identifying Hazards and Estimating Losses* (2012).

The vulnerability assessment was conducted based on the best available data and the significance of the hazard. Data to support the vulnerability assessment was collected from the following sources:

- County and jurisdictional GIS data (hazards, base layers, and other government data)
- Statewide GIS datasets compiled by Cal EMA to support mitigation planning
- FEMA’s HAZUS loss estimation software
- Written descriptions of assets and risks provided by participating jurisdictions
- Existing plans and reports
- Personal interviews with Planning Team members and other stakeholders ☐

The vulnerability assessment first describes the assets at risk in Kings County, including the total exposure of people and property; critical facilities and infrastructure; natural, cultural, and historic resources; and economic assets. Secondly, the assessment considers the social vulnerability of the county to hazards, including characteristics of gender, age, race/ethnicity, and wealth and poverty.

#### **Assets at Risk**

This section assesses the population, structures, critical facilities and infrastructure, and other important assets in Kings County at risk to natural hazards.

#### **Total Exposure to Hazards**

The table on the following page shows the total population, number of structures, and assessed value of improvements to parcels by jurisdiction. Land values have been purposely excluded because land remains following disasters, and subsequent market devaluations are frequently short term and difficult to quantify. Additionally, state and federal disaster

assistance programs generally do not address loss of land or its associated value.

The greatest exposure of people and property are concentrated in Hanford, though significant population and structures are spread out in the unincorporated areas of the county. The Lemoore Naval Air Station is not included in this data, because the station independently undertakes hazards mitigation and other emergency planning and did not participate in this planning process.

**Maximum Population and Building Exposure by Jurisdiction**

Jurisdiction	Exposed Population	Buildings	
		Number	Value
Kings County Unincorporated Areas	34,1786	9,707	\$1,028,530,819
Avenal	15,505	1,754	\$128,111,815
Corcoran	24,813	2,966	\$257,957,828
Hanford	53,967	14,080	\$1,991,860,304
Lemoore	24,531	5,913	\$853,282,697
<b>Total</b>	<b>152,982</b>	<b>34,420</b>	<b>\$4,259,743,463</b>

Source: Kings County Planning Team data, 2010 U.S. Census

**Critical Facilities and Infrastructure**

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA’s HAZUS loss estimation software uses the following three categories of critical assets (Essential Facilities, High Potential Loss Facilities and Transportation and Lifelines). Essential facilities are those that if damaged would have devastating impacts on disaster response and/or recovery. High potential loss facilities are those that would have a high loss or impact on the community. Transportation and lifeline facilities are a third category of critical assets.

Essential Facilities	High Potential Loss Facilities	Transportation and Lifelines
<ul style="list-style-type: none"> <li>Hospitals and other Medical Facilities</li> <li>Police Stations</li> <li>Fire Stations</li> <li>Emergency Operation Centers</li> </ul>	<ul style="list-style-type: none"> <li>Power Plants</li> <li>Dams/levees</li> <li>Military installations</li> <li>Hazardous Material Sites</li> <li>Schools</li> <li>Shelters</li> <li>Day Care Centers</li> <li>Nursing Homes</li> <li>Main Government Buildings</li> </ul>	<ul style="list-style-type: none"> <li>Highways, Bridges and Tunnels</li> <li>Railroads and Facilities</li> <li>Bus Facilities</li> <li>Airports</li> <li>Water Treatment Facilities</li> <li>Natural Gas Facilities and Pipelines</li> <li>Oil Facilities and Pipelines</li> </ul>

The table on the following page displays the inventory of available data on essential facilities in Kings County as provided by HAZUS. The HAZUS scenario uses a 5.0 magnitude to define the earthquake parameters used for the earthquake loss estimate.

### Essential Facility Damage

#### HAZUS Estimated Essential Facility Damage – 5.0 M Earthquake

Before the earthquake, the region had 148 hospital beds available for use. On the day of the earthquake, the model estimates that only 141 hospital beds (95.00%) are available for use by patients already in the hospital and those injured by the earthquake. After one week, 100.00% of the beds will be back in service. By 30 days, 100.00% will be operational.

Classification	Total	# Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Hospitals	4	0	0	4
Schools	72	0	0	72
EOCs	0	0	0	0
PoliceStations	7	0	0	7
FireStations	5	0	0	5

Other facilities in the county, such as locations that hold musical concerts, sporting events, and other events that attract large numbers of people, may also be at higher risk due to concentrations of population. These include, but are not limited to, the Kings County Fairgrounds, the Tachi Palace Casino and Resort, Hanford Bowl, Hanford High School Presentation Center, West Hills College Sports Facility, two hospitals (Home Garden – Adventist Health Rural Health Clinics, Hanford Adventist Health Medical Center, high school campuses and county or city parks.

Other critical facilities unique to the county are the California Aqueduct, Kettleman Hills Hazardous Waste Facility, and the Lemoore Naval Air Station. These facilities are described further on the following page. The Corcoran and Avenal State Prisons are also considered unique facilities; however, these facilities are better addressed in the emergency operations plans for the county and the two municipalities.

The **California Aqueduct**, part of the California State Water Project, runs through the western part of Kings County. The State Water Project is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. Its main purpose is to store water and distribute it to 29 urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California. Seventy percent of the contracted water supply goes to urban users and thirty percent goes to agricultural users. The State Water Project makes deliveries to two-thirds of California's population. Earthquakes, landslides, flooding, or other hazard events that disrupt the aqueduct's ability to deliver water could have serious impacts to agriculture in the county and water users in many areas of California.

The **Kettleman Hills Hazardous Waste Facility** is a chemical waste disposal and treatment site with a capacity of 5,700,000 cubic yards, operated by Chemical Waste Management. The site is located four miles from Kettleman City and less than three miles west of Interstate 5. The 1,600-acre site employs 120 people and accepts waste from all over the western United States but primarily California. The facility is one of less than 30 commercial chemical waste sites in the country and one of less than 10 sites licensed to take polychlorinated biphenyls (PCBs).

The integrity of the hazardous waste site was breached in March 1988 when a landslide surged forward and downslope, tearing out part of the liner system and displacing waste deposited at the site. The incident may have been caused by design defects of the facility; however, the incident indicates that the facility may be vulnerable to seismic hazards present in the Kettleman Hills area. Water contamination is a concern in a seismic event from this facility.

The **Lemoore Naval Air Station** encompasses 4.2 square miles in Kings County and includes critical facilities, such as medical facilities and an airport. It is also one of the largest employers in the county, with 1,300 civilian employees. Although this plan recognizes the critical assets of the station and its role in the county's economy, as federally owned property, the station develops separate emergency management plans.

### **Natural, Historical, and Cultural Assets**

Assessing the vulnerability of Kings County to disaster also involves inventorying the natural, historical, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- If these resources are impacted by a disaster, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, such as wetlands and riparian habitat, which help absorb and attenuate floodwaters.

Natural resources are also important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for mitigation projects that also contribute to community goals for protecting sensitive natural resources. Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters.

There are many natural resources that are important to Kings County, a detailed description of those resources can be found in the *Resource Conservation Element* of the Kings County General Plan.

### **Historical and Cultural Resources**

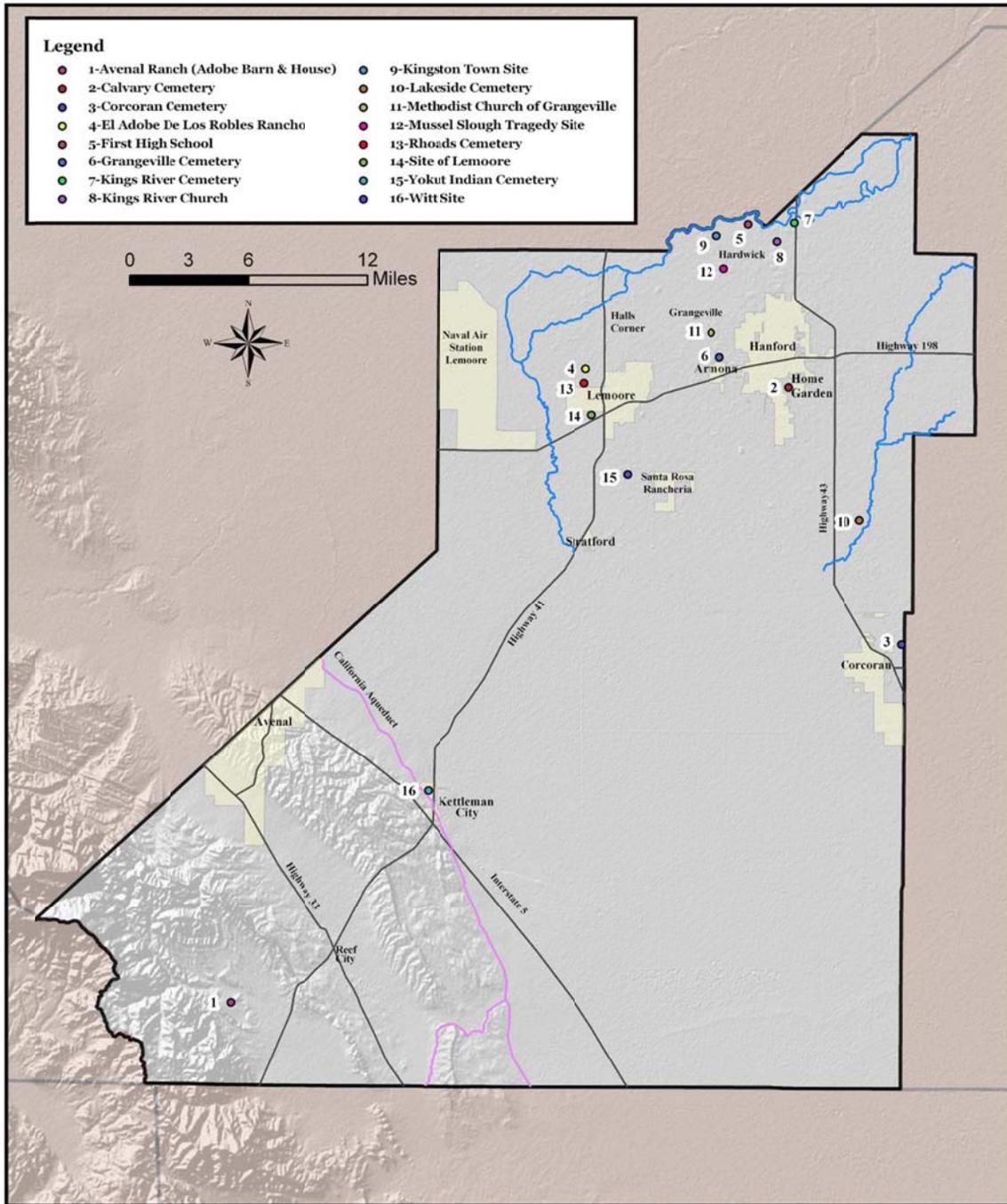
Kings County has a number of historical sites, and is also the home of the Tachi Yokut Tribe

that lived throughout the region and along the Tulare Lake. The lake region contains numerous archaeological artifacts along the Tulare lakeshores margins and a significant archaeological site called the Witt site in southern Kings County (near Dudley Ridge). Numerous other recorded cultural resource sites have been identified in Kings County in the area of Stratford, the area south and west of Lemoore, and in the area west of Alpaugh in southeastern Kings County.

The National Register of Historic Places lists four sites within Kings County, and three additional sites that have been designated as California Historical Landmarks. Sites include a Taoist Temple, County Courthouse, Carnegie Library, and the Witt archaeological site. The three California Historical Landmarks include the Kingston Town Site north of Hardwick, the El Adobe de los Robles Rancho west of Lemoore, and the Mussel Slough Tragedy site south of Hardwick. Thirteen other historic sites of local importance also exist. These include several cemeteries and churches located in Corcoran, Lemoore, Grangeville, and other rural areas in the northern County. Other notable sites include the original site of Lemoore, the Avenal Ranch, Kettleman Hills fossil beds, and First High School on the Kings River (Kings County General Plan, 2010.) The map on the following page shows the Historical Sites in Kings County.

It should be noted that as defined by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered or has been altered, the property must be evaluated under the guidelines set forth by the CEQA and NEPA. Structural mitigation projects, such as earthquake retrofits, are included in this regulation.

### Kings County Historical Sites Map



**Economic Assets**

Economic assets at risk may include major employers or primary economic sectors, such as, agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster. After a disaster, economic vitality is the engine that drives recovery. Every community has a specific set of economic drivers, which are important to understand when planning ahead to reduce disaster impacts to the economy. When major employers are unable to return to normal operations, impacts ripple throughout the community. The table below shows the top employers in Kings County as provided by the Kings County Economic Development Corporation, 2012.

**Top Employers in Kings County**

<b>Employer</b>	<b>Number of Employees</b>	<b>Location</b>
Corcoran State Prisons	3,500	Corcoran
Lemoore Naval Air Station	1,100 civilian	Lemoore
Avenal State Prison	1,300	Avenal
Tachi Palace	1,500	Lemoore
JG Boswell Company	1,200	Corcoran
Kings County	1,293	Hanford
Adventist Health	2,200	Hanford
Leprino Foods	970	Lemoore
Paramount Foods	600	Avenal
Marquez Brothers	325	Hanford
Reef-Sunset Unified School District	306	Avenal

Source: King County Economic Development Corporation, 2012

Agriculture provides 14 percent of Kings County’s employment. A leading agricultural county, Kings jumped from #11 agricultural county in the State for 2009 to #9 in 2010. A resurgence in commodity prices sent gross production values from \$1.7B in 2010, to \$2.2B, a 29 percent increase. Milk remains as Kings County’s leading commodity with a value of \$799 million, a 44% increase over 2010 milk production values. Cotton and cottonseed, cattle, process tomatoes, and alfalfa follow milk to round out Kings County’s five leading commodities. In recent years, the county has seen expanded fruit & nut crops, apiary products and seed crops.

Agricultural losses resulting from natural hazards can have dramatic impacts on the economic health of Kings County. Past losses to agricultural commodities due to extreme weather have occurred at a rate of approximately one event per year since 1997, most often in April and May.

***Estimating Potential Losses***

The Planning Team ranked the significance of identified hazards for each jurisdiction. Significance is measured in general, qualitative terms and is a summary of the potential impact of the hazard based on the geographical area affected, history of past occurrences,

potential magnitude, probability of the event, and damage and casualty potential. Significance is classified as the following:

- High:** Widespread potential impact. This ranking carries the highest threat to the general population and/or built environment. Hazards in this category may have already occurred in the past.
- Medium:** Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. The potential of occurrence may be the same as the high ranking, but the potential damage is more isolated and less costly than a more widespread disaster.
- Low:** Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.

The table on the following page summarizes the hazard significance rankings developed by the Planning Team for participating jurisdictions in Kings County. School districts are not included in the table. The planning significance of different hazards depends upon their location in the county.

This section assesses vulnerability to those specific hazards ranked of medium or high significance. The Planning Team identified three hazards within the planning area where specific geographical hazards are defined: earthquake, flooding, and wildfire. Critical facilities and other assets in these areas were assessed and are described below. The vulnerability to other medium to high significance hazards that do not have specific mapped areas, such as drought, extreme heat, freeze, and fog, are discussed in more general terms at the end of this section.

It is also important to be aware that hazard events that happen outside of the county boundaries also can have direct and indirect impacts to Kings County. For instance, dam failures and wildfires in watersheds outside the county that drain into it can result in flooding and other impacts related to watershed health. An earthquake or flood as far away as the Sacramento Delta Region could disrupt water supply to the county from the California Aqueduct. Power supply also could be interrupted by earthquake and wildfire hazards outside of the county.

**Significance of Hazard by Jurisdiction**

Hazard	Kings County*	Avenal	Corcoran	Hanford	Lemoore
Dam Failure	Low	Low	Low	Low	Medium
Drought	High	Medium	High	High	Medium
Earthquake	High	High	High	High	High
Extreme Heat	Medium	Medium	Medium	Medium	Medium
Flood	Medium	Medium	High	Low	Low
Fog	Medium	Medium	Medium	Medium	Medium
Freeze	Medium	Low	Low	Medium	Medium
Landslide	Low	Low-Medium	Low	Low	Low
Tornado	Low	Low	Low	Low	Low
Wildfire	Medium	Low	Low	Low	Low

Source: Kings County Planning Team  
\*Unincorporated areas.

**Earthquake**

**Vulnerabilities**

- Pre-1973 Homes due to older Earthquake Standards
- Historic Buildings
- Older bridges, overpasses and elevated roadways
- Water, Gas and Sewer Lines
- Power Distribution Systems
- Critical Facilities
- People with Disabilities, the Elderly and Access and Functional Needs
- Agricultural Buildings
- Livestock
- Canals and Waterways

Earthquake vulnerability is based primarily upon population and the built environment. When the M 7.9 Fort Tejon earthquake occurred along the San Andreas Fault near Kings County in 1857, California was sparsely populated, especially in the regions of strongest shaking. The California State Multi-Hazard Mitigation Plan (2010) predicts a repeat of the 1857 earthquake would cause approximately \$150 million in property damage.

To mitigate this hazard, building codes in California have been steadily improved over the past 80 years as understanding of seismic shaking has improved. Current California building codes include provisions for considering the potential shaking from earthquakes, including stronger shaking near faults and amplification by soft soils. The building code has been the

main mitigation tool for seismic shaking in most buildings, although hospitals, schools, and other critical facilities are subject to additional mitigation measures (Cal EMA HMP 2010).

The state has an unreinforced masonry program, which requires seismic retrofits or building removal in Zone IV. Unreinforced masonry buildings are generally brick buildings constructed prior to 1933, predating modern earthquake-resistant design. The brick is not strengthened with embedded steel bars and is therefore called unreinforced. There are four seismic zones in the United States ranging from I to IV; the higher the number, the higher the earthquake danger. All of California lies within Seismic Zone III or IV. Stronger construction standards for buildings in Zones III and IV have been adopted in the International Building Code. Most of Kings County is in Zone III except for the southwestern part, which is in Zone IV.

### **Estimating Potential Losses**

FEMA's software program for estimating potential losses from disasters, HAZUS, was used to estimate potential losses in Kings County from three earthquake scenarios. The following version MH 2.1 SP1 of HAZUS was used for development of the earthquake scenarios. The first scenario was an annualized loss scenario representing long-term average losses based on overall local seismic hazard using a default M 5.0, 6.0 and 7.0 assumptions. The table on the following page summarizes the results of the three scenarios.

The Planning Team also identified the potential impacts of a major earthquake in Los Angeles or San Francisco Bay Area on the Central Valley and Kings County. Displaced people from these areas may come to the county and require sheltering, medical care, and other local resources.

**HAZUS Potential Dollar Losses to Vulnerable Structures**

<b>Type of Impact</b>	<b>Annualized Loss Scenario M5.0</b>	<b>Annualized Loss Scenario M6.0</b>	<b>Annualized Loss Scenario M7.0</b>
Total Buildings Damaged	<b>1,364</b> at least moderately damaged (4% of total in region) <b>15</b> damaged beyond repair	<b>1,364</b> at least moderately damaged (4% of total in region) <b>15</b> damaged beyond repair	<b>1,364</b> at least moderately damaged (4% of total in region) <b>15</b> damaged beyond repair
Residential Buildings Damaged (single family and other residential)	Slight: <b>4,960</b> Moderate: <b>1,068</b> Extensive: <b>124</b> Complete: <b>13</b>	Slight: <b>4,960</b> Moderate: <b>1,068</b> Extensive: <b>125</b> Complete: <b>14</b>	Slight: <b>4,092</b> Moderate: <b>942</b> Extensive: <b>190</b> Complete: <b>59</b>
Building-Related Losses	<b>\$102.9</b> million	<b>\$102.9</b> million	<b>\$102.9</b> million
Total Economic Losses (building and lifeline losses)	<b>\$118.65</b> million	<b>\$118.74</b> million	<b>\$118.74</b> million
Casualties (based on 2:00am occurrence)	Without requiring hospitalization: <b>31</b> Requiring hospitalization: <b>3</b> Life threatening: <b>0</b> Fatalities: <b>0</b>	Without requiring hospitalization: <b>31</b> Requiring hospitalization: <b>4</b> Life threatening: <b>0</b> Fatalities: <b>0</b>	Without requiring hospitalization: <b>31</b> Requiring hospitalization: <b>4</b> Life threatening: <b>0</b> Fatalities: <b>0</b>
Casualties (based on 5:00pm occurrence)	Without requiring hospitalization: <b>21</b> Requiring hospitalization: <b>3</b> Life threatening: <b>0</b> Fatalities: <b>0</b>	Without requiring hospitalization: <b>21</b> Requiring hospitalization: <b>3</b> Life threatening: <b>0</b> Fatalities: <b>1</b>	Without requiring hospitalization: <b>21</b> Requiring hospitalization: <b>3</b> Life threatening: <b>0</b> Fatalities: <b>1</b>
Damage to Transportation Systems	<b>0</b> damage	<b>0</b> damage	<b>0</b> damage
Displaced Households	<b>38</b>	<b>38</b>	<b>38</b>
Shelter Requirements	<b>55</b> people out of 129,461 in region	<b>55</b> people out of 129,461 in region	<b>55</b> people out of 129,461 in region

Source: HAZUS 2012

### **Summary of Potential Impacts**

According to the HAZUS model, Kings County is susceptible to serious earthquake losses in the millions of dollars. The overall impact of earthquakes to Kings County includes:

- Potential for injury and loss of life;
- Widespread structural damage, particularly in manufactured housing;
- Loss of water, power, roads, phones, and transportation, which can be particularly dangerous for those with certain medical conditions;
- Power loss complicating response and recovery efforts;
- Business interruption losses;
- Agricultural impacts such as field disturbances and damage to irrigation systems; and
- Damage to oil and gas facilities and pipelines.

The HAZUS earthquake model applies to census tract level data and does not allow for the quantification of risk by jurisdiction. Based on the earthquake shaking map and fault locations in the hazard profiles section, Avenal and the unincorporated community of Kettleman Hills are likely to experience stronger ground shaking than the rest of the county.

Older construction and unreinforced masonry buildings are more vulnerable to shaking during earthquakes. Historic buildings can be more susceptible because they have weakened with age and were built before the use of building codes. Most unreinforced masonry buildings in Kings County are in Hanford, where it is estimated there are 154. HAZUS predicts that building-related losses will primarily occur in manufactured housing in Kings County.

The Kettleman Hills Hazardous Waste Facility is located near several small faults in the Kettleman Hills. Due to the high classification of hazardous waste stored there and the past problems with landslide and leakage, there is some environmental risk in an earthquake event. The nearest community is Kettleman Hills, four miles away.

The California Aqueduct runs through western Kings County, where seismic hazards are high. Numerous natural gas and oil pipelines, telephone lines, and fiber optic cables also follow the Interstate 5 corridor in western Kings County. These are vulnerable to damage from seismic offset. Water wells and oil wells also could be damaged by subsurface slumping.

### **Wildfire**

#### **Vulnerabilities**

- Homes in the Wildland/Urban Interface
- Water, Gas and Sewer Lines
- Power Distribution Systems
- Critical Facilities
- People with Disabilities, the Elderly and Access and Functional Needs
- Agricultural Buildings
- Livestock

- Crops

Vulnerability to wildfire is predominantly associated with wildland-urban interface (WUI) areas. The WUI is a general term that applies to development interspersed or adjacent to forests and wildlands. WUI areas are a major focus of the California Department of Forestry and Fire Protection's (Cal Fire) fire management strategy.

In Kings County, WUI areas occur primarily in the southwestern part of the county near Avenal. Much of the area with the highest fire hazard is isolated with few urban settlements and vulnerability is considered low in the health and safety element of the Kings County General Plan. There is also limited exposure to wildfire in the grass lands. When considering the planning area as a whole, limited fuel loading, along with the geographical and topographical features of the area, limit the potential for fires resulting in loss of life and property. However, any fire has the potential to quickly become a large, out-of-control fire, particularly when combined with natural weather conditions common to the area, which include periods of drought, high temperatures, and low relative humidity.

Cal Fire generated a list of communities at risk for wildfire as required by the National Fire Plan. The National Fire Plan is a cooperative, long-term effort between various government agency partners with the intent of actively responding to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future. Three main factors were used to determine wildfire threat in the wildland-urban interface areas of California. These include ranking fuel hazards, assessing the probability of wildfire, and defining areas of suitable housing density that could create WUI fire protection strategy situations. Avenal is the only Community at Risk in Kings County listed in the Federal Register. Avenal is in a Local Responsibility Area, protected by the Kings County Fire Department. Most of the area to the west of Highway 33 is Cal Fire State Responsibility Area for fire protection.

Kings County is in Cal Fire's Fresno-Kings Unit. Most fire starts in local responsibility areas in the Fresno-Kings Unit are related to motor vehicles, equipment use, and arson (Fresno-Kings Unit Pre-Fire Management Plan 2005).

### **Estimating Potential Losses**

In Avenal there are approximately 35 structures with an approximately value of \$637,000 and in unincorporated areas in the western part of the county are there 284 structures with an approximately value of \$309,000 located in very high fire threat areas (Kings County LHMP 2007).

### **Summary of Potential Impacts**

The overall potential impacts from wildfire include:

- Potential for injury and loss of life;
- Commercial and residential structural damage;
- Impacts to water quality and watershed health;
- Impacts to natural resource habitats and other resources, such as agriculture,
- Loss of water, power, roads, phones, and transportation;

- Public Health and Air Quality
- Significant economic impacts (jobs, sales, tax revenue) with the loss of commercial structures; and
- Decline in commercial and residential property values.

Large, past burn areas are located in high fire threat areas mapped along the west side of Interstate 5. There are no other known critical facilities in very high to extreme fire threat areas. Although there are not significant timber resources in Kings County, wildfires can destroy crops affecting the economy.

## **Drought**

### **Vulnerability**

- Water supply
- Natural Habitat
- Livestock and Crops
- Open space and greenbelts
- Natural Resources

All of Kings County is vulnerable to drought. Drought is one of the few hazards with the potential to impact all the citizens of the county through water restrictions, economic losses, and increased energy costs. The urbanized areas of the county and the agriculture industry are most likely to experience hardships associated with reduced water supply.

Agriculture in the San Joaquin Valley relies on artificial irrigation using mostly imported water and/or groundwater. Local droughts are expected and accommodated for; however, a prolonged statewide drought could exceed local capabilities to handle reductions of imported surface water supplies and potentially lead to reductions in distribution from local water storage districts.

The costs of drought are difficult to quantify because the impacts affect so many different sectors including wildlife and natural resources, business and industry, tourism and recreation, agriculture, and individual households. Agriculture often suffers the most financial losses from drought and is the major component of the Kings County economy. According to the Kings County Economic Development Corporation, the gross value of all agricultural crops and products produced during 2011 in Kings County was \$2,219,529,000. This represents an increase of \$501,558,000 (29.2%) from the 2010 value and is a record high figure for the county.

### **Summary of Potential Impacts**

The overall potential impacts from drought include:

- Increased potential for heat injury and loss of life
- Impacts to water quality and watershed health
- Impacts to natural resource habitats and other resources, such as agriculture
- Loss of water for irrigation
- Public Health and Air Quality

- Significant economic impacts (jobs, sales, tax revenue)
- Decline in commercial and residential property values

## **Extreme Heat**

### **Vulnerability**

- Agriculture
- People with disabilities and the elderly; People with Access and Functional Needs
- Water supply
- Natural Habitat
- Livestock and Crops
- Open space and greenbelts
- Natural Resources

The agricultural industry is most at risk to extreme temperatures. Hot and cold temperature extremes damage crops, affecting the economy and potentially resulting in lost farming jobs. Field workers are susceptible to heat exhaustion and heat stroke. Elderly residents who may live alone and are limited in their mobility are also vulnerable during heat waves.

Problems with power loss and water distribution also occur during periods of extreme heat. Power outages and rolling brownouts can result when high temperatures increase air conditioner use. Power outages have prevented water pumping stations from operating.

### **Summary of Potential Impacts**

The overall potential impacts from drought include:

- Increased potential for heat injury and loss of life
- Impacts to water quality and watershed health
- Impacts to natural resource habitats and other resources, such as agriculture
- Loss of water for irrigation
- Public Health and Air Quality
- Significant economic impacts (jobs, sales, tax revenue)
- Decline in commercial and residential property values

## **Flood**

### **Vulnerabilities**

- Structures in low lying areas and floodplains
- Historic Buildings
- Roadways and older Bridges
- Levees and Levee Roads
- Water, Gas and Sewer Lines
- Power Distribution Systems
- Critical Facilities

- People with Disabilities, the Elderly and Access and Functional Needs
- Agricultural Buildings
- Livestock
- Canals and Waterways
- Natural Resources and species

Despite the construction of massive and relatively effective flood control projects, California remains vulnerable to flooding. A steady rise in population and accompanying development contribute to increased flood risks throughout the state. According to the National Flood Insurance Program (NFIP), all four municipalities within Kings County have mapped flood hazard areas. The table on the following page provides further information on their participation in the NFIP.

Hazus estimates that there are 36,717 buildings in the region, which have an aggregate total replacement value of 6,918 million (2006 dollars). The table below presents the relative distribution of the value with respect to the general occupancies by Study Region.

### Kings County Building Exposure by Type

Occupancy	Exposure (\$1000)	Percent of Total
Residential	5,671,492	82.0%
Commercial	713,641	10.3%
Industrial	164,547	2.4%
Agricultural	110,662	1.6%
Religion	116,159	1.7%
Government	31,974	0.5%
Education	109,788	1.6%
<b>Total</b>	<b>6,918,263</b>	<b>100.00%</b>

Source: HAZUS 2012

### Summary of Potential Impacts

Most of the flooding in Kings County can be characterized as shallow, sheet flow events. This type of flooding often results in property damage, road washouts, and transportation disruptions. Other general impacts of these events may include the following:

- Potential for injury and loss of life
- Commercial and residential structural damage
- Erosion of streambeds, roadways and hillsides
- Loss of water, power, roads, phones, and transportation, which can be particularly dangerous for those with certain medical conditions
- Hazardous Materials Contamination of large areas due to Agricultural Chemicals, pesticides and petroleum products
- Economic impacts (jobs, sales, tax revenue) due to loss of commercial structures

- Decline in commercial and residential property values

Most of the urban areas in Kings County are not located in mapped floodplain areas. Flood hazards exist primarily in the center of the county in the Tulare Lake Basin and along Cross Creek, the Kings River and the North and Clarks Forks of the Kings River, and in the valley between the Kettleman Hills and the Kreyenhagen Hills. Both Avenal and Lemoore have little to no exposure in the 100-year floodplain, though they have significant vulnerability to a 500-year flood. Corcoran has some limited exposure along its southwestern city boundary. Hanford has few structures at risk, but higher monetary value at risk. Near unincorporated communities, flood hazards are mapped to the east of Kettleman City and to the northwest of Stratford. The Santa Rosa Rancheria has some urban flooding mapped in the southwest corner, though it does not appear to affect the casino or other structures.

Few critical facilities are located in the 100-year floodplain. The Central California Soaring Club Airport and Highway 33 in Avenal do occur in this hazard area. Much of Avenal lies in the 500-year floodplain, which is primarily affected by sheet flow flooding.

No cultural or historical sites are known in flood areas based upon available data. Risk analysis of natural resources was not possible due to data limitations. Natural areas within the floodplain often benefit from periodic flooding as a naturally recurring process. In addition, natural areas help mitigate flood impacts by absorbing flood waters.

In terms of economic assets, most dairy facilities are not located in flood hazard areas, except for a few in the Cross Creek floodplain in the northeastern part of the county. The Paramount Pomegranate Orchards are located in a mapped flood hazard area near the southern border of the county.

### **Freeze Vulnerabilities**

- People
- Agriculture – Crop Damage and Livestock
- Water Distribution Systems
- Power Failure

Prolonged freezing temperatures can damage or destroy crops, affecting the economy and agricultural jobs in Kings County. Water infrastructure is also at risk from freezing, including line breaks and frozen valve gates affecting the distribution system. The county and municipal governments wrap pipes before freezing temperature events to help prevent damage.

### **Summary of Potential Impacts**

The overall potential impacts from drought include:

- Increased potential for injury and loss of life
- Significant economic impacts (jobs, sales, tax revenue)
- Crop Damage

### **Fog**

### Vulnerability

- Air, Rail and Ground Transportation Routes
- People in Transit

Fog contributes to transportation accidents and is a significant life safety hazard. These accidents can cause multiple injuries and deaths and could have serious implications for human health and the environment if a hazardous or nuclear waste shipment were involved. Other disruptions from fog include delayed emergency response vehicles and school closures. Highways and busy intersections during traffic rush hours are vulnerable areas during severe fog events.

### Summary of Potential Impacts

- Loss of Life and Injury
- Decreased Economic Activity
- School Closures
- Road Closures

### Development Trends

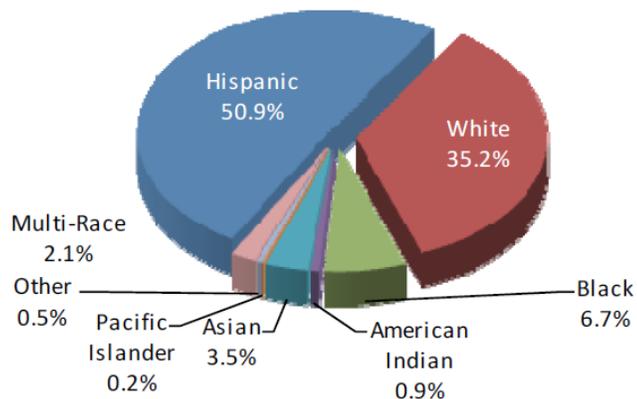
As part of the planning process, the Planning Team looked at changes in growth and development and examined these changes in the context of hazard-prone areas and how the changes in growth and development affect loss estimates and vulnerability. The Central San Joaquin Valley is currently experiencing growth in food processing, warehousing and distribution, education, and health care. Though population growth is temporarily stable, the Valley is seeing a trend of nonfarm job growth. Kings County's population is projected to reach 281,866 by the year 2050.

Upward trends in population growth and development in Kings County increase vulnerability to hazards, including earthquakes, flooding, wildfire, and drought. Modern, well-constructed buildings built to code are more resistant to earthquake shaking. However, new buildings can be severely damaged if built upon areas susceptible to soil liquefaction. The risk of flooding in future development should be minimized by the floodplain management programs of the county and its municipalities, if properly enforced. Vulnerability to wildfire will increase with more development in WUI areas in the western part of the county and will increase the fire protection challenges in the area. Lastly, as the population grows, so do the water needs for household, commercial, industrial, recreational, and agricultural uses. Vulnerability to drought will increase with these growing water needs.

### B.4. Repetitive Loss and Severe Repetitive Loss Properties

**§201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall**

Population by Ethnicity - 2010



***summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods.***

According to the Kings County Planning Agency there are no repetitive loss properties in Kings County. The NFIP defines a repetitive loss structure as “any building with two or more flood losses greater than \$1,000 in any 10-year period since 1978.” Although this seems an encouraging statistic, it actually may reflect a lack of flood insurance policies in areas that have repetitive floods.

## **Element C: Mitigation Strategy**

***Requirement §201.6(c)(3): [The plan shall include the following:] A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.***

Specific mitigation objectives and action items were developed for Kings County in conjunction with the public meetings held in the locations, as cited in the documentation of the Planning Process as described in Element A. The list of action items identifies mitigation projects and includes a project ranking based upon time horizon, cost, and risk, benefit and input from local stakeholders. The action items were developed to provide public policy makers with a list of potential implementation as mitigation resources; time, equipment and funding become available for the selected projects.

### **Items completed from the 2007 Plan**

On September 27, 2012 the Planning Team met and reviewed the progress on the mitigation items created for the 2007 Plan. Those items not completed were largely a result of a lack of funding, limited growth in property tax, fixed personnel costs, a slow recovery from the recession and diminishing state assistance to counties have all contributed to this lack of local funding for mitigation projects. Despite those reasons, the Kings County Operational Area has been working on many of these projects creatively and collectively and has made considerable progress on the 2007 project list.

### **Element C.1 Existing Authorities, Policies, Programs and Resources**

***Requirement §201.6(c)(3): [The plan shall include the following:] A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.***

Kings County and the Cities of Avenal, Corcoran, Hanford and Lemoore all have an Emergency Operations Plan, a General Plan, which includes a Health and Safety Element, an Emergency Services Ordinance that clearly defines roles and responsibilities in accordance with state and federal guidelines. The County CAO/City Managers serve as the Director of Emergency Services by law and ordinance and the Board of Supervisors/City Councils serve as the administering agency and the promulgation authority for all plans, policies and procedures within Kings County and the Cities previously mentioned. The county recognizes the 2010 Hazard Mitigation Plan of the State of California, the California Emergency Services Act, and the appropriate Federal Regulations including 44 CFR 201. Kings County is subject to the State of California Uniformed Building Code (UBC), which dictates standards on all current and future construction within Kings County.

### **Element C.2 Participation in the NFIP**

***§201.6(c)(3)(ii): [The hazard mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.***

The county has worked with FEMA in three broad areas of the NFIP such as actively working with FEMA to revise floodplain identification, working with local governments to manage development in the floodplain and as part of the Emergency Management and NFIP public education process and the encouragement of residents to purchase flood insurance. Kings County OEM has assisted in public education programs to encourage all residents of the basin area to purchase flood insurance under the NFIP program as part of their personal preparedness programs.

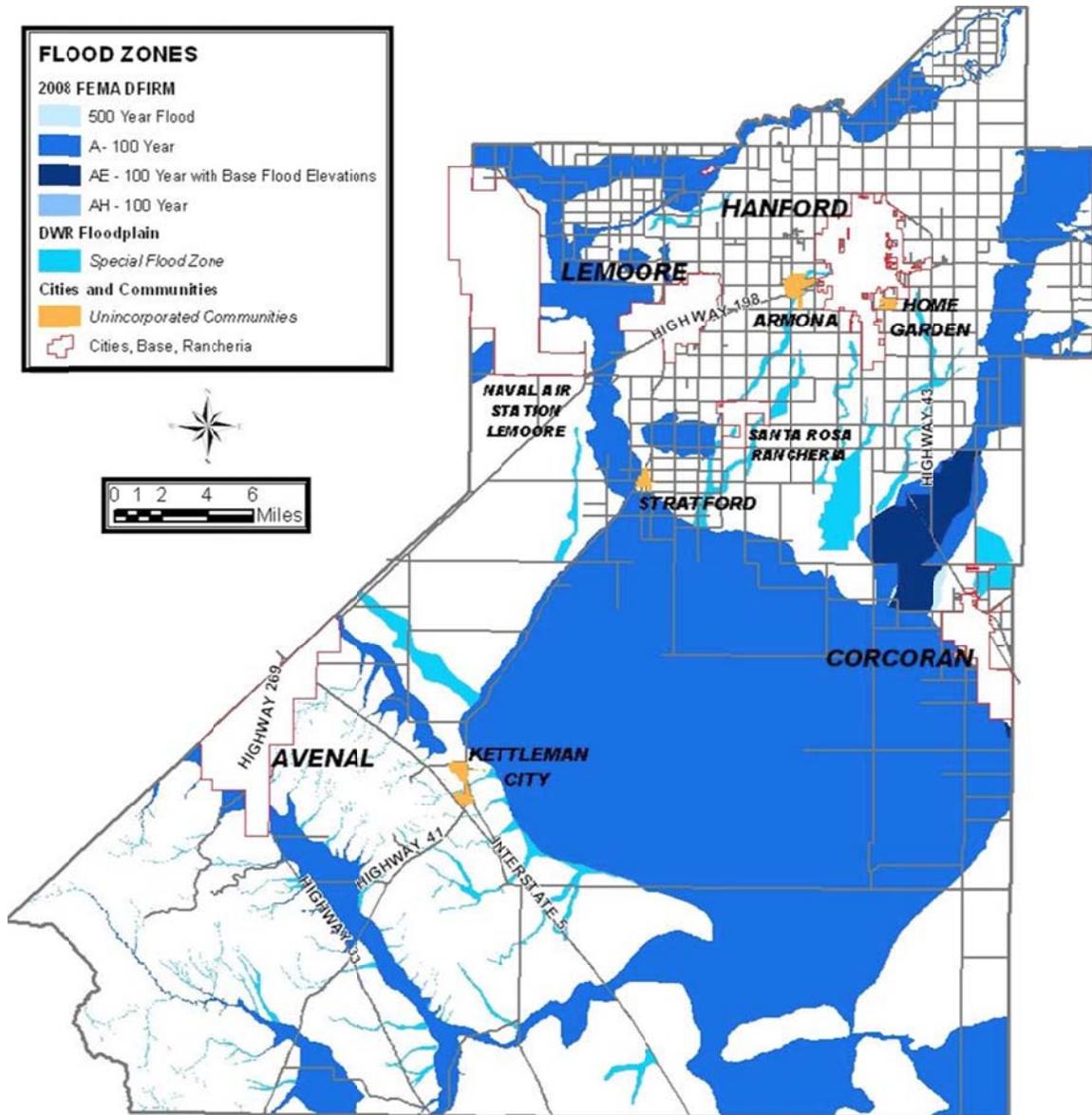
In 2009, FEMA completed their Digital Flood Insurance Rate Map (DFIRM) conversion and updated a number of flood zone areas using 2005 levee certification criteria. In 2007, the California Department of Water Resources completed their Awareness Floodplain Mapping of Kings County to identify all pertinent flood hazard areas that are not mapped under FEMA's program, which provides an additional resource for identifying special flood hazard areas within the County. The map on the following page displays flood zones based upon FEMA's DFIRM (2009) and California Department of Water Resources' Awareness Floodplain Map (2007). Kings County maintains a floodplain management program based on these maps, and implemented through the County's Flood Damage Prevention Ordinance (Chapter 5A of the Kings County Code of Ordinances). The purpose of this ordinance is to prevent development in FEMA designated flood prone areas, or to ensure that development in those areas can avoid or withstand flooding without increasing flood risk elsewhere.

Flood prevention and control in community districts and urban fringe areas are most effectively deterred by structural means such as curbs, gutters and storm drainage systems. In more rural and less developed agriculture and open space areas, more passive measures are relied upon such as high crowns on roadway pavement to divert floodwaters onto adjacent properties that are more suited to accommodate the diverted drainage.

**Community Participation in the NFIP in Kings County**

<b>Jurisdiction</b>	<b>Date Joined</b>	<b>Current Effective Map Date</b>
Avenal	04/05/1989	06/16/2009
Corcoran	11/28/1997	Adopted Kings County FIRM 06/16/2009
Hanford	03/18/1987	Adopted Kings County FIRM 06/16/2009
Lemoore	04/03/1987	Adopted Kings County FIRM 06/16/2009
Kings County	08/04/1988	06/16/2009

Source: NFIP Community Status Book, 2012



**FEMA’s DFIRM (2009) and California DWR’s Awareness Floodplain Maps (2007)**

Kings County together with the Cities of Avenal, Corcoran, Hanford and Lemoore will continue to comply with the NFIP requirements and maintain current adopted and enforced floodplain management standards. The jurisdictions will continue regulation of new construction in special flood hazard areas. This has been accomplished through the planning and permit process and the refining of floodplain mapping with FEMA. This partnership with FEMA has resulted in better identification of floodplain areas and floodplain management activities.

### Element C.3 Mitigation Goals

**§201.6(c)(3)(i) [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.**

The Planning Team developed goals and objectives to provide direction for reducing hazard-related losses in Kings County. These were based upon the results of the risk assessment and a review of community goals from other state and local plans. The Planning Team reviewed goals from the following plans to ensure their mitigation strategy was integrated with existing plans and policies:

- State of California Multi-Hazard Mitigation Plan, 2010
- California Fire Plan, 2010
- Fresno-Kings Unit County Pre-Fire Management Plan, 2005
- Kings County Emergency Operations Plan, 2008
- Kings County General Plan, 2010

Through a brainstorming process at their third meeting, the Planning Team identified a variety of possible goals and then came to a consensus on three main sets of goals and objectives. Following the development of goals, the Planning Team identified specific objectives to achieve each goal. Goals and objectives are listed below, but are not prioritized:

**Goal 1 Reduce impacts of natural hazards to life, property, and the environment**

- Promote education and awareness about natural hazards risk, mitigation, and preparedness to citizens, public agencies, elected officials, non-profit organizations, and businesses
- Ensure protection and enhancement of key emergency access routes
- Protect critical facilities and infrastructure to minimize loss of critical services
- Minimize growth and development in hazard areas
- Improve enforcement of existing standards and regulations

**Goal 2 Minimize impacts of natural disasters to agriculture and the economies of communities**

- Encourage water conservation measures among urban, rural, and agricultural users
- Increase water storage to mitigate flooding and drought
- Develop plans for post-disaster recovery
- Strengthen disaster resistance and resiliency of major employers

**Goal 3 Implement identified mitigation activities**

- Promote hazard mitigation as integrated policy among communities in the county and with the region and state

- Increase communication regarding mitigation among communities in the county.
- Seek funding sources and partners for future mitigation activities
- Improve organizational capabilities to address health and safety issues in mitigation and response

### **Element C.4 Mitigation Actions and Projects**

***§201.6(c)(3)(ii): [The hazard mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.***

***§201.6(c)(3)(iv): For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.***

The Planning Team developed 26 mitigation actions, which are listed below. At their meeting, the Planning Team came to consensus on the person and department responsible for completing a mitigation action worksheet for the county/participating jurisdictions for each identified mitigation action. The worksheet includes information on the background issues, possible alternatives, responsible office, cost estimate, benefits, potential funding, and ideas for implementation for each action.

Full descriptions of each mitigation action for this 2012 LHMP are provided in each jurisdictional annex and a summary is provided on the following page.

**Summary of 2012 Mitigation Actions**

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Tachi Yokut Tribe	Status
Housing Rehabilitation Program	1,2	Earthquake		X					Cont'd
Emergency Power System	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire		X				X	New
Vulnerability of Water Distribution System	1,2	Earthquake		X					Cont'd
Loss Reduction Program for URM Buildings	1	Earthquake		X					Cont'd
Veterans' Memorial Building	1	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire			X				Cont'd
Impact of the High Speed Rail Project	1,2,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X		X	X	X		New
Emergency Power System for shelter site	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire			X			X	New
New Public Safety Building	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire			X				New
Public Education Program	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze,	X			X	X		Cont'd

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Tachi Yokut Tribe	Status
		Wildfire							
Emergency Power Switching System for Primary Care Clinics	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						New
Hospitals HVAC	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						New
Water Recharge Basin Partnership Program	1,2,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						Revised
Community Alert and Warning	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						New
Transportable Shelter Caches for Displaced Populations	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						New
New County EOC Assessment	1,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						New
Inter-jurisdictional GIS Program	1,2,3	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						Revised
Kings County Area Disaster Council	3	Drought, EQ,	X						Cont'd

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Tachi Yokut Tribe	Status
		Extreme Heat, Flood, Fog, Freeze, Wildfire							
Livestock Disposal Plan	1,2	Extreme Heat	X						Cont'd
Disaster Evacuation Routes	1,2	Drought, EQ, Extreme Heat, Flood, Fog, Freeze, Wildfire	X						Cont'd
Traffic Safety Fog Events	1	Fog	X						Cont'd

### **Element C.5 Mitigation Strategy Action Plan**

***§201.6(c)(3)(iii) [The hazard mitigation strategy shall include an] action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs. §201.6(c)(3)(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.***

The Planning Team analyzed a list of potential structural and nonstructural mitigation alternatives identified based upon the risk assessment, existing capabilities, and identified goals and objectives. Each committee member was provided with the STAPLEE prioritization criteria recommended by FEMA. STAPLEE stands for: social, technical, administrative, political, legal, economic, and environmental, which are the factors that should be considered when assessing mitigation measures. Through a collaborative group process, the Planning Team used STAPLEE to identify the specific mitigation actions from among the alternatives that are most likely to be implemented and effective.

This process of identification and analysis of mitigation alternatives allowed the Planning Team to come to consensus and to prioritize recommended mitigation actions. The Disaster Mitigation Act regulations state that benefit-cost review is the primary method by which mitigation projects should be prioritized. In the state ranking, benefit cost review is one of ten criteria, and although the overall priority of the criteria is not stated, benefit-cost review is listed last. Recognizing the federal regulatory requirement to prioritize by benefit-cost and the need for any publicly funded project to be cost-effective, the Planning Team decided to pursue implementation according to when and where damages occur, available funding, political will, jurisdictional priority, and priorities identified in the California State Hazard Mitigation Plan. Cost effectiveness will be considered in additional detail when seeking FEMA mitigation grant funding for eligible projects identified in this plan.

### **Element C.6 Project Implementation**

***§201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements, when appropriate.***

The Kings County Office of Emergency Management will be the central coordination point for maintaining this plan and will serve as a lead staff for grant project applications on the countywide projects selected for application under the PDM grant program. Additionally, each jurisdiction applying for grant funds on their own will serve as lead staff for project implementation with assistance from the county and participating Planning Team members as requested.

An important implementation mechanism that is highly effective and low-cost is incorporation of the hazard mitigation plan recommendations and their underlying principles into other county and city plans and mechanisms. Where possible, plan participants will use existing plans and/or programs to implement hazard mitigation actions. Mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and development. As described in this plan's

capability assessment, the County and participating jurisdictions (Avenal, Corcoran, Hanford and Lemoore) already implement policies and programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through these other program mechanisms. These existing mechanisms include:

- County and Cities (Avenal, Corcoran, Hanford and Lemoore) General and Master plans
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) Emergency Operations plans
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) ordinances
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) Flood/storm water management/master plans
- Community Wildfire Protection plans
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) Capital improvement plans and budgets
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) Other plans and policies outlined in the capability assessments in the jurisdictional annexes
- County and Cities (Avenal, Corcoran, Hanford and Lemoore) Other plans, regulations, and practices with a mitigation focus

Planning Team members involved in these other planning mechanisms will be responsible for integrating the findings and recommendations of this plan with these other plans, programs, etc., as appropriate. Implementation and incorporation into existing planning mechanisms will be done through the routine actions of the following process:

- Monitoring other County and City (Avenal, Corcoran, Hanford and Lemoore) planning/program agendas
- Attending other County and City (Avenal, Corcoran, Hanford and Lemoore) planning/program meetings
- Participating in other County and City (Avenal, Corcoran, Hanford and Lemoore) planning processes
- Monitoring County and City (Avenal, Corcoran, Hanford and Lemoore) budget meetings for other community program opportunities
- County and City (Avenal, Corcoran, Hanford and Lemoore) annual Hazard Mitigation Plan update meeting

The successful implementation of this mitigation strategy will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. A few examples of incorporation of the Local Hazard Mitigation Plan into existing planning mechanisms include:

- As recommended by Assembly Bill 2140, the County and Cities (Avenal, Corcoran, Hanford and Lemoore) should adopt (by reference or incorporation) this LHMP into the Safety Element of their General Plans. Evidence of adoption (by formal, certified resolution) shall be provided to Cal EMA and FEMA. The following

jurisdictions used the approved 2007 LHMP and integrated it into their General Plans:

- Kings County
- City of Corcoran

The Cities of Avenal, Hanford and Lemoore did not integrate the 2007 LHMP into their General Plans due to staffing constraints and lack of understanding of the integration effort and continuity in the plan update process.

Following the formal approval of this 2012 LHMP the Kings County Office of Emergency Management will work with the Cities of Avenal, Hanford and Lemoore to integrate the elements of this plan into each of the Cities General Plans through formal integration such as a resolution and/or through the General Plan update process for each of the Cities.

- Using the risk assessment information to update the hazards section in the County and City (Avenal, Corcoran, Hanford and Lemoore) 2008 Emergency Operations Plans, the 2007 LHMP planning process occurred around the same timeframe as the Emergency Operations Plan Development for the County and the Cities of Avenal, Corcoran, Hanford and Lemoore. The risk assessment information was used as part of the Hazards Section of the 2008 Emergency Operations Plans and each plan calls out the use of the LHMP specifically. These 2008 Emergency Operations Plans are currently being updated and will use this 2012 LHMP as a foundation for the revised Hazards Section in the 2015 Emergency Operations Plans for the following jurisdictions:
  - Kings County
  - City of Avenal
  - City of Corcoran
  - City of Hanford
  - City of Lemoore

Efforts will continuously be made to monitor the progress of mitigation actions implemented through these other planning mechanisms and where appropriate, their priority actions should be incorporated into updates of this hazard mitigation plan.

## **Element D: Plan Review, Evaluation and Implementation**

***§201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.***

### **Element D.1 Changes in Development**

***§201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.***

This plan has been revised to reflect changes in development within Kings County. Kings County is a moderate to high growth county. Projected developments for the planning period are less than 1000 new housing units and fewer new businesses within the next five years. Historically over the last three censuses the population has been plus 2% of the baseline figure quotes in this plan. There are several development projects planned for the County and participating jurisdictions such as the High Speed Rail Project and expansion of housing projects throughout the county.

### **Element D.2 Progress in Local Mitigation Efforts**

***§201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.***

This plan has been created as a living document with input from the population and professionals within Kings County. The 2007 LHMP has already proven useful in the revision of the Health and Safety Element of the 2010 General Plan.

The tables on the following pages provide a snapshot of the progress made in local mitigation efforts. Detailed descriptions and the summaries of the status of the mitigation actions from the 2007 plan are located in the jurisdictional annexes attached to this document. Each mitigation action in the 2007 planning effort describes whether the action was completed or not and why, whether the action was no longer relevant or if the action is included as part of the 2012 planning effort.

**Summary and Status of 2007 Mitigation Actions**

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Status
<b>Long-Term Water Supply</b> Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development.	1,2,3	Multi	X				X	Overtaken by Events, dropped
<b>Inter-Jurisdictional GIS Program</b> Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development.	1,2,3	Multi	X				X	Completed and ongoing
<b>Assessment of Critical Infrastructure</b> Assess vulnerability of critical infrastructure and lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.	1,2	Multi	X	X	X	X	X	Completed
<b>Kings County Area Disaster Council</b> Review and update items related to the Kings County Area Disaster Council in the Kings County Emergency Services Ordinance to improve countywide coordination and the monitoring and implementation of the mitigation plan.	3	Multi	X	X	X	X	X	Partially Completed and carried over to 2012 actions
<b>Public Education Program</b> Develop and implement a comprehensive strategy to improve ongoing public education regarding natural hazards and risk.	1,3	Multi	X	X	X	X	X	Partially Completed and carried over to 2012 actions
<b>Vulnerable Populations</b> Develop a program or system for supporting vulnerable populations during emergency events.	1,3	Multi	X	X	X	X	X	Completed
<b>Plans for Special Needs Students</b> Develop a plan for supporting medically fragile and special needs	1	Multi	X					Dropped, overcome by events

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Status
students at each school site during emergency events.								
<b>Natural Hazards Review Criteria</b> Implement natural hazards review criteria for new development to improve long-term loss prevention.	1,2,3	Multi	X	X	X	X	X	Completed
<b>Livestock Disposal Plan</b> Establish a livestock disposal plan and compost team to address livestock fatality during extreme heat events.	1,2	Extreme Heat	X					Partially Completed and carried over to 2012 actions
<b>Safety Element of General Plan</b> Integrate the hazard mitigation plan with the Safety Element of the Kings County General Plan.	3	Multi	X	X	X	X	X	Partially Completed and carried over to 2012 actions for the cities
<b>Adoption of DFIRMs</b> Update flood damage prevention ordinance to include new FEMA digital flood insurance rate maps (DFIRMs).	1,3	Flood	X	X	X	X	X	Completed
<b>Disaster Evacuation Routes</b> Ensure the maintenance and enhancement of established disaster evacuation routes.	1,2	Multi	X					Not completed carry over to 2012 actions
<b>Traffic Safety for Fog Events</b> Improve lighting and traffic controls at critical intersections and roadways to improve safety during fog events.	1	Fog	X					Not Completed, reevaluated and carry over to 2012 actions
<b>Updated Building Code</b> Adopt the 2006 International Building Code	1,2,3	Multi	X	X	X	X	X	Completed
<b>Earthquake Hazards at Schools</b> Develop a plan for training school	1	Earthquake	X					Dropped, overcome by

Mitigation Action	Links to Goals	Hazards Addressed	Kings County	Avenal	Corcoran	Hanford	Lemoore	Status
maintenance crews to identify and address nonstructural hazards in schools to mitigate earthquake risk.								events
<b>Housing Rehabilitation Program</b> Continue and enhance housing rehabilitation program.	1,2	Earthquake		X				Not completed carry over to 2012 actions
<b>Vulnerability of Water Distribution System</b> Reduce vulnerability of water distribution system	1,2	Earthquake		X				Not completed carry over to 2012 actions
<b>Loss Reduction Program for URM Buildings</b> Establish a loss reduction program for unreinforced masonry (URM) buildings in compliance with the California URM Law of 1986.	1	Earthquake		X				Not completed carry over to 2012 actions
<b>Veterans' Memorial Building</b> Expand the Veterans' Memorial Building and designate it as an emergency shelter	1	Extreme Heat, Multi			X			Not completed carry over to 2012 actions
<b>Retrofits of Water Storage Tanks</b> Complete seismic retrofits of two of city's water storage tanks.	1,2	Earthquake			X			Not completed carry over to 2012 actions
<b>GIS Database of URMs</b> Develop GIS database of unreinforced masonry (URM) buildings.	1,2	Earthquake			X			Not completed carry over to 2012 actions
<b>Retrofit URM Buildings in Downtown</b> Retrofit 58 unreinforced masonry (URMs) buildings in downtown Hanford	1,2	Earthquake			X			Not completed carry over to 2012 actions

### **Element D.3 Changes in Priorities**

***§201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.***

The overall priorities in Kings County and the participating jurisdictions in this plan update have changed since the 2007 Mitigation Plan. Several actions were completed and new projects were added to coincide with the changes in priorities, progress in local mitigation efforts and changes in development.

Politically the county has maintained its financially conservative nature in expending available funds and its overall desire to stay true to itself in remaining focused on agricultural preservation. With the lack of disasters and the decline of available funding, the mitigation strategies needed to be revised to fit the overall county priorities and be developed so that most could be started or accomplished for this next 5-year plan cycle.

## **Element E: Plan Adoption**

**Requirement §201.6(c)(5): [The plan shall include...] Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County commissioner, Tribal Council).**

### **Element E.1 Formal Adoption Documentation**

**Requirement §201.6(c)(5): [The plan shall include...] Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County commissioner, Tribal Council).**

Kings County and the cities plan to submit this plan to the Kings County BOS and their respective City Councils upon successful completion of state and federal review. Kings County wishes to receive approval pending adoption in order to minimize cost to the county. The plan will be submitted to the Board as a regularly scheduled agenda item with room for additional public and departmental comment. Our approach to this final element is due to the need to remain cost effective in the planning process. By receiving state and federal approval of the plan prior to going to the board, we are able to go to the board on a single date to finalize promulgation of this document. The plan will be in its final format, notification of the public will only have to be done once and copies of the resolution adopting this plan, the relevant section of the minutes of the BOS meeting and roster of attendees of this meeting will be included in appendix B of this plan. The resolution will be inserted before the table of contents. As part of the agenda report the basic requirements for the plan, the scope of the document and the need to revise every five years will be clearly stated. The Kings County OEM staff will be prepared to give an overview of the plan and be prepared to answer any questions related to the document development process and its contents.

### **Element E.2 Kings County Operational Area Hazard Mitigation Plan**

This plan is for Kings County and its incorporated cities including Avenal, Corcoran, Hanford and Lemoore. Therefore there are five (5) required resolutions from the Kings County Board of Supervisors (1) and the City Councils (4).

## **References**

State of California Hazard Mitigation Plan (2010)

Kings County Local Hazard Mitigation Plan (2007)

Kings County 2035 General Plan (2010)

Kings County 2035 General Plan, Health and Safety Element (2010)

Kings County Emergency Operations Plan (2008)

Kings County Flood Management Ordinance Part 32

Kings County Kings County Code of Ordinances, Chapter 5A

Kings County website

Kings County Economic Development Corporation Reports (2010, 2011, and 2012)

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City-Data.com

National Flood Insurance Program, Community Status Book, 2012

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Federal Emergency Management Agency, Local Mitigation Plan Review Guide, 2011

Multi-Hazard Mitigation Planning Guidance under the Disaster Mitigation Act of 2000

Federal Emergency Management Agency, How To Guide #1, Getting Starting: Building Support for Mitigation Planning

Federal Emergency Management Agency, How-To Guide #2, Understanding Your Risks: Identifying Hazards and Estimating Losses

Federal Emergency Management Agency, How-To Guide #3, Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies

Federal Emergency Management Agency, How-To Guide #4, Bringing the Plan To Life:  
Implementing the Hazard Mitigation Plan

Federal Emergency Management Agency, How-To Guide #5, Using Benefit-Cost Review in  
Mitigation Planning

Federal Emergency Management Agency, How-To Guide #6, Integrating Historic Property  
and Cultural Resource Considerations into Hazard Mitigation Planning

Federal Emergency Management Agency, How-To Guide #7, Integrating Manmade Hazards  
into Mitigation Planning

Federal Emergency Management Agency, How-To Guide #8, Multi-Jurisdictional Mitigation  
Planning

Federal Emergency Management Agency, How-To Guide #9, Using the Hazard Mitigation  
Plan to Prepare Successful Mitigation Projects

California Emergency Management Agency, Disaster Recovery and Mitigation Handbook

California Emergency Management Agency, Tools for Preparing your LHMP, 2012

Robert T. Stafford Disaster Relief and Energy Assistance Act, Section 322

2010 U. S. Census

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Governor, 2009

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National Weather Service website

Spatial Hazards Events and Losses Database of the United States website

California Department of Forestry and Fire Protection website

National Register of Historic Places

Fresno-Kings Unit Pre-Fire Management Plan, 2005

California Fire Plan, 2010

Nation Climate Data Center website

## Planning Process Documentation



**KINGS COUNTY FIRE DEPARTMENT  
and  
OFFICE OF EMERGENCY MANAGEMENT**

280 North Campus Drive • Hanford, California 93230  
Phone: 559-852-2881 • Fax: 559-582-8261



February 6, 2012

Re: Multi-jurisdictional Hazard Mitigation Plan Update and Revision Project

The Kings County Operational Area is in the process of updating its Local Hazard Mitigation Plan. The project will result in the preparation and update of a Federally required countywide Multi-jurisdictional Hazard Mitigation Plan. The Disaster Mitigation Act of 2000 requires all local governments to address risks and measures that can be taken in advance to reduce future losses from natural and other related hazards. A Planning Committee will be formed to support this project. In addition to the communities and the tribe, the Planning Committee will include representatives of special districts and other county, state and federal agencies in or that serve Kings County.

The approved mitigation plan will assure that Kings County maintains its eligibility for Federal Pre-Disaster Mitigation (PDM) and Post-Disaster Hazard mitigation Grant Programs (HMGP) and Flood Management Assistance (FMA) grants. The approved plan may also help reduce flood insurance premiums currently paid by county residents and encourage greater participation in the National Flood Insurance Program (NFIP) by those exposed to this risk.

The County has retained Howell Consulting of Sacramento, California to manage the requirements and processes involved in competing this project. The firm has experience in multiple areas of emergency management and with this project area. Howell Consulting has established a team that will work with us throughout this project. The Howell Consulting team will provide "kickoff" briefing for this project and the project requirements on **Thursday, March 23, 2012 at 9:00 am**, in at the, Health Annex Auditorium, Kings County Health Department, 330 Campus Drive.

If not already done so, please send a project point of contact to myself and to RSVP for this briefing via email at [tmaletta@co.kings.ca.us](mailto:tmaletta@co.kings.ca.us)

Thank you again for your attention and response to this project. I look forward to your support during the coming months.

Sincerely,

A handwritten signature in cursive script that reads "Trudy Maletta".

Trudy Maletta  
Emergency Services Manager

COMMUNITY PARTNERS WITH AND SERVING THE CITIES OF AVENAL, AND CORCORAN, ALL UNINCORPORATED AREAS INCLUDING THE COMMUNITIES OF ARMONA, BURRIS PARK, GUERNSEY, HARDWICK, ISLAND, KETTLEMAN CITY, KIT CARSON, SANTA ROSA RANCHERIA, SOUTH LEMOORE AND STRATFORD

WILLIAM LYNCH – CHIEF

Joe Neves, Board of Supervisors, Emergency Management Director

Tuesday, March 6, 2012 11:14:22 AM Pacific Standard Time

**Subject:** Local Hazard Mitigation Planning Team Kickoff meeting REMINDER

**Date:** Tuesday, March 6, 2012 11:13:56 AM Pacific Standard Time

**From:** Brenna Howell

**To:** frank.castellanoz@corcoranpd.com, Greg.Gatzka@co.kings.ca.us, jamoroso@cityofavenal.com, kseligman@krcd.org, Bill.Lynch@co.kings.ca.us, mgragnani@westlands.org, Joe.Neves@co.kings.ca.us, Tim.Niswander@co.kings.ca.us, paul.calkins@calema.ca.gov, Reuben.Shortnacy@CorcoranPD.com, rainer.streib@navy.mil, Tieronimo@ci.hanford.ca.us, pat.mundy@lemoorepd.com, wbricker@jgboswell.com, Sabrina.Bustamante@co.kings.ca.us, atorres@tachipalace.com, gary.cramer@corcoranpd.com, dbello@jgboswell.com, jcuara@tachi-yokut.com, njeff@tachi-yokut.com, mike.virden@co.kings.ca.us, Angie Sorrentino, Maletta, Trudy

Good Morning All,

I hope this email finds you well...this is a friendly REMINDER of our upcoming Local Hazard Mitigation Planning Team Kickoff meeting on **Thursday, March 22nd at 0900**. The meeting will be held in the Kings County Health Department Annex Auditorium. The agenda is attached. As we get closer to the meeting date, I will send a copy of the presentation to the group.

At this point, some of you have replied that you would not be able to attend the meeting, so those that are planning to attend please RSVP to this email.

Thanks, looking forward to seeing you all in a few weeks!

Brenna and Team

Brenna Howell, Owner  
Howell Consulting  
916.202.2635  
brenna@brennahowell.com  
www.brennahowell.com



Page 1 of 1



## **Kings County Multi-Hazard Mitigation Plan Kickoff Meeting**

Kings County Health Department  
Health Annex Auditorium  
330 Campus Drive  
Hanford, CA

March 22, 2012  
9:00 am – 11:00 am

### **Agenda**

1. Introductions
2. Local Hazard Mitigation Plan Purpose, Update and Requirements
3. Multi-Jurisdictional Participation and the Planning Committee
4. Break
5. Hazard Identification and Data Collection Needs
6. Planning for Public Involvement
7. Next Steps



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County Adopted Budget 2011-2012

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Photography by Stephanie Burrage

**Kings County Government Center**

(559) 582-3211  
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**Kings County Multi-Hazard Mitigation Plan  
Kickoff Meeting Notes  
March 22, 2012**

Emergency Services Manager Trudy Maletta kicked off the meeting with a brief introduction on the overall project scope and purpose. She discussed the timelines for project completion and commitment of the Planning Team during the planning process. She then introduced the group to Howell Consulting, the firm selected to facilitate the LHMP process for Kings County. Brenna Howell and Neal O'Hair introduced themselves and Brenna talked about the project scope and timelines.

Brenna and Neal provided a presentation to the Planning Team members that covered the following:

- Local Hazard Mitigation Plan Purpose, Update and Requirements
- Multi-Jurisdictional Participation and the Planning Committee
- Hazard Identification and Data Collection Needs
- Planning for Public Involvement

Next Steps - the Planning Team will work with the consultants to set up the public workshops announcing the LHMP process, purpose of the planning process. The workshops will cover the hazards in Kings County will also briefly talk about personal preparedness in addition to take questions/comments from the public. These workshops will likely occur in May during the week of May 14<sup>th</sup>.

**Kings County Office of Emergency Management  
Local Hazard Mitigation Plan Update  
Public Meetings Notice**



**Your Input is Needed!**

Kings County is in the process of updating its Local Hazard Mitigation Plan. The plan will assess the likelihood of various natural hazards such as flooding, fires, earthquakes, severe weather and more. A critical component of the planning process is **YOU**.

We are seeking the participation of people living in the community to help us assess the likelihood of natural hazards and to identify measures to minimize impacts.

Nationwide, taxpayers pay billions of dollars annually helping communities, organizations, businesses, and individuals recover from disaster. Some natural disasters are predictable, and in many cases much of the damage can be reduced or even eliminated. The Federal Emergency Management Agency (FEMA) has targeted natural disaster loss reduction as one of its primary goals. The federal Disaster Mitigation Act of 2000 requires local governments to maintain a FEMA-approved Hazard Mitigation Plan in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

Each participating jurisdiction in Kings County will have its own section within the overall Kings County Plan. Your comments and ideas are invited to attend one of the upcoming public meetings on:

**Monday, May 14, 2012**

Hanford City Training Room  
317 N. Douty Street  
Hanford, CA 93230  
**6:00 pm**

**Tuesday, May 15, 2012**

Corcoran Council Chambers  
832 Whitley Avenue  
Corcoran, CA 93212  
**6:00 pm**

**Wednesday, May 16, 2012**

Avenal Veteran's Hall  
108 W. Kings St  
Avenal, CA 93204  
**6:00 pm**

The overall purpose of these meetings are to inform the public on the purpose and planning process for the local hazard mitigation plan development, present the types of hazards in or possibly affecting Kings County, and seek input from the public on priorities for risk reduction.

If you are unable to attend one of the above meetings, we have also developed a public survey that is located on the [www.countyofkings.com](http://www.countyofkings.com) website to gain your important input into this planning process.

If you have any questions or would like to leave a comment please email us at [kingscounty.oem@countyofkings.com](mailto:kingscounty.oem@countyofkings.com) or call the Office of Emergency Management at (559) 852-2881.

## Local Hazard Mitigation Plan update public meetings

### Your Input is Needed!

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or would like to leave a comment email us at [kingscounty.oem@countyofkings.com](mailto:kingscounty.oem@countyofkings.com) or call the Office of Emergency Management at (559) 852-2881.

## AHS recipients awarded at Young Writers Conference

Students of Ms. Stephanie Huebschle's Creative Writing class at Avenal High School attended the 32nd annual Young Writers Conference at Fresno State University on March 28. Ms. Huebschle's class was among the 300 students in attendance that hailed from 20 schools around the central valley. Students were treated with a speech and reading from acclaimed poet and novelist Liza Wollard participated in workshops in poetry and non fiction writing and a

top few were awarded cash prizes for their submissions.

Amy Rodriguez was among the winners, taking home the Fresno Poets Association award for her poem, Apocalypse. Stephanie Huebschle was also awarded for starting a successful creative writing program at AHS and exhibiting excellence in teaching. Congratulations to Amy and Ms. Huebschle, as well as all of the AHS students who submitted their work at the Young Writers Conference.

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Line

### RAP Upcoming Activities

<b>Youth Soccer Development Program</b> <b>Early Registration (through June 1st): \$25</b> <b>Registration (June 2nd-June 9th): \$35</b> <b>Last day to register is</b>	<b>Youth Dance Clases</b> <b>June 11, - Aug. 1</b> <b>\$30 per participant</b> <b>Creative Dance:</b> Ages 4-7 <b>Jazz:</b> Ages 8-12 Space is limited, sign	<b>Free Soccer Clinic</b> <b>June 9, 2012 at the Avenal Sports Complex</b> Ages 5-13 
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Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Public Meeting - Hanford/Lemoore  
May 14, 2012; 6:00 pm

	NAME	AGENCY/FUNCTION	PHONE <sub>(cell, pager, home)</sub>	EMAIL
1	Edwin Vanderbeek	ARES / RESCES Kings County Radio Club	559-816-3347	edwin.vanderbeek@smk.com
2	GREG HENRY	PUBLIC SAFETY COORDINATOR	559-584-0112	henryg@pvcsd.kiz.ca.us
3	TRUDY MALETTA	KINGS Co. OEM		
4	Tim Jeronimo	HANFORD Fire Dept	559-585-2545	

Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Public Meeting - Corcoran  
May 15, 2012; 6:00 pm

	NAME	AGENCY/FUNCTION	PHONE <sub>(cell, pager, home)</sub>	EMAIL
1	GARY CRAMER	CORCORAN P.D. / DEP. CHIEF	559-469-1279	GARY.CRAMEE@CORCORANPD.COM
2	NICK NOCAN	COH	559-992-5051	nnolan@corcoranhospital.org

Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Public Meeting - Avenal  
May 16, 2012; 6:00 pm

	NAME	AGENCY/FUNCTION	PHONE <sub>(cell, pager, home)</sub>	EMAIL
1	JOHN R. "JACK" AMOROSO	AVENAL POLICE DEPT	559-467-6154	JAMOROSO@CITTOFAVENAL.COM

Public Meeting Sign in Sheets



### **Kings County LHMP Survey Explanation**

Kings County and its respective municipalities are working together to prepare a Local Hazard Mitigation Plan. The purpose of this plan is to identify and assess our community's disaster risks and determine how to best minimize or mitigate against those risks.

This quick survey provides an opportunity for you to share your opinions and participate in the planning process. The information you provide will help us better understand your hazard concerns and identify area policies and projects that may help lessen the impact of future events.

The survey should take less than five minutes to complete. The Kings County Local Hazard Mitigation Planning Team thanks you for taking the time to participate in our survey.

*placed on county website  
w/ survey monkey link.*

Kings County Hazard Mitigation Plan Survey

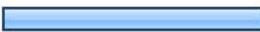
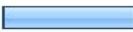


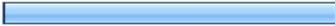
1. Do you own property in Kings County?			
		Response Percent	Response Count
Yes		83.3%	10
No		16.7%	2
Other (please specify)		0.0%	0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

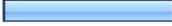
2. Where do you live in Kings County?			
		Response Percent	Response Count
Armona		0.0%	0
Avenal		8.3%	1
Corcoran		0.0%	0
<b>Hanford</b>		<b>50.0%</b>	<b>6</b>
Lemorre		25.0%	3
Kettleman City		0.0%	0
Stratford		0.0%	0
Other (please specify)		16.7%	2
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

3. Are you a full-time or part-time resident? If part-time please explain.			
		Response Percent	Response Count
Full-time		91.7%	11
Part-time		0.0%	0
Other (please specify)		8.3%	1
answered question			12
skipped question			0

4. Do you work in Kings County?			
		Response Percent	Response Count
Yes		91.7%	11
No		8.3%	1
answered question			12
skipped question			0

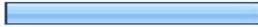
5. Which of the following hazards have you or your family experienced in Kings County in the last 20 years? (Check all that apply)			
		Response Percent	Response Count
Dam/Levee Failure		0.0%	0
Drought		58.3%	7
Earthquake		50.0%	6
Erosion		0.0%	0
Flood		25.0%	3
Land/Rockslide		0.0%	0
Severe Weather (extreme heat, freeze, high winds, etc.)		75.0%	9
Wildland/Urban Area Fire		25.0%	3
None		25.0%	3
Other (please specify)		8.3%	1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

6. How prepared is your household for a natural hazard event?			
		Response Percent	Response Count
Not at all prepared		8.3%	1
<b>Somewhat prepared</b>		<b>66.7%</b>	<b>8</b>
Adequately prepared		8.3%	1
Well prepared		8.3%	1
Very well prepared		8.3%	1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

7. How concerned are you about the possibility of your community being impacted by a natural hazard event?			
		Response Percent	Response Count
Not concerned		0.0%	0
<b>Somewhat concerned</b>		<b>66.7%</b>	<b>8</b>
Extremely concerned		33.3%	4
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

8. What steps has your household taken to prepare for a natural hazard event? (Check all that apply)			
		Response Percent	Response Count
(First Aid/CPR		83.3%	10
Home/Business evacuation plan		50.0%	6
Designated meeting place		41.7%	5
Identification of utility shutoffs		58.3%	7
Disaster Preparedness Kits		8.3%	1
<b>Installed smoke/carbon monoxide detectors</b>		<b>91.7%</b>	<b>11</b>
Debris clearance around home for defensible space		16.7%	2
Natural hazards insurance (fire, flood, earthquake)		33.3%	4
Fire extinguisher		66.7%	8
None		0.0%	0
Other (please specify)		0.0%	0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

<b>9. How concerned are you about the following natural hazards affecting Kings County? (Check a response for each hazard)</b>				
	<b>Not Concerned</b>	<b>Somewhat Concerned</b>	<b>Concerned</b>	<b>Response Count</b>
Dam/Levee Failure	45.5% (5)	<b>54.5% (6)</b>	0.0% (0)	11
Drought	0.0% (0)	18.2% (2)	<b>81.8% (9)</b>	11
Earthquake	0.0% (0)	<b>72.7% (8)</b>	27.3% (3)	11
Erosion	<b>72.7% (8)</b>	18.2% (2)	9.1% (1)	11
Flood	36.4% (4)	<b>54.5% (6)</b>	9.1% (1)	11
Land/Rockslide	<b>72.7% (8)</b>	27.3% (3)	0.0% (0)	11
Severe Weather	8.3% (1)	<b>50.0% (6)</b>	41.7% (5)	12
Wildland Fire	36.4% (4)	<b>45.5% (5)</b>	18.2% (2)	11
None	0.0% (0)	0.0% (0)	0.0% (0)	0
			Other (please specify)	0
			<b>answered question</b>	<b>12</b>
			<b>skipped question</b>	<b>0</b>

10. Which of the following methods do you feel are the most effective ways to provide hazard and disaster information in Kings County?			
		Response Percent	Response Count
Newspaper		8.3%	1
Informational Brochure		0.0%	0
Local Civic groups (Rotary Club, Lion's Club, etc.)		0.0%	0
Faith-based groups/organizations		0.0%	0
Community Bulletin Board		0.0%	0
Public workshop/meeting		0.0%	0
Public Library		0.0%	0
<b>Local TV News</b>		<b>50.0%</b>	<b>6</b>
Local Cable Access Channels		8.3%	1
Local Radio Stations		0.0%	0
Post Office		0.0%	0
Public Safety Offices (Fire, Law Enforcement)		25.0%	3
Schools		8.3%	1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

**11. Which of the following incentives would encourage you to spend money to retrofit your home to protect against natural disasters? (Check all that apply)**

		Response Percent	Response Count
Building permit fee waiver		50.0%	6
<b>Insurance premium discount</b>		<b>83.3%</b>	<b>10</b>
Property tax break or incentive		75.0%	9
None		8.3%	1
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

**12. Please indicate your age range:**

		Response Percent	Response Count
Under 18		0.0%	0
18 - 30		0.0%	0
31 - 40		16.7%	2
41 - 50		16.7%	2
51 - 60		25.0%	3
<b>61 - 70</b>		<b>41.7%</b>	<b>5</b>
71 - 80		0.0%	0
80 or older		0.0%	0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

13. Please indicate the primary languages spoken in your household:			
		Response Percent	Response Count
English		100.0%	12
Spanish		0.0%	0
Portuguese		0.0%	0
Asian or Pacific Island language		0.0%	0
Other (please specify)		0.0%	0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

14. Please indicate your gender:			
		Response Percent	Response Count
Male		66.7%	8
Female		33.3%	4
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

15. How long have you lived in Kings County?			
		Response Percent	Response Count
Less than 1 year		9.1%	1
1 - 5 years		18.2%	2
6 - 10 years		0.0%	0
11 - 20 years		18.2%	2
More than 20 years		54.5%	6
<b>answered question</b>			<b>11</b>
<b>skipped question</b>			<b>1</b>

16. Do you have regular access to the internet?			
		Response Percent	Response Count
Yes		100.0%	12
No		0.0%	0
<b>answered question</b>			<b>12</b>
<b>skipped question</b>			<b>0</b>

17. Are there any other issues regarding the reduction of risk and loss associated with natural hazards in your community that you think are important?		Response Count
		1
<b>answered question</b>		<b>1</b>
<b>skipped question</b>		<b>11</b>

<b>18. Are there any additional comments that you would like to address that were not contained in this survey?</b>	
	<b>Response Count</b>
	2
<b>answered question</b>	<b>2</b>
<b>skipped question</b>	<b>10</b>

## **Kings County Multi-Hazard Mitigation Plan Update Meeting**

Kings County  
Human Services Agency  
Building 8  
Hanford, CA

July 13, 2012  
1:30 pm – 3:30 pm

### **Agenda**

1. Introductions
2. Local Hazard Mitigation Development Update
3. Planning Team Vote on Natural Hazards
4. Public Meeting Results, More Public Outreach Opportunities
5. Hazard Identification and Data Collection Needs
6. Mitigation Strategies Review from 2007 Plan
7. Next Steps



**Kings County Multi-Hazard Mitigation Plan  
Meeting Notes  
July 13, 2012**

Brenna and Neal provided a presentation to the Planning Team members that covered the following:

- Local Hazard Mitigation Plan Development Update and Progress to date
- Public Meeting Results
- Public Participation Survey status to date
- Hazard Identification and Data Collection Needs

Brenna presented to the group the need to take a vote on including only natural hazards in the updated plan or including human caused and technological hazards facing Kings County and the cities. It was a unanimous vote by the planning team to only include natural hazards in the plan update.

The group also discussed the need to expand on the natural disasters facing Kings County. The planning team voted to expand on heavy winds on the west side as well as including dust storms from the heavy winds. Brenna and Neal will do some research on those hazards.

Next Steps – Brenna will work with the Fire Department to set up the next planning team meeting sometime in September. This meeting will focus specifically on past mitigation strategies noted in the 2007 plan and will develop and prioritize new strategies for the updated plan.

Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Planning Team Meeting  
Human Services Agency, Bldg 8  
July 13, 2012, 1:30 pm

	NAME	AGENCY/FUNCTION	PHONE (cell, pager, home)	EMAIL
1	Trudy Maletta <i>trud</i>	KINGS Co. OEM	559-852-2881	
2	Bill Lynch	KCFD	852-2880	
3	Mike Virden			
4	Janice Cuara			
5	<del>Nathan Jeff</del> Alex Torres	Tachi Palace Hotel & Casino	559-212-5636	atorres@tachi-palace.com
6	Tim Niswander	Kings Dept. of Ag	(559) 852-2830	Tim.niswander@co.kings.ca.us
7	Tim Ieronimo			
8	Greg Gatzka			
9	Chuck Kinney	KC CSD	852-2674	chuck.kinney@co.kings.ca.us
10	Jeremy Kinney	KC Planning	852-2673	jeremy.kinney@co.kings.ca.us

Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Planning Team Meeting  
Human Services Agency, Bldg 8  
July 13, 2012, 1:30 pm

11	Angie Sorrentino	teleconference call		
12	David Greer	Dalton		
13	orena threl	consultant		
14	JACK AMOROSO	AVENTAL PD		
15	Pat Mundy	Lemoore P.D.	Pat.Mundy@lemoorepd.com	
16	Joe Neves	KCBOS		
17	GARY CRAMER	CORCORAN P.D.	GARY.CRAMER@CORCORANPD.COM	
18				
19				



## **Kings County Multi-Hazard Mitigation Plan Update Meeting**

Kings County Fire Administration  
EOC  
September 27, 2012  
2:00 pm – 4:30 pm

### **Agenda**

1. Introductions
2. Information Collection Tool Results – Cites/County Report out on Findings

2. Mitigation Strategies

Review old strategies for each participating jurisdiction to determine if completed

Develop new strategies for each participating jurisdiction

Prioritize strategies for plan update

3. Planning for Public Involvement – Survey Results to Date

4. Next Steps

Kings County  
Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) Project  
Planning Team Meeting  
Kings County EOC

September 27, 2012, 2:00 pm

JACK AMOROSO AVENAL PD 559-386-4444

JAMOROSO@CITYOF

AVENAL, GARY

	NAME	AGENCY/FUNCTION	PHONE (cell, pager, home)	EMAIL
1	Brennan Howell	Howell Consulting	916 262-2635	
2	Paul Calkins	CAL EMA	559-445-5846	Paul.Calkins@calema.ca.gov
3	Neal O'Hara	Howell Consulting	707 277-0257	
4	Tim Niswander	Kings Ag Commissioner	559-852-2830	tim.niswander@co.kings.ca.us
5	Joe Neves	KC BOS		Joenv@Sti.net
6	Courtney Espinoza	KC Fire / OEM	(559) 852-4307	courtney.espinoza@co.kings.ca.us
7	Bill Lynch	KCFD	559-852-2880	Bill.Lynch@co.kings.ca.us
8	TRUDY MALETTA	KC OEM RET.		
9	DOUG NIELSEN	NRS LEMOORE	559-998-2454	douglas.nielson@navy.mil
10	David Greer	Pub Health	852 2523	David.greer@Co.Kings
	Alex Torres GARY CRAMER	Techi Palace Hotel & Casino CORCORAN PD.	<del>925</del> 559-212-5636 559-992-5751	atbires@techiplace.com GARY.CRAME@CORCORANPD.COM

Thursday, January 3, 2013 8:35:56 AM Pacific Standard Time

**Subject:** FW: Kings County Office of Emergency Management Press Release  
**Date:** Friday, December 21, 2012 10:44:41 AM Pacific Standard Time  
**From:** Espinoza, Courtney  
**To:** Lynch, Bill  
**CC:** Brenna Howell (brenna@brennahowell.com)  
**Priority:** High

FYI...Press Release went out.

*Courtney*

**KINGS COUNTY**  
**OFFICE OF EMERGENCY MANAGEMENT**

Emergency Services Coordinator

**Courtney Espinoza**

280 Campus Drive  
Hanford, CA 93230  
courtney.e.spinoza@co.kings.ca.us  
Direct (559) 852-2883 • Cell (559) 469-2843 • Fax (559) 582-8261  
WWW.COUNTYOFGINGOS.COM



**From:** Brasov, Angela  
**Sent:** Friday, December 21, 2012 10:32 AM  
**To:** ABC 30; B Anderson; CBS47; Corcoran Journal; Eddie Jimenez; Fresno Bee; Fresno Bee South Valley; Hanford Sentinel; Hanford Sentinel ; Hanford Sentinel eyamashita@hanfordsentinel.com; Jessica Peres; Jim Guy; jmtnews@yahoo.com; kathleen Coates; kftvnews@univision.net; KJUG 106.7 FM Z104.9 FM; KMJ Radio; KMPH News; KSEE 24 News; KZPO Kings Radio; Lew Griswold; lp; M Benjamin; mc; mm; Nancy Price; rcardenas@univision.net; Tim Jue; Valley PBS ; Visalia Times Delta  
**Cc:** Espinoza, Courtney  
**Subject:** Kings County Office of Emergency Management Press Release  
**Importance:** High

Good morning,

Attached is a Press Release from the Kings County Office of Emergency Management. Should you have any questions, please contact Courtney Espinoza at (559) 852-2883 or at [Courtney.Espinoza@co.kings.ca.us](mailto:Courtney.Espinoza@co.kings.ca.us). Thank you.

**KINGS COUNTY**  
**OFFICE OF EMERGENCY MANAGEMENT**

Emergency Services Coordinator

**Courtney Espinoza**

280 Campus Drive  
Hanford, CA 93230  
courtney.e.spinoza@co.kings.ca.us  
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**KINGS COUNTY  
OFFICE OF EMERGENCY MANAGEMENT**

280 North Campus Drive • Hanford, California 93230  
Phone: 559-852-2883 • Fax: 559-582-8261

**PRESS RELEASE**

To: Interested Parties

Regarding: Draft Kings County Multi-Hazard Mitigation Plan Available for Review

Kings County together with the cities of Avenal, Corcoran, Hanford, and Lemoore and the Tachi Yokut Tribe have worked to develop a draft of the Kings County Multi-Hazard Local Mitigation Plan to address potential natural hazards before they occur and to maintain eligibility for mitigation funding from the Federal Emergency Management Agency (FEMA).

The plan addresses a comprehensive list of natural hazards—ranging from earthquake and flooding to wildfire, extreme heat, and drought—and assesses the likely impacts of these hazards to communities in Kings County. It also sets goals and prioritizes projects to reduce the impacts of future disasters on people and property in the county.

We encourage you to please review and comment on this important plan, which must be approved by the Kings County Board of Supervisors, the governing bodies of each participating jurisdiction, the State of California, and FEMA. Your comments will be considered by the Hazard Mitigation Planning Team and incorporated into the plan, as appropriate, as well as documented as part of the planning process.

The draft plan is available for your review at the following locations:

- [www.countyofkings.com](http://www.countyofkings.com) under the LHMP update link
- Kings County Fire Department
- Kings County Administration
- Kings County Community Development
- Avenal City Manager's Office
- Corcoran City Manager's Office
- Hanford City Manager's Office
- Lemoore City Manager's Office
- All Kings County Public Libraries

The deadline for public comment on the draft plan is January 16, 2012. Comments may be submitted in one of the following ways:

Drop off or email your written comments to:

Kings County Office of Emergency Management  
Attn: Courtney Espinoza  
280 North Campus Drive  
Hanford, CA 93230  
Tel: (559) 852-2883  
Email: [Courtney.Espinoza@co.kings.ca.us](mailto:Courtney.Espinoza@co.kings.ca.us)

If you have questions on this planning project, please contact me at (559) 852-2883 or at [Courtney.Espinoza@co.kings.ca.us](mailto:Courtney.Espinoza@co.kings.ca.us). Thank you in advance for your input.

Sincerely,  
Courtney Espinoza, Emergency Services Coordinator  
Kings County Office of Emergency Management

**Kings County**  
County of Kings Official Website

Board of Supervisors   Human Resources   Sheriff   Assessor   Finance   Public Health   Contact

**Doing Business in the County**  
"To provide quality public services to Kings County residents in the most cost effective and efficient way"

**Purchasing Division**  
Requests for Proposal

**About Us**

**General Information and Maps**

Census Information  
County Demographics  
Government Center Map

**County Observed Holidays**

Local Driving Conditions  
Local Weather

**County Employment**

Current Openings  
View our current positions available.

Job Descriptions  
Additional Information  
Veterans Preference  
County Officials Salaries

**County Contacts**

**Kings County Search**

County Services

County Departments

**Kings County Video TourBook**

Flu shots & information  
Kings County Draft LHMP - 2012  
Oversight Board for the Successor Agency for the County of Kings  
Coast to Coast Rx Cards  
County Animal Services Site  
Smoking Cessation Classes  
Current Public Auctions for Kings County  
LHMP Updates  
SCE Safety First: Power Lines

Welcome  
Real Estate and Relocation  
Quality of Life  
Education  
Downtown  
Arts and Entertainment  
Business Development



**KINGS COUNTY  
OFFICE OF EMERGENCY MANAGEMENT**

280 North Campus Drive • Hanford, California 93230

Phone: 559-852-2883 • Fax: 559-582-8261

To: Interested Parties

Regarding: Draft Kings County Multi-Hazard Mitigation Plan Available for Review

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- Lemoore City Manager's Office
- All Kings County Public Libraries

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Drop off or email your written comments to:

Kings County Office of Emergency Management  
Attn: Courtney Espinoza  
280 North Campus Drive  
Hanford, CA 93230  
Tel: (559) 852-2883  
Email: [Courtney.Espinoza@co.kings.ca.us](mailto:Courtney.Espinoza@co.kings.ca.us)

## **Community Profile Annexes**



## **CITY OF LEMOORE**

### **Community Profile**

Lemoore is governed by a five-member city council that is responsible for approving all legislation and formulating city policies. The council selects one of its members to serve as the mayor, who presides at meetings and represents the city in all official matters and at official functions.

#### **Geography and Climate**

Lemoore is located in the San Joaquin Valley in the northeast portion of Kings County. According to the U.S. Census Bureau, the city encompasses 8.4 square miles. The terrain is relatively flat and underlain by well-drained, sandy loam soils. The elevation of the city is 221 feet above sea level. Precipitation averages about 8.4 inches per year. Average high temperature in the summer is 97°F and in the winter is 50°F. The Kings River is located to the west of Lemoore between the city and the Lemoore Naval Air Station.

#### **History**

Dr. Lovern Lee Moore first made his home in what was western Tulare County, California (now the city of Lemoore) in April 1871. It was near Tulare Lake, then the largest body of water in central California. By the time Moore arrived, scores of individual farms (mostly sheep and grain) dotted the landscape. Moore brought together the surrounding farm families and secured a post office and a local center for conducting business. Moore also established the first real estate development in the district and laid out and named the streets. Lemoore became an incorporated city on July 11, 1900.

#### **Economy**

Lemoore's major employers are still rooted in agriculture; however, economic development in the city created a boom in housing construction. The Lemoore Naval Air Station is the Navy's largest master jet air station projects and is home to the Pacific Strike Fighter Wing and its supporting facilities. The station projects an increase in base personnel through 2010. Major employers in Lemoore include SK Foods and Leprino Foods processing plants. Lemoore is also home to the newest campus of West Hills Community College.

#### **Population**

Lemoore's estimated 2012 population is 24,531. This represents a 20.9 percent increase over the population at the time of the 2000 U.S. Census (California Department of Finance 2012). Lemoore's population is 59 percent white, 7 percent black or African American, and 17 percent "some other race." Census data indicates that 31 percent of Lemoore's population is of Hispanic origin (U.S. Census Bureau 2010).

## **Hazard Identification**

Representatives from the city of Lemoore identified natural hazards that could affect the city and developed hazard profiles based upon the countywide risk assessment and past events and their impacts. Definitions for the rankings used can be found in Element B.

**City of Lemoore—Hazard Profiles**

<b>Hazard</b>	<b>Probability of Occurrence</b>	<b>Potential Magnitude/Geographic Extent</b>	<b>Significance</b>
Dam Failure	Unlikely	Catastrophic	Medium
Drought	Occasional	Limited	Medium
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Occasional	Limited	Low
Fog	Highly Likely	Negligible	Medium
Freeze	Likely	Negligible	Medium
Landslide	Unlikely	Negligible	Low
Soil Hazards: Expansive Liquefaction Erosion	Occasional	Negligible	Low
Tornado	Occasional	Limited	Low
Wildfire	Unlikely	Negligible	Low

**Vulnerability Assessment**

The vulnerability assessment analyzes the population, property, and other assets at risk to natural hazards. This section lists Lemoore’s assets at risk, including critical facilities and infrastructure; historic, cultural, and natural resources; and economic assets.

**Assets Inventory**

The table that follows lists the critical facilities and other community assets identified by representatives from Lemoore as important to protect in the event of a disaster.

**City of Lemoore—Critical Facilities and other Community Assets**

<b>Facility</b>	<b>Replacement Value</b>	<b>Occupancy/Capacity</b>
Fire Station – 210 Fox Street	\$3,500,000	
Police Station – 657 Fox Street	\$1,718,000	
Lemoore High School – 101 Bush Street	\$72,200,000	
Liberty Middle School – 1000 Liberty Drive	\$32,000,000	
Mary Immaculate Queen School – 884 N. Lemoore Avenue	\$18,000,000	
Meadow Lane Elementary – Quandt and Meadow Lane	\$18,000,000	
Cinnamon Elementary – 500 E. Cinnamon	\$18,000,000	
Lemoore Elementary – 573 Bush Street	\$18,000,000	
Engvall Elementary – 19 <sup>th</sup> and Cedar Lane	\$18,000,000	
Kings Christian School – 900 East D Street	\$18,000,000	
Cinnamon Municipal Complex – 711 Cinnamon Drive	\$10,300,000	

Facility	Replacement Value	Occupancy/Capacity
City Hall / Civic Auditorium – 119 Fox Street	\$4,656,000	
Highway 198 Infrastructure / Overpasses	California Department of Transportation	
Highway 41 Infrastructure / Overpasses	California Department of Transportation	
San Joaquin Valley Railroad		
Water wells and storage facilities		19.15Mgal/day
Lemoore Old Post Office	\$1,000,000	
Sarah Mooney Museum	\$600,000	
Leprino Foods	\$86,000,000 (two facilities combined)	

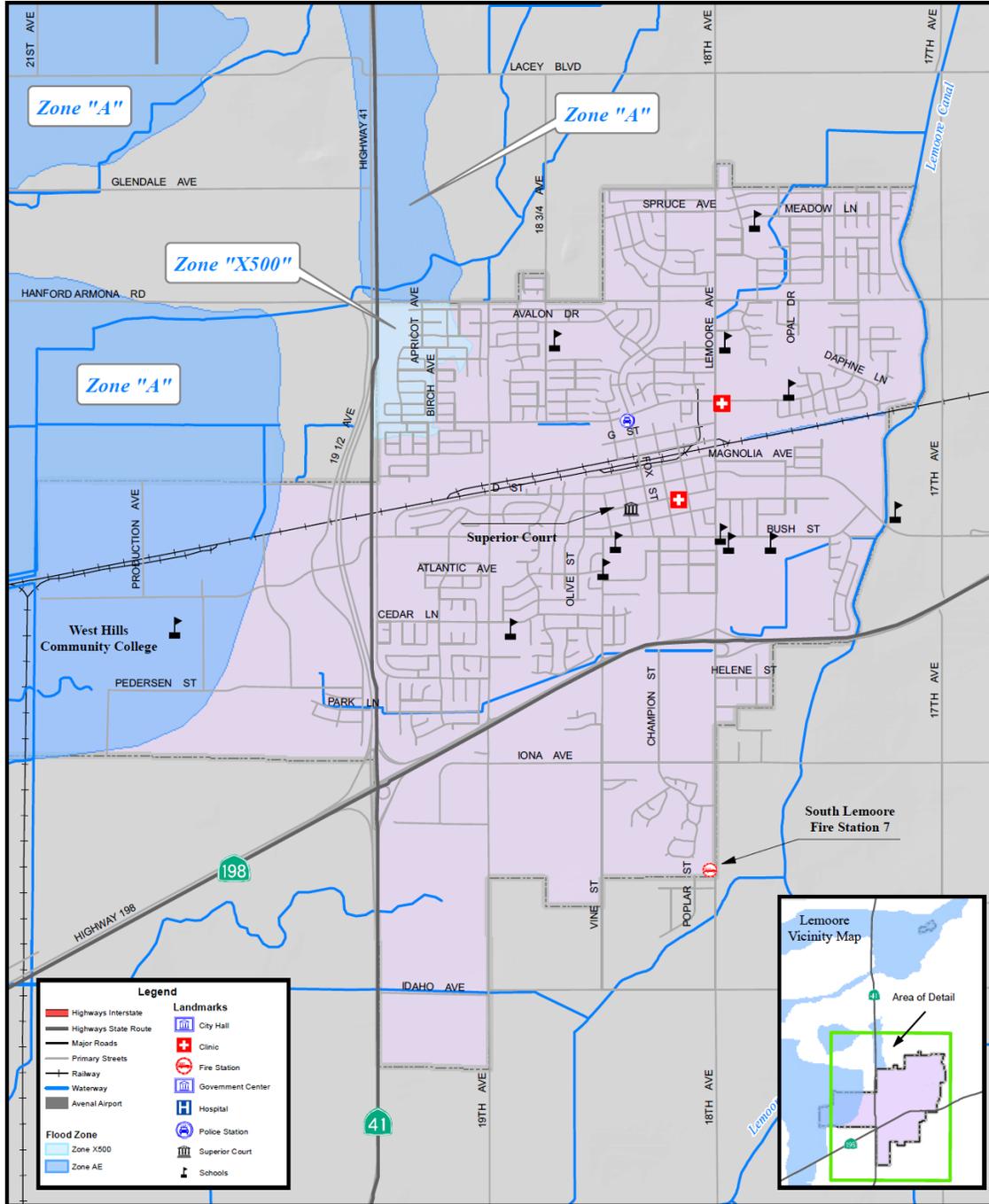
### Estimating Potential Losses

The table below shows Lemoore’s total exposure to hazards in terms of population and the number and values of structures. Kings County Assessor’s data was used to calculate the improved value of parcels. GIS was used to quantify the number and value of structures in the 100-year (Zone A) and 500-year (X-500) flood hazard areas mapped by FEMA. More information on how these estimates were calculated can be found in Element B.

#### City of Lemoore—Exposure to Hazards

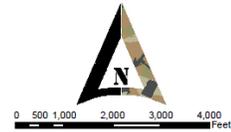
Lemoore	Population	Buildings	Value
Total Exposure (Earthquake)	25,531	8632	\$2,002,624,000
Flood: Zone A		0	*0
Flood: X-500		203	*\$31,125,037

Representatives from Lemoore discussed the impacts of different hazards to the city and determined that the impacts from drought, earthquake, extreme heat, fog, and freezes affect the city similar to other areas of the Kings County region and do not differ significantly to the descriptions found in Element B. The map on the following page shows the City of Lemoore’s Flood Hazards.



Print Date : October 7, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
Lemoore Flood Hazard**



**Future Development Trends**

The City of Lemoore 2030 General Plan plans for 24,860 new residents over the next 23 years, which represents an annual growth rate of 3.1 percent. It plans for the majority of new residents to live in new residential neighborhoods in the northern, southern, and eastern part of the city, avoiding the flood hazard areas to the west and northwest. However, the city’s undeveloped, northwestern industrial complex lies in a 100-year floodplain.

**CAPABILITY ASSESSMENT**

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The assessment is divided into four sections: regulatory, administrative and technical, fiscal, and outreach and partnerships.

**Regulatory Capability**

The table below lists planning and land management tools typically used by local and tribal jurisdictions to implement hazard mitigation activities and indicates those that are in place in Lemoore.

**City of Lemoore—Regulatory and Planning Capabilities**

Regulatory Tool	Yes/No	Comments
General plan	Yes	Updated in 2008
Zoning ordinance	Yes	
Subdivision ordinance	Yes	
Site plan review requirements	Yes	
Growth management ordinance	Yes	
Floodplain ordinance	Yes	
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	Stormwater and water conservation plans
Building code	Yes	2001 California Building Code parts 1 and 2 referencing the 1997 Uniform Building Code
Fire department ISO rating	Yes	
Erosion or sediment control program	Yes	
Stormwater management program	Yes	
Capital improvements plan	Yes	
Economic development plan	Yes	
Local emergency operations plan	Yes	This plan will be updated in 2013/14 in coordination with the Kings County update.

**Administrative and Technical Capability**

The table below identifies the personnel resources responsible for activities related to mitigation and loss prevention in Lemoore. A summary of technical resources follows.

**City of Lemoore—Personnel Capabilities**

Personnel Resources	Department/Position
Planner/Engineer with knowledge of land development/land management practices	Contracted city engineer from Quad Knopf Consulting
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	Contracted city engineer from Quad Knopf; Public Works – Construction Superintendent
Full time building official	Public Works– Director
Floodplain Manager	Planning – Chief Planner
Emergency Manager	Police Department – Police Chief
Grant writer	Various departments
Other	

**Fiscal Capability**

The following table identifies financial tools or resources that the city could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

**City of Lemoore—Available Financial Tools and Resources**

Financial Resources	Accessible/ Eligible to Use
Community Development Block Grants	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activities	No
Withhold spending in hazard prone areas	Yes

**Outreach and Partnerships**

The city could not identify any public outreach or other community partnerships related to hazard mitigation.

**GOALS AND OBJECTIVES**

The city of Lemoore adopts the hazard mitigation goals and objectives developed by the Planning Team and described in Element B.

**MITIGATION ACTIONS**

The planning team for the city of Lemoore identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

## 2012 MITIGATION ACTIONS

### Mitigation Action: Lemoore #1—Public Education

**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Develop and implement a comprehensive strategy to improve ongoing public education regarding natural hazards and risk.
<b>Jurisdiction:</b>	City of Lemoore
<b>Priority:</b>	High
<b>Issue/Background:</b>	The lack of public knowledge about hazards and preparedness was identified in this planning process as an important issue to address. Providing public information and training on hazards, risks, and individual and household preparedness could greatly reduce losses during emergency events.
<b>Ideas for Implementation:</b>	Establish training and information that can be delivered through presentations to the widest variety of groups and media Educate citizens about risks in Lemoore and Kings County Encourage families to have kits, plans, and drills to test their plans. Establish a Citizen Emergency Response Team (CERT) program in the city, which would be integrated with the county's program
<b>Responsible Office:</b>	Police Department
<b>Partners:</b>	City of Lemoore (Council and Staff), local businesses, schools, church and service groups, media
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, U.S. Department of Homeland Security grants, private foundation grants, California Office of Emergency Services
<b>Cost Estimate:</b>	To be determined at time of grant requests
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"> <li>• Potentially fewer lives lost and property damaged due to improved community preparedness</li> <li>• Quicker recovery of community due to prior preparation</li> </ul>
<b>Timeline:</b>	Implement program within two years
<b>Completed by:</b>	Wes Roberts, Lemoore Police Department, Sergeant
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been partially accomplished. The committee agreed to carry this project forward for a more comprehensive public education program on disaster preparedness.</i>

## 2007 MITIGATION ACTIONS

### Mitigation Action: Kings County—Long-Term Water Supply

Current Status: Overtaken by Events and Dropped (See Remarks box)

<b>Action:</b>	Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	High
<b>Issue/Background:</b>	Counties within the central and southern San Joaquin Valley region are experiencing tremendous growth as a result of low land costs, affordable housing, and low mortgage interest rates. This growth surge along with depleting surface and ground water supplies and projected outlook of global warming may severely cripple the available water supplies to Kings County during years of drought. Other regions are currently working on regional water management plans to receive bond funds for water capacity building projects.
<b>Ideas for Implementation:</b>	The Kings County Water District has attempted to coordinate proactive water capacity building programs and projects to address the future needs of the county's agricultural, rural, and urban water needs. This effort should be built upon to develop a water management plan that covers Kings County. The plan should incorporate a countywide strategy for conservation programs, recycled water reuse programs, programs that build additional recharge and storage, and policies that work to retain existing surface water rights within the county for future use. The Kings County portion of the San Joaquin Valley Regional Blueprint may provide an appropriate avenue to address this planning effort.
<b>Responsible Office:</b>	Kings County Planning Agency to take the lead until another more appropriate agency or joint powers authority can take over
<b>Partners:</b>	Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments
<b>Potential Funding:</b>	Possible grant and bond funds through recent State Propositions.
<b>Cost Estimate:</b>	\$60,000 to \$80,000 for a countywide water capacity study and \$10,000 to \$45,000 for jurisdiction implementation of planning policy recommendations.
<b>Benefits: (Losses Avoided)</b>	\$1000s in potential agricultural and other resource losses avoided over the long term during years of severe drought. \$1000s in the reduction of emergency responses and recovery supplies for cities and communities unprepared and left without adequate water supplies for their residents.
<b>Timeline:</b>	Countywide water management plan to be completed in three years, then ongoing efforts
<b>Completed by:</b>	Kings County Planning Department
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> mitigation strategies workshop this project was reviewed by the LHMP Planning Team. The long- term water supply has been overtaken by events. The local project has been co-opted by a multijurisdictional project in</i>

	<p><i>cooperation with the State Department of Water Resources. This Project will cover the work within Kings County as well as several adjacent counties that share the same aquifer and watershed.</i></p>
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**Mitigation Action: Lemoore—Assessment of Critical Infrastructure**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Assess vulnerability of critical infrastructure and lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Lemoore
<b>Priority:</b>	High
<b>Issue/Background:</b>	Public agencies need to constantly evaluate and plan for improvements that deliver the best service level available while remaining cost effective. With the advent of new techniques and technology to evaluate and identify weak links within the infrastructure of city services to further strengthen and mitigate shortages in design and/or function.
<b>Ideas for Implementation:</b>	Evaluate systems starting with water storage and distribution system. Once weaknesses are identified, potential projects for addressing them will be identified, prioritized for funding, and integrated into the city's capital improvements plan, water master plan, and other relevant plans.
<b>Responsible Office:</b>	Lemoore Office of the City Manager
<b>Partners:</b>	All city department directors
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, other U.S. Department of Homeland Security grant programs, current city revenue for services
<b>Cost Estimate:</b>	
<b>Benefits: (Losses Avoided)</b>	Prevent damages and losses due to interruptions in services.
<b>Timeline:</b>	Five years
<b>Completed by:</b>	Wes Roberts, Lemoore Police Department, Sergeant
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdiction subject to this plan.</i>

**Mitigation Action: Lemoore—Vulnerable Populations**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Develop a program or system for supporting vulnerable populations during emergency events
<b>Jurisdiction:</b>	City of Lemoore
<b>Priority:</b>	High
<b>Issue/Background:</b>	There are currently few or no mechanisms in place to assist vulnerable populations in Lemoore during emergency events. Many citizens within these groups are unidentified.
<b>Ideas for Implementation:</b>	<ul style="list-style-type: none"> <li>• Work with local agencies, businesses, and nonprofit groups that have contact with specific populations to identify issues and potential strategies to reduce risk to vulnerable populations during emergencies.</li> <li>• Contact other municipalities to obtain their answers to this situation and integrate success stories in our action plan.</li> <li>• Integrate program with the emergency operations plan, perhaps as an annex.</li> </ul>
<b>Responsible Office:</b>	Lemoore Parks and Recreation Department
<b>Partners:</b>	All departments within the city of Lemoore
<b>Potential Funding:</b>	State and federal councils on aging, nonprofit organizations, Lemoore General Fund, in-kind/staff time
<b>Cost Estimate:</b>	
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"> <li>• Improved emergency response capabilities</li> <li>• Reduced risk to vulnerable populations during emergency events</li> </ul>
<b>Timeline:</b>	Program will be developed and implemented within two years
<b>Completed by:</b>	Wes Roberts, Lemoore Police Department, Sergeant
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdictions subject to this plan.</i>

**Mitigation Action: Lemoore—Municipal GIS Program**

**Current Status: Completed and ongoing (See Remarks box) moved to 2012 projects**

<b>Action:</b>	Assist in establishing a centralized, inter-jurisdictional GIS program in partnership with the County of Kings to improve all phases of emergency management.
<b>Jurisdiction:</b>	City of Lemoore
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	Lemoore has identified the need for implementation of GIS in all phases of emergency management. The implementation will provide for a timelier response to the needs of our community and improved understanding of hazards and vulnerabilities.
<b>Ideas for Implementation:</b>	<ul style="list-style-type: none"> <li>• Purchase technical equipment to use technology</li> <li>• Improve staff capabilities</li> <li>• Obtain training for emergency personnel to optimize benefits of GIS during emergency events</li> </ul>
<b>Responsible Office:</b>	Planning Department
<b>Partners:</b>	Kings County Planning Department, Cities of Hanford, Corcoran, Avenal, and Tachi Tribal Council
<b>Potential Funding:</b>	Grant money from FEMA/Department of Homeland Security, ESRI
<b>Cost Estimate:</b>	\$20,000 to contract with county GIS services in fiscal year 2007-2008. Additional costs for equipment and training needs.
<b>Benefits: (Losses Avoided)</b>	<ul style="list-style-type: none"> <li>• Better use of available resource</li> <li>• Improved risk assessment</li> <li>• Quicker assessment during emergencies</li> </ul>
<b>Timeline:</b>	Establish GIS support agreement with county in fiscal year 2007-2008. Aerial imagery update in summer 2007. Web application in fiscal year 2007-2008.
<b>Completed by:</b>	Wes Roberts, Lemoore Police Department, Sergeant
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. The inter-jurisdictional GIS project is in progress. The County has been completely mapped; Hanford and Avenal have joined in on the project contracting with County GIS to meet their mapping needs. The project is planned to expand to include all the incorporated Cities (Lemoore and Corcoran) and continue to create an integrated countywide GIS system and database.</i>



## City of Avenal

### COMMUNITY PROFILE

Avenal is the smallest city in Kings County and is governed by a five-member City Council that includes the Mayor and Mayor Pro Tem.

#### **Geography and Climate**

Avenal is situated 180 miles north of Los Angeles and 200 miles south of San Francisco and Sacramento—“Half the way from the Bay to L.A.” It is located in the southwestern portion of Kings County between State Route 33 and Interstate 5. Most of the developed part of the city is located in the Kettleman Plain between the Kettleman Hills to the northeast and the Kreyenhagen Hills to the southwest. The amount of land area in Avenal is approximately 19 square miles and the city’s elevation is 800 feet above sea level. Annual precipitation is about 10 inches with most of the rain falling between November and April. Average high temperature in the winter is 64°F and in the summer is 98°F.

#### **History**

The city of Avenal was named by Spanish soldiers and explorers. “Avena” means oats or oat field in Spanish. The city area was originally covered with wild oats “waist high” that looked like golden silk and covered the Kettleman Plains. Early American settlers arrived in the Kettleman Hills during the 1850s to raise cattle and to farm. It was oil, however, that brought most of the people to Avenal. In 1929, Standard Oil surveyed the current site of Avenal and built the town.

During the late 1940s, the decline of oil and gas production caused Avenal’s economy to weaken and many stores and houses were vacated. During the 1970s, the completion of the California Aqueduct brought in needed water, and the completion of Interstate 5 brought new business opportunities. Following incorporation in 1979, the city attracted a state prison in 1987 and later annexed the Interstate 269/Interstate 5 interchange, zoning the area for commercial and industrial development and stimulating the local economy.

#### **Economy**

Avenal is home to one of California’s state prisons, which is the largest employer in the city with over 1,000 employees and approximately 4,500 inmates. Other major employers are Paramount Farms (600 employees) and Reef Sunset Unified School District (306 employees) (Kings County Economic Development Corporation 2012).

Over 25% of families in Avenal live below the poverty level. Avenal is challenged with an unemployment rate of 25%. Approximately 80% of Avenal’s population is Hispanic with strong connections to farm labor. The primary industry within a five-mile radius of Avenal is agriculture. Many other industries are directly or indirectly dependent upon agriculture such as construction, manufacturing, transportation, wholesale, and retail. Therefore, the vast majority of Avenal’s economy is directly or indirectly related to agriculture.

**Population**

The estimated 2012 population of Avenal was 15,505. This includes the prison population and represents a 10 percent increase over the population at the time of the 2000 U.S. Census (California Department of Finance 2010). Avenal’s population is 36 percent white, 13 percent black or African American, and 47 percent “some other race.” Census data indicates that 66 percent of Avenal’s population is of Hispanic origin (U.S. Census Bureau 2010).

**Hazard Identification and Profiles**

Avenal’s planning team identified hazards that affect the city and developed hazard profiles based upon the countywide risk assessment and past events and their impacts. Definitions for the rankings used can be found in Element B: Hazard Identification and Risk Assessment.

**City of Avenal—Hazard Profiles**

<b>Hazard</b>	<b>Probability of Occurrence</b>	<b>Potential Magnitude/ Geographic Extent</b>	<b>Significance</b>
Dam Failure	Unlikely	Negligible	Low
Drought	Occasional	Critical	Medium
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Likely	Critical	Medium
Fog	Highly Likely	Limited	Medium
Freeze	Occasional	Limited	Low
Landslide	Occasional	Critical	Low-Medium
Soil Hazards: Expansive Liquefaction Erosion	Occasional	Limited	Low
Tornado	Unlikely	Negligible	Low
Wildfire	Occasional	Limited	Low

**Vulnerability Assessment**

The vulnerability assessment analyzes the population, property, and other assets at risk to natural hazards. This section lists Avenal’s assets at risk to natural hazards, including critical facilities and infrastructure; historic, cultural, and natural resources; and economic assets. It discusses the impacts that occurred in past events and vulnerability to specific hazards ranked of medium or high significance.

**Asset Inventory**

The table that follows lists the critical facilities and other community assets identified by Avenal’s planning team as important to protect in the event of a disaster.

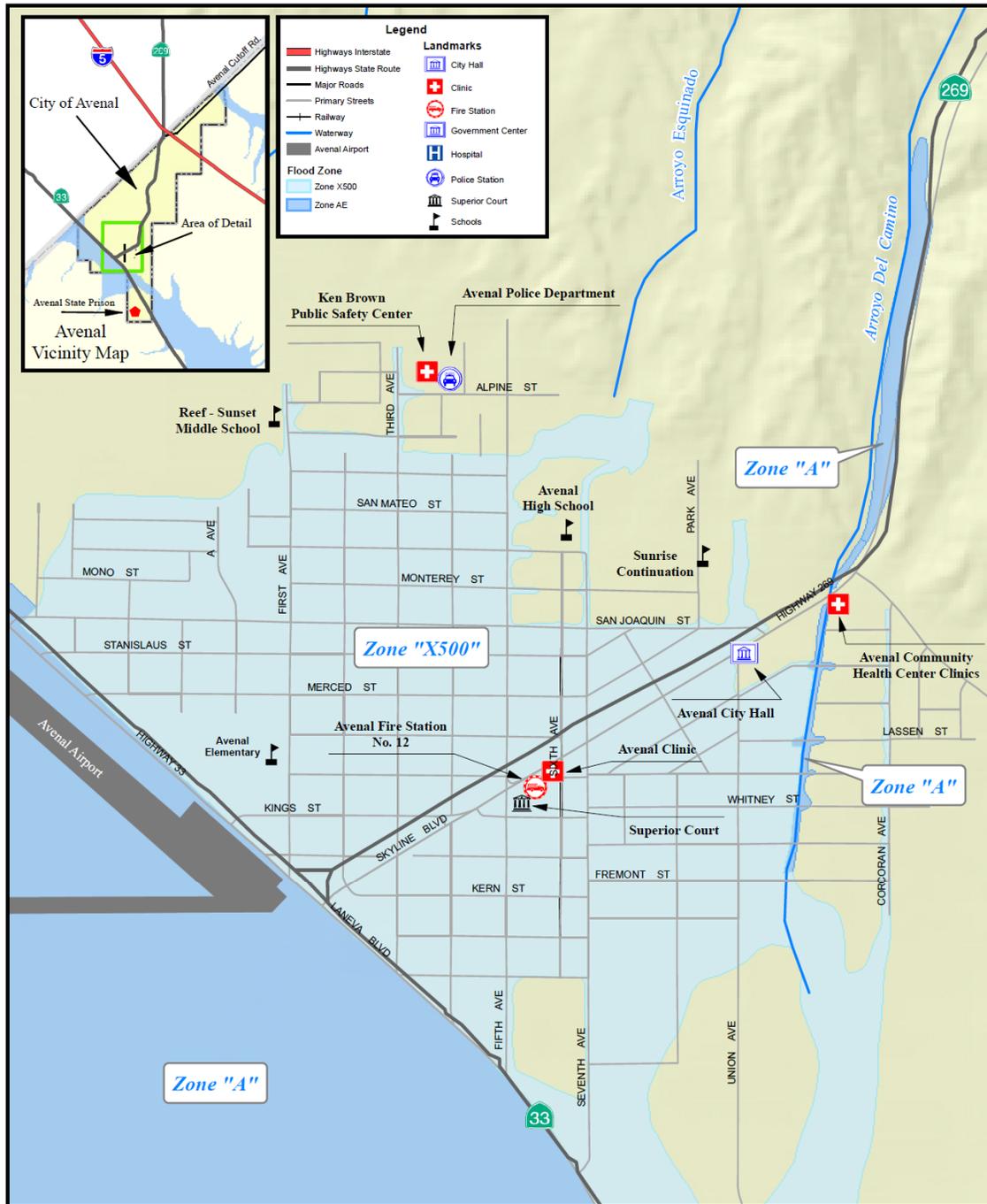
**City of Avenal—Critical Facilities and other Community Assets**

Facility	Replacement Value	Occupancy/Capacity
City Hall	\$820,000	20
City corporate yard/equipment	\$791,000	50+
Avenal Police Department - Avenal Emergency Operations Center (primary)	\$2,500,000	19+
Kings County Fire Station No. 12 - Avenal Emergency Operations Center (secondary)		
Water treatment plants (2)	\$5,200,000	5.2 MGD
Wastewater treatment plant	\$8,200,000	2 MGD
Water storage tanks	\$6,000,000	
12-inch and 18-inch water transmission lines	\$16,000,000	16 miles of lines
Pacific Gas & Electric high pressure lines		
Chevron/JP Oil oil/gas production fields		
California Aqueduct		
Medical clinics (2)		
Avenal Senior Center		100+
Avenal Child Development Center	\$1,600,000	80+

There was a hospital in Avenal, but it has been closed due to problems with asbestos. The nearest hospitals are in Coalinga and in Hanford. There are two medical clinics in Avenal. There are several designated shelters in Avenal for use in an emergency event including the Veterans Hall, the Recreation Center, two High School gyms and three school cafeterias.

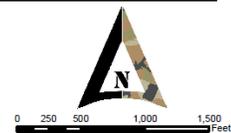
The Avenal State Prison has a capacity of 7,600 plus support staff. The prison population amounts to almost half of the city’s population. The prison population skews the census data for Avenal, making it difficult to summarize social vulnerability issues. Education and outreach efforts, as well as emergency response planning, will need to address the needs of low-income residents and the large Spanish-speaking population. In past emergencies, volunteers have organized spontaneously to help those with mobility issues.

### Avenal Flood Hazards



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
Avenal Flood Hazard**



## ESTIMATING POTENTIAL LOSSES

The table below shows Avenal's total exposure to hazards in terms of population and the number and values of structures. Kings County Assessor's data was used to calculate the improved value of parcels. GIS was used to quantify the number and value of structures in the 100-year (Zone A) and 500-year (X-500) flood hazard areas and in very high wildfire hazard areas. More information on how these estimates were calculated can be found in the Vulnerability Assessment section Element B.

**City of Avenal—Exposure to Hazards**

<b>Avenal</b>	<b>Population</b>	<b>Structures</b>	<b>Value</b>
Total Exposure (Earthquake)	15,505	1,754	\$128,111,815
Flood: Zone A		5	\$98,033
Flood: X-500		1,393	\$80,716,733
Wildfire: Very High Threat		35	\$637,272

Impacts of past events and vulnerability to specific hazards are summarized below.

### **Drought**

Avenal differs from the other communities in Kings County in that it is reliant on surface water from the California Aqueduct and the Central Valley Project for drinking water. The 1987-1992 drought created a water shortage that led to a temporary building moratorium in the city. The drought also resulted in the city adopting a water conservation ordinance, which is described further in the Capability Assessment section below. The Central Valley Project Improvement Act of 1992 mandates changes in management of the Central Valley Project, particularly for the protection, restoration, and enhancement of fish and wildlife. Avenal has been affected by the Act through diversions and changes mandating no new water contracts until fish and wildlife goals are achieved and no contract renewals until completion of a programmatic environmental impact statement. These changes affect agriculture users before municipal users. Drought events can also reduce the quality of water in the aqueduct and lead to increased treatment costs.

### **Earthquake**

The earthquake hazard in Avenal is more severe than in the other cities in the county. The known faults, historic epicenters, and potential for ground shaking in and near Kings County is shown on the map in Element B. HAZUS-MH, FEMA's loss estimation software, predicts that there will be a loss of potable water in an earthquake event in Kings County. Avenal's transmission lines for its water source are vulnerable to ground shaking and seismically-induced landslides. The water source itself, the California Aqueduct, also may be vulnerable to damage during a seismic event.

Fortunately, soils in Avenal are not mapped as prone to liquefaction, though both the Kettleman Hills and Kreyenhagen Hills are prone to landslides. Members of Avenal's

planning team recall that buildings shook in the Coalinga earthquake (1983) and more recently in an earthquake that occurred in 2004/2005. In early September 2012, there were two Coalinga Earthquakes that caused intense shaking and subsequent water system damage.

There are several buildings of concern in an earthquake event. The planning team identified the following:

- Avenal City Hall
- Peck's Department Store (unreinforced masonry construction)
- Veterans' Hall
- Avenal Historical Museum

The number of unreinforced masonry buildings in the city is between five and eight. California's Unreinforced Masonry Law, SB 547, passed in 1986 requires that these buildings in Seismic Zone 4 are inventoried and retrofitted in every jurisdiction. Communities must adopt a loss reduction program and report progress to the Seismic Safety Commission. There is a moderate amount of manufactured housing in different parts of Avenal; this building type is also more vulnerable.

### **Extreme Heat**

Extreme heat is highly likely to occur on an annual basis in Avenal. An extreme heat event in summer 2006 and recently in 2012 caused increased energy costs and danger to outdoor workers. The city does provide information on overheating and safety to city workers through the Avenal Police Department who is also responsible for the Office of Emergency Services in Avenal.

### **Flood**

No critical facilities are located in the mapped 100-year flood hazard area in Avenal, except for part of Highway 33. Much of the city is located in the 500-year floodplain, which is primarily affected by sheet flow flooding. Facilities located here include the fire station, medical clinic, superior court, and Avenal Elementary School.

Two water main lines, one 18-inch and one 12-inch, carry water from the California Aqueduct to the city through the Kettleman Hills, which are prone to slope failure and erosion during heavy rains that cause flooding. The landslide-prone areas are not inside the city limits and other types of development do not occur there; therefore, landslide is not addressed as a separate hazard. There are approximately 16 miles of water transmission lines, mainly outside the city limits. There is history of problems with these water lines during hazard events. In a rain event in March 1995, the 18-inch main line broke due to slope failure around the water line cutting off the potable water supply to Avenal for 12 days. Water had to be brought in and schools and roads were closed for a short time. Businesses were also without water resulting in economic impacts. FEMA and the California Office of Emergency Services at the time, now Cal EMA provided Public Assistance funds for

the disaster. The same line broke again on January 5, 1998, near the Old Skyline Road. Although the area of failure has been reinforced, it is likely that a similar event could occur on other parts of the line in the future.

The city has restructured most culverts in the last 10 years using general funds designated for streets and stormwater drainage. Flooding remains a problem at the intersection of Seventh Avenue and Highway 33; however this is an issue that needs to be addressed by the California Department of Transportation. Runoff from the Arroyo del Camino is conveyed through the city by means of channel, culverts, and storm drains. The channel exists for approximately one-half miles between the city limit and Fremont Street. Downstream of Fremont Street, the discharge can result in sheet flow flooding. Discharges from the watershed areas west of Arroyo del Camino concentrate along Highway 33 at the southwest limit of the city.

### **Wildfire**

Wildfire is a greater threat to Avenal than other areas of Kings County. The Skyline fire in 1996 burned over 20,000 acres east of Avenal along the west side of Interstate 5 and north of Highway 41. The fire burned close to 36<sup>th</sup> Avenue on the north side of town. There are not a significant number of homes along the city limits in the wildland-urban interface. The Kings County Fire Department provides fire protection services to the city. In the last five years the largest wildfire was less than 1000 acres in the near vicinity, largely due to the fast burning but light fuels that typify the hills immediately around Avenal.

### **Other Hazards**

Fog is not as common in Avenal as the rest of the county but does occur heading into the city and out of the city and can result in traffic accidents. There are expansive soils in the area that can cause problems with foundations. The city has been able to address this issue through recommending certain building practices where these soils exist.

### **Future Development Trends**

From 2006-2012 growth has been largely flat, for the entire decade population growth in Avenal averaged about 1.9 percent per year. Growth has been slow but steady. One area of development is located south of the city, where there is often some flooding during wet periods. While this area is not in the mapped in the flood hazard area, the city is requiring developers to address potential flood problems through enforcing the Flood Damage Prevention Ordinance.

**City of Avenal—Change in Population and Housing Units, 2000-2010**

<b>2000 Population</b>	<b>2010 Population</b>	<b>Percent Change</b>	<b>2000 Housing Units</b>	<b>2010 Housing Units</b>	<b>Percent Change</b>
14,674	15,505	10.4%	2,061	2,251	9.2%

**CAPABILITY ASSESSMENT**

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The assessment is divided into five sections: regulatory, administrative and technical, fiscal, outreach and partnerships, and other mitigation efforts.

**Regulatory Capability**

The Table below lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Avenal.

**City of Avenal—Regulatory and Planning Capabilities**

<b>Regulatory Tool</b>	<b>Yes/No</b>	<b>Comments</b>
General plan	Yes	Adopted August 11, 2005
Zoning ordinance	Yes	
Subdivision ordinance	Yes	
Site plan review requirements	Yes	
Growth management ordinance	No	
Floodplain ordinance	Yes	Flood Damage Prevention Ordinance 1995
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	Water Conservation Ordinance
Building code	Yes	Version: Uniform Building Code 1998
Fire department ISO rating	Yes	Rating: 4. Kings County Fire Department
Erosion or sediment control program	No	
Stormwater management program	Yes	Stormwater Pollution Prevention Plan
Capital improvements plan	Yes	Minimal capital improvements funding for small projects
Economic development plan	No	
Local emergency operations plan	Yes	2008, will be updated in 2013

**Avenal General Plan, 2005** – The city’s general plan was updated in 2005, including the safety element. The Safety Element establishes objectives and policies and standards to

ensure that there is an adequate, coordinated, and expedient response to public safety concerns. It addresses emergencies, fire protection, flooding, and public safety.

**Flood Damage Prevention Ordinance, 1995** - The flood damage prevention ordinance adopted in 1995 establishes areas of special flood hazard identified by FEMA in the 1988 flood insurance rate map (FIRM) and flood insurance study. However, FEMA completed an updated FIRM and flood insurance map in 2000. New digital FIRMs (DFIRMs) for all of Kings County are completed.

**Administrative and Technical Capability**

The table that follows identifies the personnel resources responsible for activities related to mitigation and loss prevention in Avenal. A summary of technical resources follows.

**City of Avenal—Personnel Capabilities**

<b>Personnel Resources</b>	<b>Department/Position</b>
Planner/Engineer with knowledge of land development/land management practices	Community Development Director
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	City Engineer
Full time building official	Building Department/ Public Works Director is also Building Official/Code Enforcement Officer
Floodplain Manager	Community Development Director
Emergency Manager	Police Chief
Grant writer	Community Development Director
Other	Public Works Department/One position is 50 percent water conservation officer and 50 percent code enforcement

Avenal does not have GIS capabilities within in the city staff. However, the city contracts with the Kings County Planning Agency to receive assistance with geographic data needs and mapping.

**Fiscal Capability**

The following table identifies financial tools or resources that the city could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

### City of Avenal—Available Financial Tools and Resources

Financial Resources	Accessible/ Eligible to Use	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	No	Special approval by the City Council in an emergency
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

#### **Outreach and Partnerships**

Avenal is a member of the California Rural Water Association, an affiliate of the National Rural Water Association, a non-profit organization of rural water and wastewater systems that provides training, technical assistance, and representation to public water and wastewater utilities. The city also supports the Kings County Water Education Commission, which provides water education programs for schools. The city provides information on overheating and safety to city workers as required by their risk management insurance. The Kings County Office of Emergency Management does all-hazards public outreach and education for the public.

#### **Other Mitigation Efforts**

Avenal has an ongoing inspection program for the city’s water lines for early detection and prevention of problems due to slope failure and other damage to lines. Other mitigation projects have reduced the vulnerability of the water system to seismic events and flooding, such as the following:

- Installed check valve at pipeline failure valve at Tank No. 3 site.
- Replaced valve and installed seismic deflection joint at Tank No. 4 site.
- Reinforced slopes in area around 12-inch and 18-inch water main lines located along Old Skyline Road.
- Avenal is currently working on ensuring a constant flow of water into the community; this project should be completed in July of 2013.

#### **GOALS AND OBJECTIVES**

The City of Avenal adopts the hazard mitigation goals and objectives developed by the Planning Team in Element C.

## **MITIGATION ACTIONS**

The Planning Team for the City of Avenal identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

**2012 MITIGATION ACTIONS**

**Mitigation Action: Avenal #1—Housing Rehabilitation Program**

**Current Status: This project will be carried over from 2007 as it is not complete and ongoing.**

<b>Action:</b>	Continue and enhance housing rehabilitation program.
<b>Jurisdiction:</b>	Avenal
<b>Priority:</b>	High
<b>Issue/Background:</b>	Avenal has many homes that are old and have health and safety issues and are not earthquake safe. The city has received funding from Community Development Block Grants, HOME, and Cal Home Program to rehabilitate homes. Most homes are torn down and reconstructed to current codes.
<b>Ideas for Implementation:</b>	
<b>Responsible Office:</b>	Avenal Department of Community Development
<b>Partners:</b>	
<b>Potential Funding:</b>	Community Development Block Grants, HOME, and Cal Home Program grants
<b>Cost Estimate:</b>	In the past, the city has spent approximately \$1.5 million each year.
<b>Benefits: (Losses Avoided)</b>	Serves multiple objectives. Reduces risk to people and property from earthquakes and replaces substandard housing conditions.
<b>Timeline:</b>	Ongoing
<b>Completed by:</b>	Department of Community Development, Director

**Mitigation Action: City of Avenal Project #2—Emergency Power System for the Emergency Operations Center at the Ken Brown Public Safety Center.**

<b>Action:</b>	Purchase, Install, test and utilize a 200 KW Propane/Natural Gas powered emergency Generator system for the Emergency Operations Center.
<b>Jurisdiction:</b>	City of Avenal
<b>Priority:</b>	High
<b>Issue/Background:</b>	The City of Avenal Public safety Center has limited emergency power for its dispatch center. This project would expand that power system to power the EOC and the EMS administrative offices. The Public safety Center is responsible for the day management of emergency dispatch for all the City’s public safety agencies as well as the day-to-day coordination of fire, law and EMS mutual aid. During a disaster the Centers role expands to serve as the Emergency Operations Center (EOC). As such it is responsible for coordinating information and resources for City as well as serving as a node of the operational area’s mutual aid system. It currently has no emergency power, which means that a power outage no matter what the source greatly inhibits the EOC and EMS agency’s ability to perform either its day-to-day mission or its functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond the City’s normal budgetary processes. This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local fund raising effort.
<b>Responsible Office:</b>	Avenal OES/Police Department
<b>Partners:</b>	Kings County OEM
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially the EOC Grant Program
<b>Cost Estimate:</b>	\$350,000 for the complete 200KW system including generator, fuel tanks, automatic transfer switches, pad and labor
<b>Benefits: (Losses Avoided)</b>	Emergency power system will ensure the EOC can stay on line independent of commercial power. This will allow them to continue their lifesaving mission of resource dispatch and control during any disaster that disrupts local commercial power, brownouts or rolling blackouts.
<b>Timeline:</b>	Desired completed by the end of calendar year 2014.
<b>Completed by:</b>	Avenal OES/Police Department

**Mitigation Action: Avenal #3—Vulnerability of Water Distribution System**

**Current Status: This project will be carried over from 2007 as it is not complete and ongoing.**

<b>Action:</b>	Reduce vulnerability of water distribution system
<b>Jurisdiction:</b>	Avenal
<b>Priority:</b>	High
<b>Issue/Background:</b>	There are two water transmission lines that supply water to the city and Avenal State Prison (one 18-inch line and one 12-inch line). In the past, the city has encountered water leaks and movement due to earthquakes that lead to slope failure. The water leaks are due to aging of the main lines.
<b>Ideas for Implementation:</b>	Continue to search for funding to replace the 12-inch main line which is at least 38 years old. Engineer and replace existing valves at tank sites with earthquake valves to protect the water supply. Continue to monitor both the existing lines and document critical areas.
<b>Responsible Office:</b>	Avenal Public Works Department
<b>Partners:</b>	
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and other state and federal loan and grant programs
<b>Cost Estimate:</b>	For 12-inch line, \$1 million per mile for 7 miles total.
<b>Benefits: (Losses Avoided)</b>	Improves availability of water supply for residents and businesses during emergencies and helps ensure against property losses due to fires.
<b>Timeline:</b>	Ongoing; replace 12-inch line within five to seven years
<b>Completed by:</b>	Department of Community Development, Director

**Mitigation Action: Avenal #4—Loss Reduction Program for URM Buildings**

**Current Status: This project will be carried over from 2007 as it was not completed due to lack of staffing resources and internal funding to carry out the project.**

<b>Action:</b>	Establish a loss reduction program for unreinforced masonry (URM) buildings in compliance with the California URM Law of 1986.
<b>Jurisdiction:</b>	Avenal
<b>Priority:</b>	High
<b>Issue/Background:</b>	<p>Most unreinforced masonry (URM) buildings possess features that can threaten lives during earthquakes. In response to the danger posed by the great number of potentially hazardous buildings in California, in 1986 the state legislature enacted the unreinforced masonry building law (Chapter 250, Statutes of 1986: SF547 [Alquist]; Government Code Section 8875 et seq.), commonly known as the "URM Law." The law is aimed at mitigating the hazards posed by URMs and applies to all jurisdictions in California's Seismic Hazard Zone 4, the region of highest earthquake activity in the nation, in which Avenal is located.</p> <p>Current city staff members estimate that there are five to eight URM buildings in Avenal. According to the 2006 Status of the Unreinforced Masonry Building Report of the California Seismic Safety Commission, Avenal has not reported a loss reduction program for URM buildings.</p>
<b>Ideas for Implementation:</b>	Seek approval from the City Council for developing and implementing a loss reduction program to comply with the URM Law. Inventory existing URM buildings in the city. Develop a loss reduction program, such as one of the types described in the 2006 Status of the Unreinforced Masonry Building Report. This may include letters to owners of URM buildings, signage on the front of URM buildings notifying the public of the earthquake hazard, or other types of measures. The city will report its program and future progress to the California Seismic Safety Commission.
<b>Responsible Office:</b>	Avenal City Manager
<b>Partners:</b>	California Seismic Safety Commission, Avenal City Council, Avenal Department of Public Works
<b>Potential Funding:</b>	In-kind, Avenal General Fund
<b>Cost Estimate:</b>	Staff time
<b>Benefits: (Losses Avoided)</b>	Increase awareness of the public and owners of URM buildings about potentially hazardous buildings. Reduce future losses in earthquake events.
<b>Timeline:</b>	Six months
<b>Completed by:</b>	City of Avenal, City Manager



## **CITY OF CORCORAN**

### **Community Profile**

In the City of Corcoran, the Council acts as the governing body of the City, with all regulatory and corporate powers of a municipal corporation provided under California State Law. The Council is comprised of five members. Council members are elected from the community at large to serve four-year staggered terms. Every two years elections are held, with not more than three Council positions up for election.

#### **Geography and Climate**

Corcoran is located near the center of Kings County and encompasses approximately six square miles. The elevation of the city is 207 feet above mean sea level and the topography is generally flat. The town is located on the northeast edge of the Tulare Lakebed, and Cross Creek is located to the west of town. The average high temperature in winter is 50°F and in summer is 98°F.

#### **History**

The city of Corcoran was developed by H.J. Whitley, a prominent land developer from Southern California, who traveled to the area in 1905 and purchased 32,000 acres of land. The city's main street, Whitley Avenue, is named after him. In subsequent years, Corcoran grew rapidly with the rise of the cotton industry, attracting workers to its booming agricultural industry. The town was incorporated in 1913. The mechanization of cotton planting and harvesting caused a significant loss of jobs, residents, and economic vitality in Corcoran. The city remains a center of agriculture and J.G. Boswell Company, the nation's largest cotton producer, operates major farming operations in the city.

#### **Economy**

Corcoran historically experiences high unemployment like most cities within Kings County, with an average unemployment rate of 17.1% for all of 2010. Located in what was the Tulare Lake basin, the most fertile region in the world, Corcoran's employment base is either directly or indirectly related to agriculture. Corcoran's labor market is generally non-union, with many people earning modest wages.

The largest private employers of local residents are the J.G. Boswell Company, Camfil Farr Company, Virtus Nutrition, Sawtelle & Rosprim, and Mid-State Precast. However, the largest employer in Corcoran is the California State Prison system, which includes a Regional Accounting Office, a Substance Abuse Facility, and a maximum level State Prison, collectively employing approximately 3,500 individuals. While the prison system employs a good number of local residents, the majority of employees commute from a 50-mile radius.

#### **Population**

Corcoran's estimated population in 2010 was approximately 25,000 (including residents at the state prisons). This represents approximately a 15 percent increase over the population at the time of the 2000 U.S. Census. Corcoran's population is 34 percent white, 14 percent

black or African American, and 46 percent “some other race.” Census data indicates that 60 percent of Corcoran’s population is of Hispanic origin (U.S. Census Bureau 2010).

## HAZARD IDENTIFICATION

Representatives from Corcoran identified hazards that affect the city and developed hazard profiles based upon the countywide risk assessment and past events and their impacts. Definitions for the rankings used can be found in Element B.

**City of Corcoran—Hazard Profiles**

<b>Hazard</b>	<b>Probability of Occurrence</b>	<b>Potential Magnitude/ Geographic Extent</b>	<b>Significance</b>
Dam Failure	Unlikely	Critical	Low
Drought	Occasional	Critical	High
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Likely	Critical	High
Fog	Highly Likely	Limited	Medium
Freeze	Likely	Limited	Low
Landslide	Unlikely	Negligible	Low
Soil Hazards: Expansive, Liquefaction, Erosion	Occasional	Limited	Low
Tornado	Occasional	Limited	Low
Wildfire	Unlikely	Negligible	Low

## Vulnerability Assessment

The vulnerability assessment analyzes the population, property, and other assets at risk to natural hazards. This section lists Corcoran’s assets at risk to natural hazards, including critical facilities and infrastructure; historic, cultural, and natural resources; and economic assets. It discusses the impacts that occurred in past events and vulnerability to specific hazards ranked of medium to high significance.

## Asset Inventory

The table that follows lists the critical facilities and other community assets identified by Corcoran’s planning team as important to protect in the event of a disaster.

**City of Corcoran—Critical Facilities and other Community Assets**

<b>Facility</b>	<b>Replacement Value</b>	<b>Occupancy/Capacity</b>
City Hall/Police Department	2.8/8.0 mil	15/12
Kings County Fire Station	2.5	4
Corcoran District Hospital	40mil	120
Wastewater treatment plant	18 mil	1.75 MGD / 2.0MGD
Wastewater distribution system (16 sewer lift stations and 18 miles of transmission lines)	42 mil	?
Water wells	9	12 to 24 MGD depending on the time of the year
Booster pumps	8 – Booster Pumps located at three booster pump stations	At low head they should be able to push 14-18 MGD
Water Treatment Plant	25 mil	21.6 MGD
Water storage tanks	7 – treated water storage tanks	4.795 MG
Veterans’ Hall	1 mil	200

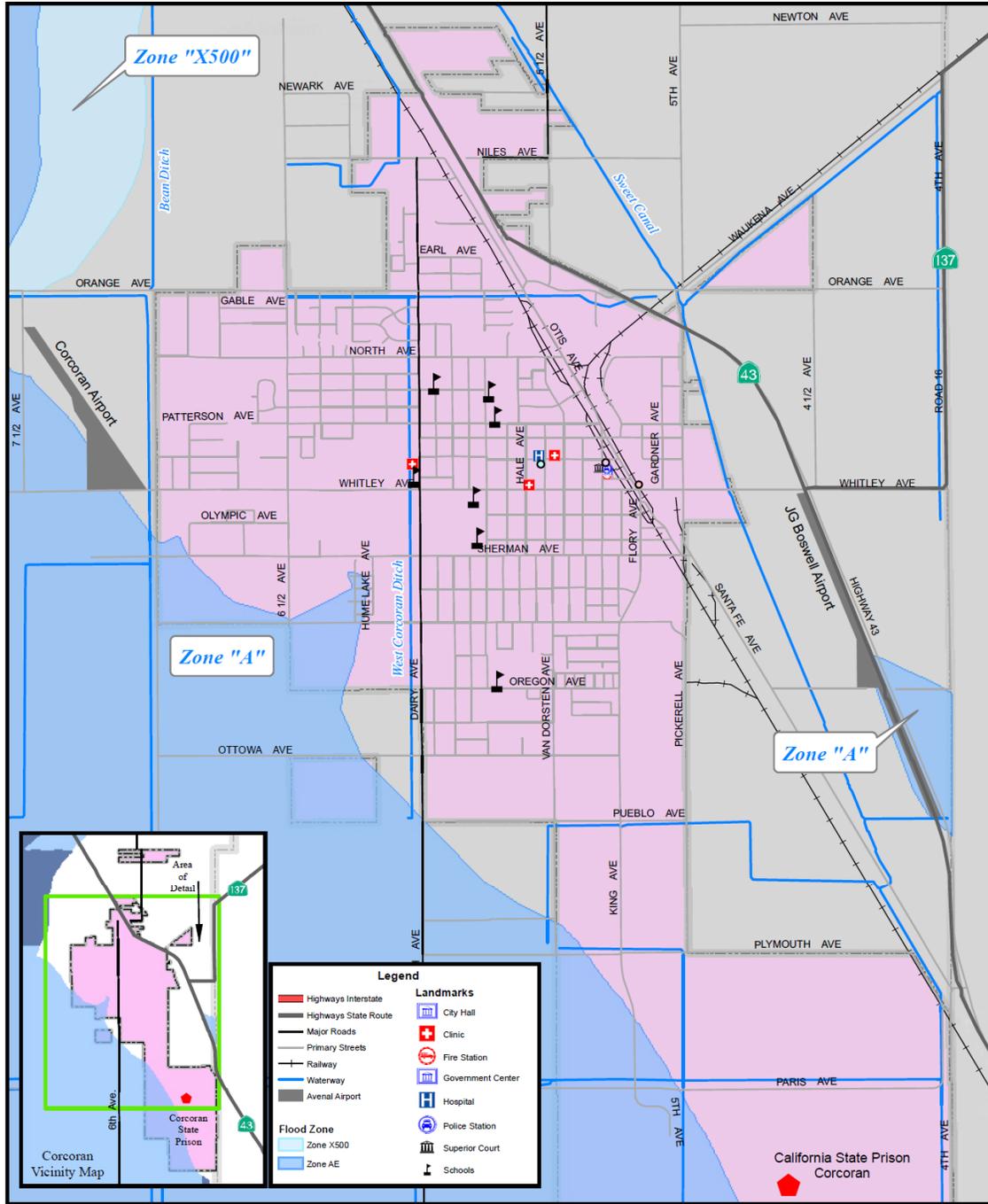
The city provides water, sewer, and storm drainage services.

Potable water is tapped through wells controlled by the Public Works Department. Facilities include (9) deep water wells, (1) Water Treatment Plant, (3) Booster Stations, (7) Treated Water Storage Tanks and approximately (18+) miles of water transmission lines.

The wastewater treatment plant is located at the corner of Pueblo and Kings Avenues. Treated wastewater effluent is disposed of on 338 acres located south of this location. The wastewater collection system includes (16) sewer lift stations and approximately (18 ) miles of wastewater collection lines.

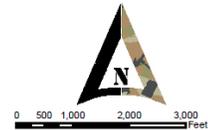
The storm water system includes (7) lift stations and underground transmission lines for storm water flows. It also uses the Corcoran Irrigation District transmission line/canal located along Dairy Avenue and along Sherman Street to carry storm water flows to the storm water retention pond located on Oregon Avenue.

The state prisons in Corcoran cover over 942 acres. Corcoran’s planning team discussed the need to evaluate the unique emergency considerations the prison may pose for the city and to coordinate with the prison on their emergency response plans. The map on the following page shows the City’s flood threat.



Print Date : October 7, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
Corcoran Flood Hazard**



## Estimating Potential Losses

The table below shows Corcoran’s total exposure to hazards in terms of population and the number and values of structures. Kings County Assessor’s data was used to calculate the improved value of parcels. GIS was used to quantify the number and value of structures in the 100-year (Zone A) and 500-year (X-500) flood hazard areas.

**City of Corcoran—Exposure to Hazards**

Corcoran	Population	Structures	Value
Total Exposure (Earthquake)	24,813	2,966	\$257,957,828
Flood: Zone A		12	\$721,413
Flood X-500		12	\$721,413

The local economy in Kings County and particularly in Corcoran, depends on the agricultural industry. Natural hazard events that may not significantly threaten life or structural property but that result in agricultural losses, such as drought, flooding, and freezing temperatures, can have rippling impacts on Corcoran’s economy. Agricultural losses result in lost jobs in the field and local processing plants, which eventually leads to declining sales tax revenue for the local government.

Impacts of past events and vulnerability to specific hazards are summarized below.

### Drought

Corcoran obtains its drinking water from groundwater sources. Drought events deplete the aquifer, which affects water quality and increases water treatment costs. Surface water is used for irrigation purposes. The Cross Creek Flood Control District controls and distributes these water rights. When there is a shortage of surface water, agriculture acreage may be left fallow, negatively affecting the local economy. The 1987-1992 drought resulted in the city adopting the Water Use and Service ordinance in 1991 to prohibit certain wasteful water uses. The ordinance is described further in the Capability Assessment section of this annex.

### Earthquake

Corcoran is in Seismic Zone 3, where California does have certain requirements for the seismic building safety of police and fire facilities and hospitals. Although the mapped seismic hazard is not as great as in other parts of the county, Corcoran is located in areas where the soils are mapped as having liquefaction potential. In addition, there are several unreinforced masonry buildings in downtown. Corcoran’s planning team identified the hospital, which was built before 1973, as a vulnerable structure to an earthquake event.

### Extreme Heat

During the extreme heat event in summer 2006, human safety, agricultural crops, and livestock were impacted in Corcoran. There were four fatalities, of which most were elderly citizens. The cotton yield was smaller than normal, and 20 percent of the tomato crop was

lost. The extreme heat also caused death in livestock and created a problem in carcass disposal. Power outage was also a problem. The city opened cooling centers during this event. In the last five years, 2007 – 2012 the city opened cooling centers for the population at the Veterans Hall to provide relief.

### **Flood**

Corcoran is located on the eastern edge of the Tulare Lakebed, which is mapped in the 100-year flood hazard area. Flood vulnerability has been lessened by structural measures such as levees. In 1983, emergency flood protection levees were constructed along Cross Creek and the Tule River to protect Corcoran from Tulare Lake flooding. In the emergency situation, the levees were not built to certification criteria. Corcoran is not located in the mapped inundation area for dam failures. However, if there was an upstream dam failure that occurred at a time when there was already flooding in the lake basin, then the city would be at risk. No critical facilities are located in the mapped flood hazard areas except a corner of the Corcoran airport and the east side of Highway 43 near the JG Boswell airport.

### **Fog**

Fog is primarily a life-safety concern in Corcoran that is related to traffic accidents. Fog advisories are used to delay school and bus schedules. Potential mitigation of fog hazards involves better street lights, traffic lights, and controlled intersections. State Highway 43 is one problem area, and solutions will require working with the California Department of Transportation. The city recently annexed areas on the east side of Highway 43. Development here is likely making the fog-related traffic problem worse.

### **Other Hazards**

Past freezing events have caused city-owned water pipes and valves to break. In January 2007 freeze hit local pistachio farmers the hardest. Expansive soils do exist in the county and there are construction requirements addressed in building permits. There are also issues with land subsidence, which primarily impact water wells causing them to buckle. Subsidence also may affect levees and canals.

### **Future Development Trends**

Growth is occurring in the northwest, southeast, and northeast parts of Corcoran, and the city has recently annexed additional parcels in these areas. Population has remained in Corcoran over the past several years. This is partly due to the state prison inmates and staff and also due to recent annexations. The California High Speed Rail project is proposed to run through the city limits which will have an impact on the city. The Police Department is planning for a new facility. The design and engineering is completed and the land pending funding. This facility will also include an Emergency Operations Center.

**City of Corcoran—Change in Population and Housing Units, 2000-2010**

2000 Population	2010 Population	Percent Change	2000 Housing Units	2010 Housing Units	Percent Change
20,835	24,813	20.5%	3,016	3,958	31.6%

**CAPABILITY ASSESSMENT**

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The assessment is divided into five sections: regulatory, administrative and technical, fiscal, outreach and partnerships, and other mitigation efforts.

**Regulatory Capability**

The table that follows indicates which planning and land management tools typically used by local and tribal jurisdictions to implement hazard mitigation activities are in place in Corcoran.

**City of Corcoran—Regulatory and Planning Capabilities**

Regulatory Tool	Yes/No	Comments
General plan	Yes	Updated March 2007
Zoning ordinance	Yes	
Subdivision ordinance	Yes	Includes development fees
Site plan review requirements		
Growth management ordinance	No	City does restrict densities in certain areas
Floodplain ordinance	Yes	Floodplain Management Regulations, 1997
Other special purpose ordinance (storm water, steep slope, wildfire)	Yes	Water Use and Service, 1991 Resource Conservation and Open Space District
Building code	Yes	Version: 2001 Uniform Building Code California
Fire department ISO rating		Rating: 4 Kings County Fire Department
Erosion or sediment control program		
Storm water management program	Yes	2006 Revised Master Plan. Stormwater drainage charges for new development
Capital improvements plan	Yes	Five-year capital improvements plan
Economic development plan	Yes	
Local emergency operations plan	Yes	Plan is proposed to be updated in 2013

**Corcoran General Plan, 2007** – The updated general plan was referenced for this planning process. It is incorporated into the hazard mitigation plan. The city has updated the safety element of the general plan with information from the 2007 planning process.

**Floodplain Management Regulations, 1997** – This ordinance designates requirements for proposed building in flood-prone areas within the city. FEMA has developed new digital FIRMs (DFIRMs) for all of Kings County.

**Water Use and Service Ordinance, 1991** – This ordinance prohibits certain wasteful water uses and designates three water conservation stages, which are implemented by the city manager based upon the recommendations of the public works department.

**Corcoran Planning Commission** – The commission is comprised of seven citizen members appointed by City Council. The commission reviews and approves proposals or makes recommendations to the City Council.

Corcoran is currently developing an emergency operations plan in coordination with Kings County, which is expected to be completed in 2013. Other city plans include a capital improvements plan, sewer master plan, water treatment master plan, parks plan, downtown plan, and façade program.

**Administrative and Technical Capability**

The table below identifies the city personnel responsible for activities related to mitigation and loss prevention in Corcoran. A summary of technical resources follows.

**City of Corcoran—Administrative and Technical Capabilities**

Personnel Resources	Department/Position
Planner/Engineer with knowledge of land development/land management practices	Community Development Department/Director
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	Public Works Department/Director
Full time building official	Community Development Department. One building official and one code enforcement officer.
Floodplain administrator	The City Manager is appointed the floodplain administrator by ordinance
Emergency manager	The Police Chief is appointed the emergency manager by ordinance
Grant writer	Community Development Department or contractor
GIS technician	County Contract with Kings County

Corcoran contracts with the Kings County Planning Agency for GIS data and technical assistance. The city has in place the Connect CTY system. This service is a fully managed application service provider that allows municipalities to deploy a time-based emergency notification system to citizens. Similar to a Reverse 911 except that it is internet based rather than through analog phone lines.

## Fiscal Capability

The following table identifies financial tools or resources that the city could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

**City of Corcoran — Available Financial Resources**

Financial Resources	Accessible/ Eligible to Use	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	Impact fees
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	Water, sewer, storm drainage
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	Yes	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

## Outreach and Partnerships

Corcoran participates in the “Are You Okay?” program administered by the Kings County Sheriff’s Office. The program is a free computerized telephone system used to check on senior citizens or disabled/homebound individuals.

## Summary of Key Issues And Risk

Corcoran’s risk assessment revealed problem areas to be addressed in the mitigation strategy. These include the following:

- Drought events deplete the aquifer from which Corcoran obtains its groundwater, which affects water quality and increases water treatment costs. Drought also impacts the local agricultural economy.
- Earthquake hazard risk in Corcoran is moderate but soils have liquefaction potential, which may amplify the effects of ground shaking.
- The hospital and fire department, as well as several unreinforced masonry buildings located in downtown, have been identified as vulnerable in an earthquake event.
- Tule fogs during the winter season create dangerous conditions at traffic intersections and along State Highway 43.
- Extreme heat events are highly likely to continue in the future and are dangerous to humans, particularly the elderly, and to livestock.
- Corcoran is located on the eastern edge of the Tulare Lake basin and is protected by levees from periodic flooding.

- Corcoran continues to experience steady growth, which increases its vulnerability to hazards, including earthquakes, flooding, and drought.

## **GOALS AND OBJECTIVES**

The city of Corcoran adopts the hazard mitigation goals and objectives developed by the Planning Team and described in Element C.

## **MITIGATION ACTIONS**

The planning team for the city of Corcoran identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

## 2012 Mitigations Actions

### Mitigation Action: Corcoran #1—Veterans’ Memorial Building

**Current Status: Carry over from 2007 Plan**

<b>Action:</b>	Expand the Veterans’ Memorial Building and designate it as an emergency shelter.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	Currently, the Veterans’ Memorial Building has a capacity of 200 people. This is the only public hall located in Corcoran outside of the YMCA and the seniors’ centers. This is an ideal site to operate a facility for people to come to cool off during extreme heat events and for other disaster-related needs due to its location adjacent to the Corcoran Hospital. We feel we would need to have the capacity to handle at least 400 people and more, if possible.
<b>Ideas for Implementation:</b>	Our proposal is to expand the hall north toward Hannah and the Corcoran District Hospital adding additional room for any and all public functions and needs.
<b>Responsible Office:</b>	Corcoran Public Works Department
<b>Partners:</b>	State of California, various veterans’ groups
<b>Potential Funding:</b>	HMPG, PDM, other grant sources from state or veterans’ groups
<b>Cost Estimate:</b>	\$1,000,000
<b>Benefits: (Losses Avoided)</b>	Reduce health impacts during extreme heat events by providing a cooling station adjacent to the hospital. Improve response and preparedness for emergency events by developing an emergency shelter in the center of town. This is a multi-objective project that will provide a public building to serve other community needs as well.
<b>Timeline:</b>	End of 2015
<b>Completed by:</b>	Public Works Department, Director
<b>Remarks:</b>	<i>Project Disposition: The need to keep this project and carry over from the 2007 planning process was identified during the project review workshop held with the city on October 25<sup>th</sup>.</i>

**Mitigation Action: City of Corcoran #2—Assessment of the Impact of the High Speed Rail Project Critical Infrastructure**

<b>Action:</b>	Assess vulnerability of critical infrastructure and lifeline utilities, including access and egress routes to the construction of an elevated high speed rail route on the western side of Corcoran. Identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	Cities and community service districts within the county are responsible for providing necessary daily services such as water, sewer, and storm drainage to residents. The creation of a 28 mile long high speed rail corridor with a minimum above grade track elevation of 10 feet greatly complicates many of these issues. The lack of on grade crossings canalizes traffic to a limited number of overpasses, complicating evacuation, emergency response and potentially prisoner transport or relocation in times of disaster. The impact of this corridor on flooding, traffic, evacuation and urban growth are poorly understood at best.
<b>Ideas for Implementation:</b>	Incorporate an assessment of the high speed rail infrastructure into the state mandated EIR for the high speed rail project. This assessment can also then be incorporated into the city's community planning efforts to identify and prioritize needed infrastructure improvements or enhancements to reduce the vulnerability of crucial infrastructure from natural hazard risk exasperated by this major public works project.
<b>Responsible Office:</b>	Kings County and Corcoran Community Development Agencies
<b>Partners:</b>	Kings County Community Development Agency, Community Service Districts and Public Utility District.
<b>Potential Funding:</b>	Kings County General Fund for community planning efforts and LAFCO funds for preparation of state mandated EIRs.
<b>Cost Estimate:</b>	\$30,000 to \$100,000 for each of the unincorporated and incorporated communities along the rail corridor.
<b>Benefits: (Losses Avoided)</b>	By identifying the potentially negative impacts of this massive public works project more effective and realistic emergency plans and planning can be accomplished to minimize these impacts. Identifying the impacts to transportation, access and egress, resource mobilization and movement, confusion and delays can be avoided during major response activities, especially during major natural disasters.
<b>Timeline:</b>	Completed by the end of calendar year 2014 to coincide with the estimated beginning of construction on the HSR system.
<b>Remarks:</b>	<i>Project Disposition: The need for this project was identified during the project review workshop held with the city on October 25<sup>th</sup>, based on the county response to the 30,000 pages of environmental review documents they had to comment upon on this project.</i>

**Mitigation Action: City of Corcoran #3—Emergency Power System for the Veteran’s Hall shelter site.**

<b>Action:</b>	Purchase, Install, test and utilize a 200 KW Diesel powered emergency Generator system for the Veteran’s Hall Shelter Site, which would provide emergency shelter, cooling, medical device power and recharging, refrigeration for critical medications, and life safety for residents and vulnerable populations during heat emergencies, disasters and other interruptions of commercial power.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	The City of Corcoran has experienced almost annual heat emergencies. These emergencies tend to correspond to mandatory reductions in power consumption, rolling blackouts or commercial power system failures. The city has a large senior and special needs population which are dependent on power for refrigeration of medications, cooling and food preparation. The Veterans Center has served as the primary shelter site for the city. It currently has no emergency power, which means that a power outage no matter what the source can place this special needs population at risk. Emergency power would provide heating and cooling for the sheltered population, power to maintain medical devices, refrigeration and meal preparation for this population. Emergency power enables the Veteran’s center to maintain its functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond the City’s normal budgetary processes. This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local fund raising effort.
<b>Responsible Office:</b>	OES and Public Works
<b>Partners:</b>	Kings County OEM
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially tribal gaming revenues.
<b>Cost Estimate:</b>	\$350,000 for the complete 200KW system including generator, fuel tanks, automatic transfer switches, pad and labor.
<b>Benefits: (Losses Avoided)</b>	Emergency power system will ensure the Veteran’s Center can stay on line independent of commercial power. This will allow them to continue their mission of sheltering and caring for the senior population and special needs population within the city. It also creates a community resource in the event of a disaster that can shelter additional people, provide a clinic site for casualty collection and treatment, and provide a resource to assist in disaster food service and population protection. The ability to maintain the HVAC systems by generator will allow the center to be used annually during heat waves despite limitations of the commercial power grid.
<b>Timeline:</b>	Desired completed by the end of calendar year 2014 to correspond with the completion of the new Hazard Mitigation and Emergency Plans.

**Mitigation Action: City of Corcoran #4—Construct new integrated Public Safety Building**

<b>Action:</b>	Construct the \$12,000,000 public safety center in accordance with approved plans on the site procured by the City for the project.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	The City's Police, Fire, EMS and communications agencies and departments are scattered in several buildings, with inadequate space and resources to effectively coordinate operations on a daily basis and during a disaster. In recognition of this situation the City has completed plans for an integrated public safety center adequate to meet present and anticipated requirements for the life of the center. The City has identified and procured sufficient land to construct the center.
<b>Ideas for Implementation:</b>	Due to the current identified needs versus the current economic reality, the city lacks the where-with-all to construct the center without assistance. The critical location of this facility near several large prisons, east of the divisive rail corridor from the bulk of the county and in a community at significant risk make this a very high priority project. The size of the center would allow sub-station activity and an area command activity to be conducted for both the city and the eastern portion of King's County.
<b>Responsible Office:</b>	City of Corcoran Public Works and Police Department
<b>Partners:</b>	Kings County OEM, Fire and Sheriff's Office.
<b>Potential Funding:</b>	General Fund, HMP Grants, EOC Grant Program, Partnership with State, county and Transportation Agencies.
<b>Cost Estimate:</b>	\$12-15 Million due to increases in cost due to delays in beginning construction.
<b>Benefits: (Losses Avoided)</b>	Integrating key response agencies, the PSAP and EOC functions into one modern, disaster resistant site are obvious. Greatly improves daily and disaster emergency coordination, resources management and response.
<b>Timeline:</b>	Completed by the end of calendar year 2014 dependent on funding.
<b>Remarks:</b>	<i>A shovel ready project since the planning process has been completed.</i>

## 2007 Mitigation Actions

### Mitigation Action: Corcoran #2—Assessment of Critical Facilities

Current Status: Completed (See Remarks box)

<b>Action:</b>	Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	In the case of a natural or manmade disaster, we need to ensure that our critical facilities will remain operational or quickly recover from the event and comply with all state and federal regulations.
<b>Ideas for Implementation:</b>	Obtain funds for structural engineering inspections of critical structures within the city. Public schools and hospitals must comply with all federal and state regulations regarding design loads and seismic load designs. Once inspections are completed, needed projects can be identified and prioritized for funding and implementation.
<b>Responsible Office:</b>	Corcoran Building Department
<b>Partners:</b>	Public schools, hospitals, private engineering companies
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, other U.S. Department of Homeland Security grants
<b>Cost Estimate:</b>	Unknown
<b>Benefits: (Losses Avoided)</b>	Improved structural stability of our critical care facilities, fire/police facilities, and schools, which are critical to our ability to provide emergency medical and other services to the citizens of our community and to protect our children.
<b>Timeline:</b>	Three to five years
<b>Completed by:</b>	Kevin Tromborg, Building Department, Building Official
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdiction subject to this plan. The work was completed in 2007-2008 as part and parcel of the Safety Element and municipal service review updates. The methodology involved was to execute comprehensive service capacity surveys for the cities and special districts</i>

**Mitigation Action: Corcoran #3—Assessment of Lifeline Utilities**

**Current Status: not completed, continued to 2012 projects.**

<b>Action:</b>	Assess vulnerability of lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	High
<b>Issue/Background:</b>	All of these systems are set up and evaluated for safe delivery of water and removal of wastewater with the quality of the water and integrity of the wastewater stream being paramount. An assessment of the risks due to hazard events has not been done and would be beneficial and an asset to the City of Corcoran.
<b>Ideas for Implementation:</b>	The water treatment, distribution, wastewater treatment and collection system should be evaluated and reviewed by professionals who are familiar with the impacts of hazard events and who can make recommendations as to how to mitigate these risks. Once the evaluation is completed, the city can identify and prioritize mitigation projects needed in the future.
<b>Responsible Office:</b>	Corcoran Public Works Department
<b>Partners:</b>	
<b>Potential Funding:</b>	California Department of Health Services, Regional Water Quality Control Board
<b>Cost Estimate:</b>	\$100,000
<b>Benefits: (Losses Avoided)</b>	Reduced vulnerability of water and wastewater systems to hazard events, which will help protect life and property.
<b>Timeline:</b>	Three to five years
<b>Completed by:</b>	Steve Kroeker, Public Works Department, Director
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team and information project completion was not available so the planning team will move this project forward for completion in this planning period.</i>

**Mitigation Action: Corcoran #4—Vulnerable Populations**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Develop a program or system for supporting vulnerable populations during emergency events.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	During emergency events, such as extreme heat, power outages etc., there are certain populations at greater risk of suffering medical complications or death. Individuals who rely on electronic medical equipment may not have the capability of using their medical equipment during a power outage. Elderly and ill people are more susceptible to heat-related illness and death during extreme heat events and need to have access to cooling centers. People who live in houses that do not have air-conditions systems need access to cooling centers during extreme heat events.
<b>Ideas for Implementation:</b>	Establish a committee consisting of Public Works, Fire Department, Police Department, local school officials, local medical professionals, and senior citizens groups to identify vulnerable populations and what needs they would have during different emergency events. Identify at least two locations within the city that could be used during emergency events and ensure they are capable of operating on generator power. Utilize the city's Connect CTY telephone system to inform vulnerable populations of the availability of these centers prior to and during emergency event. Have a plan in place for public works to supply transportation to the facility for those who can not get there on their own. Coordinate with medical professionals to determine how best to get the individuals medical equipment to the facility. Ensure there is a supply of water, blankets and other necessities available.
<b>Responsible Office:</b>	Corcoran Police Department
<b>Partners:</b>	Corcoran Fire Department, Corcoran Public Works Department, school officials, medical officials, senior citizen groups
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Corcoran General Fund
<b>Cost Estimate:</b>	\$20,000-\$50,000
<b>Benefits: (Losses Avoided)</b>	Avoids medical emergencies of individuals dependent on medical resources from an already limited pool of emergency resources. Reduces risk to human health and safety during emergency events among the most vulnerable populations.
<b>Timeline:</b>	One year
<b>Completed by:</b>	Gary Cramer, Police Department, Commander
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdictions subject to this plan. The work was completed in 2006-2007 of the Safety Element and municipal service review updates. The methodology involved was to execute comprehensive service capacity surveys for the cities and special</i>

	<i>districts</i>
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**Mitigation Action: Corcoran #5—Safety Element of the General Plan**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Update Safety Element of the General Plan
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The multi-hazard mitigation plan includes a complete hazard risk assessment for the city of Corcoran, similar to information required in the Safety Element of the General Plan. Updating the Safety Element to incorporate this information avoids duplication of effort, improves consistency between city plans, and helps to implement the findings of the mitigation plan.
<b>Ideas for Implementation:</b>	After the multi-hazard mitigation plan is finalized the Safety Element will be reviewed and revised as necessary.
<b>Responsible Office:</b>	Corcoran Community Development Department
<b>Partners:</b>	
<b>Potential Funding:</b>	In-Kind, Corcoran General Fund
<b>Cost Estimate:</b>	\$1,200 for public hearing notices and staff time to amend the General Plan.
<b>Benefits: (Losses Avoided)</b>	Ensure the Hazard Mitigation Plan is incorporated into the City's General Plan Policy.
<b>Timeline:</b>	The Safety Element will be updated within six months of the completion of the hazard mitigation plan
<b>Completed by:</b>	Jeri Grant, Community Development Department, Director
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed by the City.</i>

**Mitigation Action: Corcoran #6—Natural Hazards Review Criteria**  
**Current Status: Completed (See Remarks box)**

<b>Action Title:</b>	Implement natural hazard review criteria for new development to improve long term loss prevention.
<b>Jurisdiction:</b>	City of Corcoran
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	Improving and enforcing all building and planning requirements leads to stronger, safer land development.
<b>Ideas for Implementation:</b>	This action will be implemented primarily through the adoption of the 2006 International Building Code and the 2007 City General Plan, relating to land use and planning. The Building and Planning Departments will work more closely together to prevent or oversee excessive population densities and overcrowding of land with structures. The use of natural and manmade wind barriers and strict enforcement of all seismic D1 design category requirements will be implemented.
<b>Responsible Office:</b>	Corcoran Building Department and Corcoran Planning Department
<b>Partners:</b>	
<b>Potential Funding:</b>	In-Kind, Corcoran General Fund
<b>Cost Estimate:</b>	
<b>Benefits: (Losses Avoided)</b>	Well-placed developments with modern building requirements and strict enforcement of both will result in safe and stronger earthquake and wind resistant structures and developments.
<b>Timeline:</b>	2007 General Plan adopted in May 2007; Updated building code adoption in January 2008
<b>Completed by:</b>	Kevin Tromborg, Building Department, Building Official
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed by the County Planning Department. The new hazard zones have been implemented in all relevant permit and review processes.</i>



## **CITY OF HANFORD**

### **Community Profile**

The city of Hanford is governed by a five-member City Council. Members of the council are elected by district and serve four-year staggered terms. Each year the members select a mayor and vice-mayor from amongst themselves.

### **Geography and Climate**

Hanford is located in the northeastern part of Kings County, approximately 30 miles southwest of the city of Fresno. It is about equidistant from the Sierra Nevada and the Coast Ranges. State Highway 198 runs east and west through Hanford and State Highway 43 runs north and south along the easterly boundary of the city. The ultimate growth boundary of Hanford, which is based on the city's current general plan, includes the incorporated city and its sphere-of-influence and encompasses approximately 30 square miles.

The terrain in Hanford is generally flat and made up of sandy, loam soils. It slopes from northeast to the southwest. Elevations range from 255-240 feet above mean sea level. Like the rest of Kings County, Hanford is in a semiarid climate. It receives average annual precipitation of 8.6 inches. The average high temperature in summer is 96°F and in winter is 49°F. The People's Ditch in the northeastern section of the city is a manmade facility designed as part of a water delivery system that diverts water from the Kings River and distributes it to agricultural areas to the south.

### **History**

Hanford was named after James Madison Hanford, a paymaster for the Central and Southern Pacific Railroad, in 1877. It was incorporated in 1891, after 14 years of destructive fires in the downtown area, to improve firefighting services and provide utilities and paved streets. The settlement quickly grew into a bustling pioneer town with shops, schools, hotels, saloons, and churches. As the county seat, Hanford has developed into the residential, commercial, and industrial center of Kings County.

### **Economy**

As the county seat, Hanford enjoys a median household income for a family of four that is also higher than the county, at \$48,655. Hanford's 2011 average unemployment rate was 14.1%, with an average of 3,400 of its residents not working throughout the year. Skilled, semiskilled and unskilled labor is abundant in the City of Hanford. The area is primarily agricultural in nature and temporary seasonal work is a way of life for many. The agricultural season ebbs after the harvest that occurs around October and November.

### **Population**

Hanford, the largest city and County Seat has approximately 55,123 residents (Kings County Economic Development Corporation, 2012). Hanford has a diverse population that is largely comprised of people with white (41.1%), Hispanic (47.1%), and black (4.4%) ethnic compositions. According to the 2010 Census, 79.0% of adults over the age of 18 have their high school diplomas, 5.5% hold Bachelors Degrees, 3.9% hold Graduate Degrees, and 38.6% have some college or hold Associates Degrees. Numbers are higher than those for

the county as a whole.

## HAZARD IDENTIFICATION

Representatives from the city of Hanford identified hazards that affect the city and developed hazard profiles based upon the countywide risk assessment and past events and their impacts. Definitions for the rankings used can be found in Element B.

**City of Hanford—Hazard Profiles**

Hazard	Probability of Occurrence	Potential Magnitude/ Geographic Extent	Significance
Dam Failure	Unlikely	Critical	Low
Drought	Occasional	Critical	High
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Occasional	Limited	Low
Fog	Highly Likely	Limited	Medium
Freeze	Likely	Limited	Medium
Landslide	Unlikely	Negligible	Low
Soil Hazards: Expansive, Liquefaction, Erosion	Occasional	Limited	Low
Tornado	Occasional	Limited	Low
Wildfire	Unlikely	Negligible	Low

## Vulnerability Assessment

The vulnerability assessment analyzes the population, property, and other assets at risk to natural hazards. This section lists Hanford’s assets at risk to natural hazards, including critical facilities and infrastructure; historic, cultural, and natural resources; and economic assets. It discusses the impacts that occurred in past events and vulnerability to specific hazards ranked of medium to high significance.

## Asset Inventory

The table that follows lists the critical facilities and other community assets identified by representatives from Hanford as important to protect in the event of a disaster.

**City of Hanford—Critical Facilities and other Community Assets**

Facility	Replacement Value	Occupancy/Capacity
Hanford Police Department	\$34,000,000	
Hanford Fire Station No. 1	\$3,800,000	
Hanford Fire State No. 2	\$1,900,000	
Hanford City Airport	\$15,000,000	
Hanford Community Medical Center		
Central Valley General Hospital		
Kerr Center Outpatient Center		
Del Monte Foods		
Adventist Health		
Marquez Brothers		
Senior Center Vets Building	\$3,800,000	
Historic Courthouse Square	\$11,500,000	
Above-Ground Water Tanks	\$8,800,000	
Wastewater Treatment Plant	\$60,000,000	
Kings Fairgrounds		
City Hall	\$4,500,000	
Civic Auditorium	\$4,500,000	
City Pool	\$3,500,000	
Longfield Center	\$4,500,000	
Kings County Government Center		
Kings County Library		
AMTRAK Station		
Carnegie Museum		
China Alley		
Hanford Fox Theater		
Hanford Fraternal Hall		
Downtown Old Sears Building		
Douty Street Phone Building Switching/Control		
St Rose McCarthy Catholic School		
Western Christian School		
College of Sequoias Campus/Learning Center	35,000,000	
GWF Power System (Generation) Plant		
Hanford Industrial Park		

## Estimating Potential Losses

The table below shows Hanford’s total exposure to hazards in terms of population and the number and values of structures. Kings County Assessor’s data was used to calculate the improved value of parcels. GIS was used to quantify the number and value of structures in the 100-year (Zone A) and 500-year (X-500) floodplains. More information on how these estimates were calculated can be found in Element B.

**City of Hanford—Exposure to Hazards**

<b>Hanford</b>	<b>Population</b>	<b>Structures</b>	<b>Value</b>
Total Exposure (Earthquake)	55,123	18,493	\$1,991,860,304
Flood: Zone A		6	\$2,549,083
Flood X-500		6	\$2,549,083

Although the potential magnitude of hazards in Hanford’s planning area are less than in other parts of the county, the highest concentration of population and structures can be found here. This includes many structures of historical significance, as well as cultural significance, such as the Fort Roosevelt Natural Science and History Museum and the Ruth and Sherman Lee Institute for Japanese Art.

Hanford is less socially vulnerable than other parts of Kings County based on demographic factors, including a more affluent population. However, there is a higher proportion of population over 65 (10 percent), which the city should plan for in its outreach and response efforts, as well as for other populations with access and functional needs.

The impacts of past events and vulnerability to specific hazards are summarized below.

### **Drought**

The city of Hanford relies on a groundwater system for municipal water. The city works with the Kings County Water District to deliver excess flows from the Kings River and stormwater runoff into drainage basins to replenish groundwater. When drought events deplete the aquifer, water quality decreases and water treatment costs increase.

### **Earthquake**

Hanford has experienced several ground shaking events from earthquakes over the past few years, both from the San Andreas fault and from the Mammoth area, more than 100 miles to the north. The potential for ground shaking is shown in the EQ hazards map located in the EQ section of Element B. Soils in Hanford are not mapped as having significant liquefaction potential and the Hazards Management Element of the General Plan finds that Hanford is located in a stable geologic formation so that the effects of ground shaking should be minimal. The community’s vulnerability increased due to its large number of unreinforced masonry buildings, many of them historic properties. The city has created a database of the locations of these buildings, which includes many of significance to the community, such as the Kings County Courthouse, Masonic Temple, Episcopal Church, and

the Hanford Elementary District Offices. Recently in 2012, there have been several urban fires that have destroyed some of the unreinforced masonry buildings.

### **Extreme Heat**

During the extreme heat events in the last several summers, human safety was affected in Hanford. Extreme heat is highly likely to occur on an annual basis in Hanford, which causes an increase in energy cost and a danger to the elderly and outside workers. The city did not open cooling centers during the 2006 extreme heat event. The Hanford Mall offered to provide the mall as a location for cooling.

### **Flood**

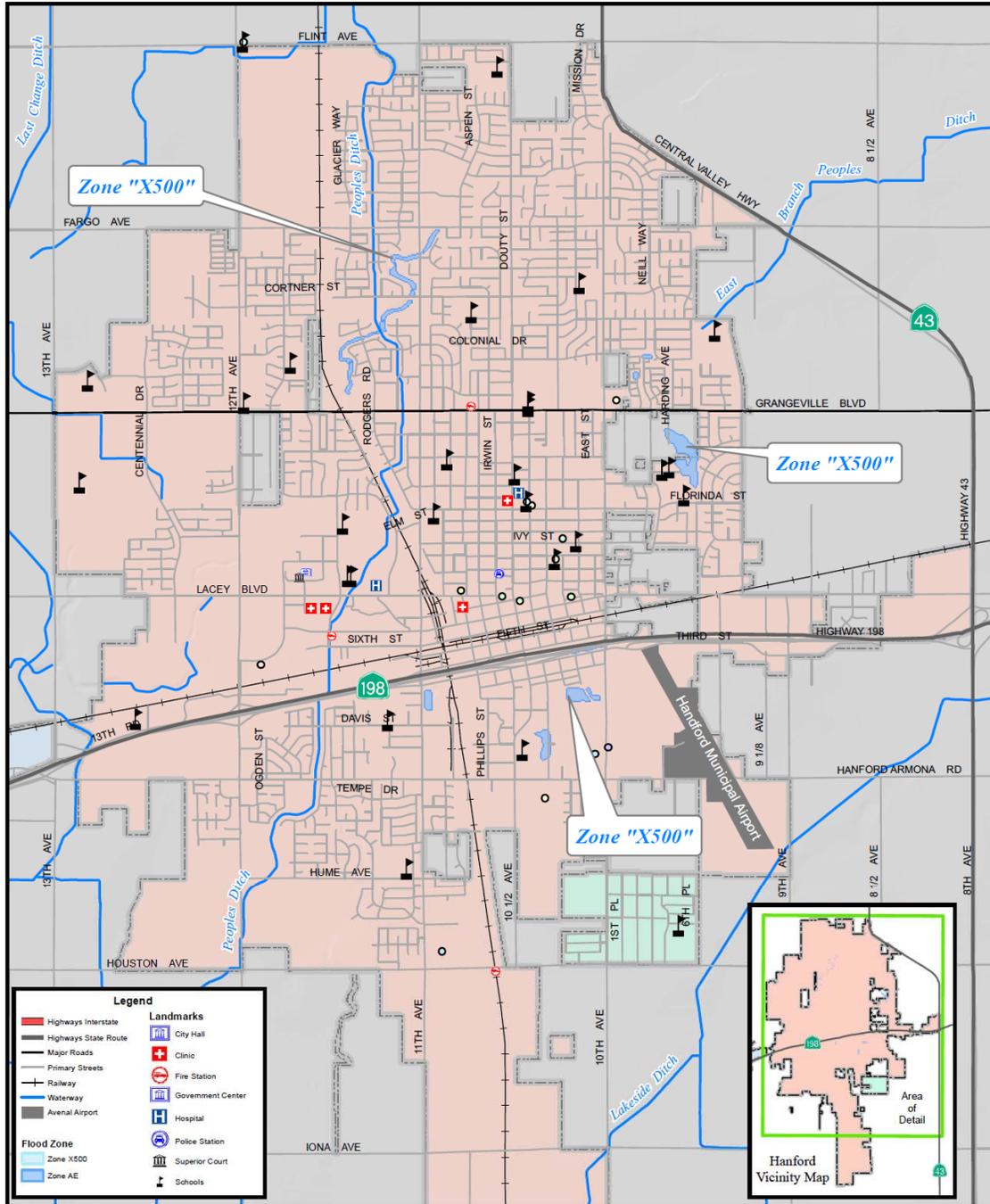
Most of the terrain in Hanford is relatively flat with good drainage due to the sandy loam subsoil. Street flooding is the principal flood problem. There are no proposed or completed flood protection measures in the city. The east branch of Peoples Ditch is a manmade facility, which is part of the water delivery system that diverts water from the Kings River and distributes it to agricultural areas south of the Kings River. The Flood Insurance Study for Hanford (1987) concluded that the Peoples Ditch is not a flood hazard. The city's Flood Damage Prevention Ordinance is based on this study and the 1987 Flood Insurance Rate Map (FIRM). More information on this ordinance is provided in the Capability Assessment below.

### **Fog**

Fog is primarily a life-safety concern in Hanford that is related to traffic accidents. Fog advisories are used to delay school and bus schedules. The city of Hanford requires the installation of street lights at all intersections as well as along the roadway. Traffic lights are also installed when required by the traffic volume.

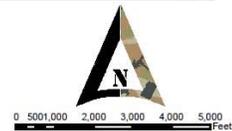
### **Freeze**

Past freeze events have caused private and city-owned water pipes and valves to break. Freeze protection requirements for fire protection equipment (fire sprinkler system) have been enforced to protect fire protection system installed using the current fire codes.



Print Date : October 7, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
Hanford Flood Hazard**



**City of Hanford Flood Hazard Map**

### Other Hazards

Expansive soils do exist in the county and there are construction and inspection requirements that address this soil issue.

Tornados are very rare in the city of Hanford. In the event of a tornado or extreme weather, the Hanford Fire and Police department will increase staffing base on information provided by the National Weather Service. The National Weather Service has an office in Hanford. City departments have an excellent working relationship with the Hanford office staff.

### Future Development Trends

The Land Use Element of the Hanford General Plan describes existing and proposed land use patterns for the City. The plan assumes a 2.8% growth rate. The City is established with commercial nodes throughout the residential areas. Industrial land is located south of Houston Avenue. The City of Hanford is proposing a \$4.5 million project to extend the water mains and construct a water storage tank in the Kings Industrial Park, for the purpose of facilitating industrial development. The project will increase the water supply to the industrial park and improve the system reliability in emergency situations. The extension of the water mains provides a second source of water to the industrial park while the storage tank adds redundancy to the Park's fire suppression capabilities. The project proposes to accommodate an excess of 495 jobs and generate over \$70 million in private sector investment (Kings County Economic Development Corporation, 2012). The California High Speed Rail project is proposed to run through the city limits which will have an impact on the city in several areas.

### City of Hanford—Change in Population and Housing Units, 2000-2012

2000 Population	2012 Population	Percent Change	2000 Housing Units	2012 Housing Units	Percent Change
41,686	53,967	19.7%	14,267	18,493	16.6%

## CAPABILITY ASSESSMENT

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The assessment is divided into five sections: regulatory, administrative and technical, fiscal, outreach and partnerships, and other mitigation efforts.

### Regulatory Capability

The table on the following page lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Hanford.

**City of Hanford—Regulatory and Planning Capabilities**

Regulatory Tool	Yes/No	Comments
General plan	Yes	Adopted June 2002, Scheduled for update to be completed in 2013
Zoning ordinance	Yes	
Subdivision ordinance	Yes	Currently being updated 2012/13
Site plan review requirements	Yes	
Growth management ordinance	No	
Floodplain ordinance		Flood Damage Prevention Regulations 1998
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	Stormwater
Building/fire code	Yes	Version: California Building Standards Code 2005
Fire department ISO rating		Rating: 4 Hanford Fire Department
Erosion or sediment control program	No	
Stormwater management program	Yes	
Capital improvements plan	Yes	
Economic development plan	Yes	City of Hanford 2010 Plan
Local emergency operations plan	Yes	Updated annually and scheduled for a full update in coordination with the county in 2013

The city collects development impact fees for park facilities, fire protection, police protection wastewater system, transportation, water system, stormwater system, and refuse and recycling. The planning department refers appropriate project applications to the fire department and/or police department for review and comment.

**Hanford General Plan, 2002** – The General Plan was updated in 2002 and is intended to guide the development of Hanford over the next 20-25 years. The plan sets goals, objectives, policies, and programs for six elements: land use; circulation; hazards management; open space, conservation, and recreation; housing; and public facilities and services. The hazards management element addresses seismic safety, safety, noise, and air quality. Update of this plan is scheduled for completion in 2013.

**Flood Damage Prevention Regulations, 1998** – The purpose of this ordinance is to minimize public and private losses due to flood conditions by restricting certain uses and requiring certain protections in areas of special flood hazards as identified in FEMA’s 1987 FIRM. The new Digital FIRMs (DFIRM) established with FEMA have been integrated into all relevant planning and permit processes for all of Kings County.

**Urban Water Management Plan, 2010** – The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions.

**Hanford Emergency Operations Plan, 2008** – The emergency plan defines the responsibilities of the city staff in response to emergency situations and provides for the powers and duties of the Disaster Council. Hanford has adopted Section 6-3 of the Kings County Code of Ordinances providing for disaster council membership. The Disaster Council develops and recommends for adoption by the Kings County Board of Supervisors and city councils of Avenal, Corcoran, Hanford, and Lemoore emergency and mutual aid plans and agreements and necessary ordinances and resolutions. This plan is scheduled for a full update in 2013.

**Water Conservation and Water Meter Program** - The city of Hanford has a water conservation program that limits the use of outdoor watering through regulating the timing and types of outdoor water use. Water meters are required on services for all new construction, remodels in excess of \$5,000 or installation of a swimming pool. At the request of a customer to convert from a flat rate service to a metered service, the city will install the meter and bill the customer for costs not to exceed \$500.

**Conservation and Open Space Zoning District** – This zoning district applies to pathways, storm drainage basins, and water recharge areas throughout the city and is intended to provide for permanent open spaces in areas of the city that exhibit significant vegetation, scenic qualities, wildlife or recreation potential, and that are designated as open space sites by the General Plan.

Other city plans include the Downtown Architectural Design Guidelines Plan, Master Streetscape and Street Tree Plan, Hanford 2010 Plan, and the City of Hanford 2005-2009 Consolidated Plan which was submitted to the U.S. Department of Housing and Urban Development to document the city’s comprehensive strategy to address the needs of low and moderate income residents.

### **Administrative and Technical Capabilities**

The table below identifies the city personnel responsible for activities related to mitigation and loss prevention in Hanford. A summary of technical resources follows.

**City of Hanford—Personnel Capabilities**

<b>Personnel Resources</b>	<b>Department/Position</b>
Planner/Engineer with knowledge of land development/land management practices	Community Development Department
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	Public Works Department
Full time building official	Community Development Department
Floodplain Administrator	Community Development director is appointed by ordinance
Emergency Manager	Hanford Fire Chief
Grant writer	No
GIS	Under contract with the county for GIS services

## Fiscal Capability

The following table identifies financial tools or resources that the city could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

**City of Hanford—Available Financial Resources**

Financial Resources	Accessible/ Eligible to Use	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	No	
Fees for water, sewer, gas, or electric services	Yes	Water, sewer, trash
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	Yes	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

## Outreach and Partnerships

The Hanford Fire Department provides several public education programs, including the topics of water use, earthquake awareness, fire safety, disaster preparedness, and other types of public safety classes.

## Summary of Key Issues and Risk

Hanford's risk assessment revealed problem areas to be addressed in the mitigation strategy. These include the following:

- Earthquake hazard risk in Hanford is moderate but the city has a large number of older community buildings of unreinforced masonry construction that are vulnerable to ground shaking.
- Hanford relies on groundwater, which can be depleted during drought events, resulting in poor water quality and increased treatment costs.
- Extreme heat events are highly likely to continue in the future and are dangerous to human safety, particularly to the elderly.

## GOALS AND OBJECTIVES

The city of Hanford adopts the hazard mitigation goals and objectives developed by the Planning Team and described in Element B.

## **MITIGATION ACTIONS**

The planning team for the city of Hanford identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

## 2012 MITIGATION ACTIONS

### Mitigation Action: City of Hanford #1—Public Education Program

Current Status: Partially completed and carried over to 2012 plan (See Remarks box)

<b>Action:</b>	Develop and implement a comprehensive strategy to improve ongoing public education regarding natural hazards and risk.
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	The Planning Team identified the lack of public awareness about natural hazards risk and preparedness as an obstacle to reducing potential losses in the county. In addition, as various issues arise, there is a need to effectively inform the public about them.
<b>Ideas for Implementation:</b>	Improved information about natural hazards may be implemented into media outlets and tools already in use by the city, such as the following: 1) a media list is compiled at the City Manager's Office for distribution of fax or email information; 2) the city website home page is updated, as needed, to include information on pertinent topics, such as Warming Centers, Heat Related Illness, West Nile Virus, etc.
<b>Responsible Office:</b>	Fire Department
<b>Partners:</b>	Kings County OEM/Fire Department
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Kings County General Fund, In-Kind
<b>Cost Estimate:</b>	
<b>Benefits: (Losses Avoided)</b>	Provides timely, accurate information to our public, both constituents and employees. Ensures consistent information flow. Improves public awareness and education.
<b>Timeline:</b>	Internal newsletter is published quarterly. Media notices and news conferences are sent as needed.
<b>Completed by:</b>	Tim Ieronimo, Fire Chief
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. The committee agreed to carry this project forward and to move responsibility for a more comprehensive public education program on disaster preparedness to the Fire Chief</i>

**Mitigation Action: City of Hanford #2—Assessment of the Impact of the High Speed Rail Project Critical Infrastructure**

<b>Action:</b>	Assess vulnerability of critical infrastructure and lifeline utilities, including access and egress routes to the construction of an elevated high speed rail route through Hanford. Identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	Cities and community service districts within the county are responsible for providing necessary daily services such as water, sewer, and storm drainage to residents. The creation of a 28 mile long high speed rail corridor with a minimum above grade track elevation of 10 feet greatly complicates many of these issues. The lack of on grade crossings canalizes traffic to a limited number of overpasses, complicating evacuation, emergency response and potentially prisoner transport or relocation in times of disaster. The impact of this corridor on flooding, traffic, evacuation and urban growth are poorly understood at best.
<b>Ideas for Implementation:</b>	Incorporate an assessment of the high speed rail infrastructure into the state mandated EIR for the high speed rail project. This assessment can also then be incorporated into the city's community planning efforts to identify and prioritize needed infrastructure improvements or enhancements to reduce the vulnerability of crucial infrastructure from natural hazard risk exasperated by this major public works project.
<b>Responsible Office:</b>	Kings County and Hanford Community Development Agencies
<b>Partners:</b>	Kings County Community Development Agency, Community Service Districts and Public Utility District.
<b>Potential Funding:</b>	Kings County General Fund for community planning efforts and LAFCO funds for preparation of state mandated EIRs.
<b>Cost Estimate:</b>	\$30,000 to \$100,000 for each of the unincorporated and incorporated communities along the rail corridor.
<b>Benefits: (Losses Avoided)</b>	By identifying the potentially negative impacts of this massive public works project more effective and realistic emergency plans and planning can be accomplished to minimize these impacts. Identifying the impacts to transportation, access and egress, resource mobilization and movement, confusion and delays can be avoided during major response activities, especially during major natural disasters.
<b>Timeline:</b>	Completed by the end of calendar year 2014 to coincide with the estimated beginning of construction on the HSR system.
<b>Remarks:</b>	<i>Project Disposition: The need for this project was identified during the project review workshop held with the city on October 26<sup>th</sup>, based on the county response to the 30,000 pages of environmental review documents they had to comment upon on this project.</i>

## 2007 MITIGATION ACTIONS

### Mitigation Action: Hanford #1—Retrofits of Water Storage Tanks

Current Status: Partially completed and carried over to 2012 plan (See Remarks box)

<b>Action:</b>	Complete seismic retrofits of two of city's water storage tanks.
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	The city of Hanford has two water storage tanks holding a combined capacity of 800,000 gallons that are in need of seismic retrofit. In the event of an earthquake, it is possible that the tanks and pipelines connections to the tanks would sustain catastrophic damage depending on the magnitude of the earthquake. In addition, fire risk is greatly increased after earthquakes due to damaged natural gas lines and electrical lines. Without access to water for firefighting, the community is at great risk to a catastrophic loss due to fire.
<b>Ideas for Implementation:</b>	To mitigate this problem, a retrofit to all of the connections to the water tanks will be completed with flexible earthquake dampening connections at the points where the pipelines connect to the tank. A strategy will be developed for funding these projects through grants and or capital improvement projects.
<b>Responsible Office:</b>	Hanford Department of Public Works
<b>Partners:</b>	Hanford Building Department, Hanford Fire Department, Hanford City Council
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, other state or federal grants, Hanford General Fund
<b>Cost Estimate:</b>	Undetermined
<b>Benefits: (Losses Avoided)</b>	Avoids future losses by making water tanks more resistant to earthquakes and preserving water supply in case of fire. This will also prevent or minimize a health crisis due to lost of drinking water and sanitary facilities.
<b>Timeline:</b>	Five years
<b>Completed by:</b>	Tim Ieronimo, Hanford Fire Department, Chief
<b>Remarks:</b>	<i>Project Disposition: The need for this project to continue was identified during the project review workshop held with the city on October 26<sup>th</sup>.</i>

**Mitigation Action: Hanford —GIS Database of URMs**

**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Develop GIS database of unreinforced masonry (URM) buildings.
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	The city of Hanford has 58 URM buildings in the downtown core of the city. The Hanford Fire Department has developed a list of the URM buildings for use during an emergency. The creation of a GIS database of URM buildings with all of the basic building information attached would greatly enhance the response of emergency management personnel during an event and could be used to develop a program for retrofitting these buildings over time.
<b>Ideas for Implementation:</b>	Currently, the city of Hanford, within its fire, police and public works departments, has GIS capabilities to a limited degree. We have some base maps and limited knowledge and training on the GIS software. On the other hand, the Kings County Planning Agency has much greater knowledge and capabilities and is willing to assist the city. With the assistance of the Kings County Planning Agency and the existing database of URM buildings that the Hanford Fire Department has, this project can be completed within a short period of time. GIS training for the Hanford Fire Department will need to be provided to sustain the GIS database.
<b>Responsible Office:</b>	Hanford Fire Department
<b>Partners:</b>	Kings County Planning Agency
<b>Potential Funding:</b>	Hanford Fire Department
<b>Cost Estimate:</b>	\$2,500
<b>Benefits: (Losses Avoided)</b>	A creation of a GIS database of URM buildings with all of the basic building information attached would greatly enhance the response of emergency management personnel during an event. This will also assist in the development of an earthquake loss reduction program to evaluate vulnerability of URMs and prioritize retrofit projects.
<b>Timeline:</b>	To be completed within three months of adoption of this plan.
<b>Completed by:</b>	Tim Ieronimo, Hanford Fire Department, Chief
<b>Remarks:</b>	<i>Project Disposition: The need for this project to continue was identified during the project review workshop held with the city on October 26<sup>th</sup>.</i>

**Mitigation Action: Hanford—Retrofit URM Buildings in Downtown**

**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Retrofit 58 unreinforced masonry (URMs) buildings in downtown Hanford
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	The city of Hanford is approximately 45 miles east of the San Andreas and Coalinga Fault. Hanford is also approximately 100 miles south of the Mammoth area. In 1983 the Coalinga earthquake shook throughout the city of Hanford as did the more recent earthquake that occurred in (2004/2005). The city has 58 URMs identified in the downtown area. Occupancies of these buildings are retail, professional services, businesses, apartments, and historic buildings. The cost to reinforce these buildings may exceed the property value of the buildings. Property and business owners are unable or unwilling to contribute financially toward building reinforcement or replacement due to the lack of funds or failure to see the risk to themselves and the public. The likelihood is great that most of the buildings downtown would be destroyed or severely damaged by a localized earthquake.
<b>Ideas for Implementation:</b>	Complete an assessment on all URM buildings in the downtown business district to identify and prioritize projects for multi-hazard risk reduction. Develop a strategy for funding of URM retrofit projects.
<b>Responsible Office:</b>	Hanford City Manager
<b>Partners:</b>	Hanford Fire Department, Hanford Planning Department, Hanford Building Department, property owners
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, other federal and state grants, property owners, partnerships with insurance companies
<b>Cost Estimate:</b>	Undetermined
<b>Benefits: (Losses Avoided)</b>	To ensure that corrective action is taken now to prevent the loss of life and property during a large-scale emergency.
<b>Timeline:</b>	Complete assessment and identify funding strategy within five years
<b>Completed by:</b>	Tim Ieronimo, Hanford Fire Department, Chief
<b>Remarks:</b>	<i>Project Disposition: The need for this project to continue was identified during the project review workshop held with the city on October 26<sup>th</sup>.</i>

**Mitigation Action: Hanford —Assessment of Critical Facilities**

**Current Status: Completed (See Remarks box)**

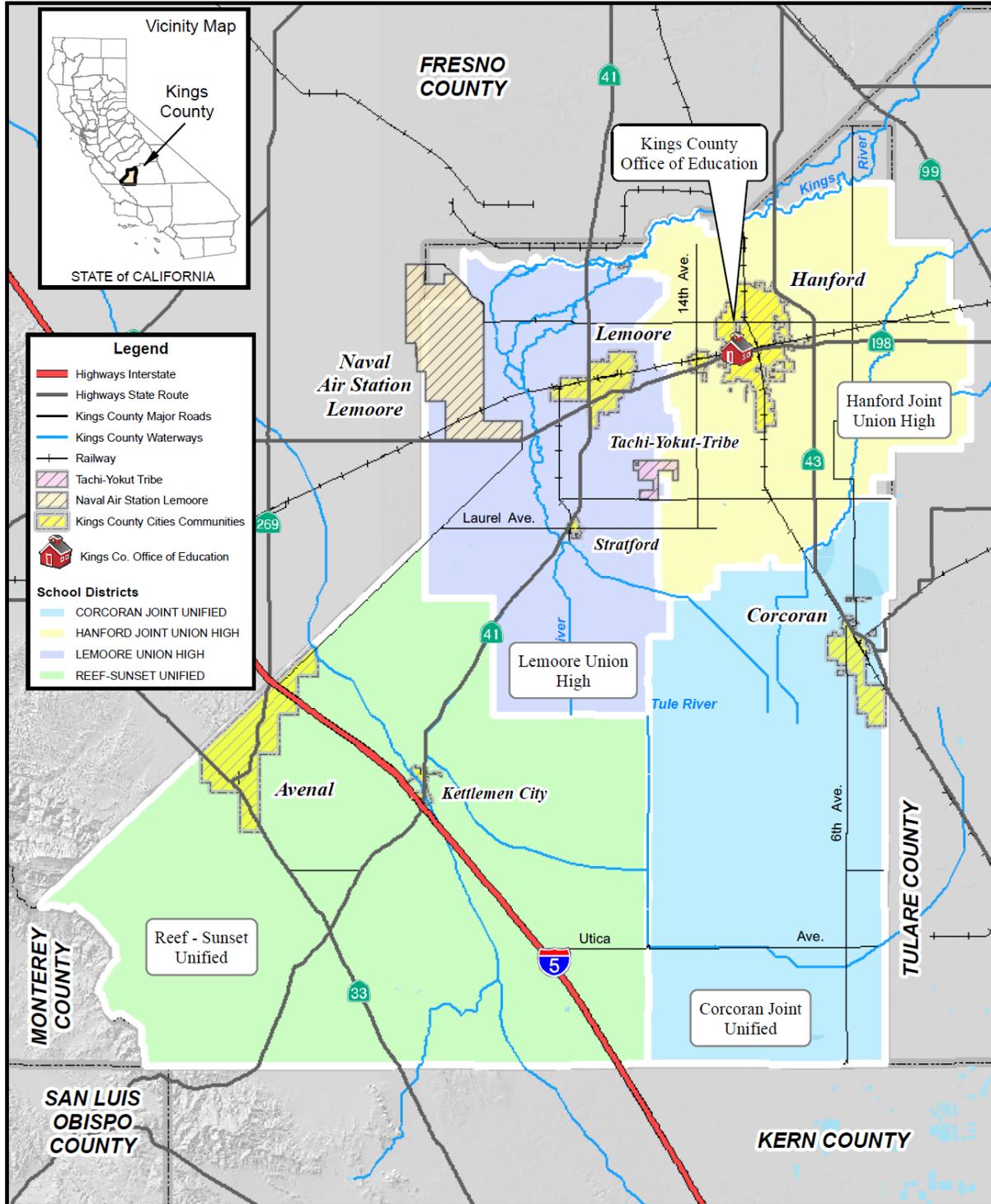
<b>Action:</b>	Assess vulnerability of critical facilities, including police/fire stations, hospitals, schools, and others, to identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	City of Hanford
<b>Priority:</b>	High
<b>Issue/Background:</b>	An assessment of the vulnerability of critical facilities in Hanford to hazards, particularly earthquakes, is needed to identify and prioritize projects needed to reduce vulnerabilities.
<b>Ideas for Implementation:</b>	The city of Hanford’s planning, building and fire departments will complete a vulnerability assessment of all critical facilities within the city, which will include the police/fire stations, hospitals, schools, and county facilities, to identify and prioritize projects for multi-hazard risk reduction.
<b>Responsible Office:</b>	Hanford Fire Department
<b>Partners:</b>	Planning Department, Building Department, Kings County Fire Department
<b>Potential Funding:</b>	In-Kind, Hanford General Fund
<b>Cost Estimate:</b>	Operating costs in each department’s budget.
<b>Benefits: (Losses Avoided)</b>	Ensure that all of the city of Hanford’s critical facilities are not vulnerable during a large-scale emergency and take corrective action now to prevent the loss of operations of any critical facility during a large-scale emergency.
<b>Timeline:</b>	One year
<b>Completed by:</b>	Tim Ieronimo, Hanford Fire Department, Chief
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdiction subject to this plan.</i>

## **Kings County School Districts**

There are thirteen school districts in Kings County. Those districts under the guidance of the Kings County Office of Education participated in the hazard mitigation plan development process. The Office of Education coordinated participation from the school districts during the update of the Kings County Multi-Jurisdictional Hazard Mitigation Plan. The Kings County Office of Education representative that participated as an official Planning Team member posted the Public Participation Survey on the Kings County Office of Education website and sent home fliers about the public meetings to the students within in their districts.

Information on past hazards and losses, existing safety plans and policies, and other mitigation projects for each school district is provided below. Hazard information for each school district is similar to that presented in Element B, depending upon the district's location in the county. The following maps show the school districts and elementary school districts in Kings County.

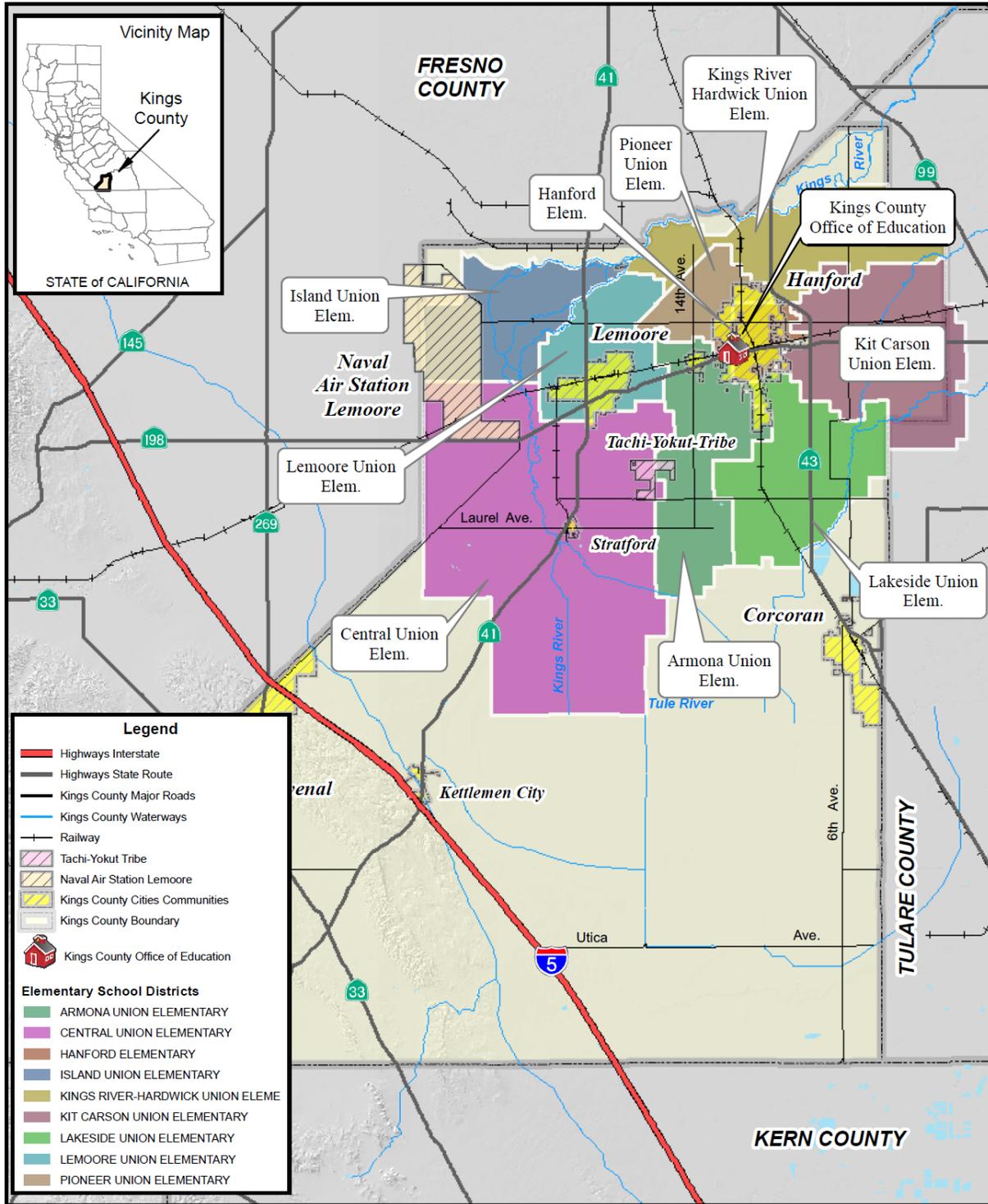
There are currently no specific funding sources for hazard mitigation in any of the school districts.



Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

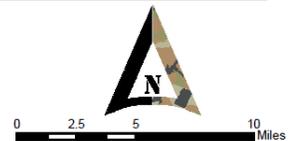
**Kings County**  
**Multi-Hazard Mitigation Plan**  
**School Districts**





Print Date : October 30, 2012  
Data Sources: Kings County, Cal EMA

**Kings County  
Multi-Hazard Mitigation Plan  
School Districts (Elementary)**



## ARMONA UNION ELEMENTARY SCHOOL DISTRICT

This school district includes Armona Elementary, Parkview Middle, Crossroads Charter Academy, and Crossroads Trade Tech Academy Schools in the town of Armona.

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Tornado safety program/drills
- Earthquake safety program/drills
- Annual update of Safety Manual

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
Armona Elementary	Elem School	\$8,905,925	665	X		X	
Parkview Middle	Middle School	\$5,301,093	445	X		X	
Crossroads Charter Academy	Elem School	Bldg owned by: Sharp Partners PO Box 1264 Hanford CA	220	X		X	
Crossroads Trade Tech Academy	Elem School	Sharp	89	X		X	
District Office	Community Center	Bldg owned by Armona Community Service District	7	X		X	

## CENTRAL UNION SCHOOL DISTRICT

Central Union School District is made up of four elementary schools (Akers, Central, R.J. Neutra, and Stratford). Two schools are located at the Lemoore Naval Air Station. The Central Union School District has two federal facilities within its boundaries: The Santa Rosa Rancheria and the Lemoore Naval Air Station.

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Shelter-in-place plans at Akers and R.J. Neutra
- Earthquake safety program/drills
- Flood safety program/drills
- Others: air crash; bomb threat; Lemoore Naval Air Station base closure; poor air quality program; school bus emergency; code black (evacuation/relocation); code red (life threatening); and code yellow (imminent threat)

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Akers School (On LNAS)	School	\$11,425,638	832	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Neutra School (on LNAS)	School	\$8,790,380	590	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Central School	School	\$5,371,366	433	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stratford School	School	\$7,696,108	347	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
District Office	Office	\$1,977,980	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Maintenance Shop	Shop	\$437,950	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## CORCORAN UNIFIED SCHOOL DISTRICT

Corcoran Unified School District is made up of three elementary schools - Bret Harte, John C. Fremont, and Mark Twain; one middle school - , John Muir and one high school - Corcoran High, Kings Lake Alternative School, and the Ag Farm.

### Past Hazard Events

Water pipes broken due to Winter Freeze in 2008.

### Existing Plans and Programs

None.

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
District Office, Annex & Maint Depts	Admin, Operations, Maintenance & Transportation	15,980 @ \$250 \$3,995,000	29	X		X	
Bret Harte Elem	Elem School	46,411 @ \$250 \$11,602,750	549	X		X	
John C. Fremont Elem	Elem School	42,759 @ \$250 \$10,689,750	537	X		X	
Mark Twain Elem	Elem School	39,509 @ \$250 \$9,877,250	536	X		X	
John Muir Middle Sch	Middle School	78,175 @ \$250 \$19,543,750	801	X		X	
Corcoran High Sch	High School	103,188 @ \$250 \$25,797,000	1000	X		X	
Kings Lake Education Center	Alternative Ed	7,868 @ \$250 \$1,967,000	62	X		X	
Ag Farm	Farm	17,094 @ \$150 \$2,564,100			X	X	
TLC	High School classes and conf/meetings	22,000 @ 300 \$6,600,000	13	X		X	

## HANFORD ELEMENTARY SCHOOL DISTRICT

The Hanford Elementary School District includes nine elementary schools (Hamilton, Jefferson, Lee Richmond, Lincoln, Martin Luther King Jr., Monroe, Roosevelt, Simas, and Washington) and two junior high schools (John F. Kennedy and Woodrow Wilson) in the City of Hanford.

### Past Hazard Events

Water damage to classrooms from bursting pipes caused by a freeze in January 1995; no assets at risk were found based on Interim Evaluation Instrument.

### Existing Plans and Programs

- Evacuation plans
- Tornado safety program/drills
- Earthquake safety program/drills

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
Hamilton School	Elem School	\$10,338,600	638	X		X	
Jefferson School	Elem School	\$6,175,770	138	X		X	
King (Martin Luther Jr.) School	Elem School	\$10,058,920	619	X		X	
Lincoln School	Elem School	\$8,122,900	550	X		X	
Monroe School	Elem School	\$8,938,900	721	X		X	
Richmond (Lee) School	Elem School	\$7,406,590	460	X		X	
Roosevelt School	Elem School	\$8,005,670	587	X		X	
Simas (Joseph M.) School	Elem School	\$9,821,100	721	X		X	
Washington School	Elem School	\$7,575,900	606	X		X	
Kennedy (John)	Jr. High School	\$14,345,718	589	X		X	

*Kings County School Districts  
Profile Information*

F.)							
Wilson (Woodrow)	Jr. High School	\$13,068,080	640	X		X	
District Office	Administrative Offices & Board Room	\$4,255,900	39	X		X	
District Services Facility	Bus Barn, Bus Wash Storage, Maintenance Shop, Grounds Shop, Offices, Warehouse, Storage	\$3,415,520	34	X		X	
District Food Services	Food Storage & Preparation Facility	\$1,972,210	13	X		X	
Teacher Resource Center	Offices and teacher work & prep area	\$1,009,400	7	X		X	

## HANFORD JOINT UNION HIGH SCHOOL DISTRICT

The Hanford Joint Union High School District includes Hanford High School, West Hanford High School, Earl F. Johnson High School, Sierra Pacific High, and the Hanford Adult School in the City of Hanford.

### Past Hazard Events

A severe lightning strike on April 28, 2005, damaged fire alarm system, clocks, bells, and the emergency medical system. Damage cost \$27,000.

### Existing Plans and Programs

- Evacuation plans
- Earthquake safety program/drills
- Safe school plan

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
District Office	Office & Board Room	\$1,548,000	16	X		X	
Hanford West High	High School	\$47,223,162	1408	X		X	
Hanford High	High School	\$52,063,731	1577	X		X	
Sierra Pacific High	High School	\$33,424,501	695	X		X	
Earl F. Johnson	High School (Continuation)	\$2,793,257	308	X		X	
Hanford Adult School	Adult School	\$2,200,100	322	X		X	
Transportation	Bus Barn, Bus Wash Storage	\$1,029,729	16	X		X	
Maintenance & Operations	Maintenance Shop, Grounds Shop, Offices, Warehouse, Storage	\$390,696	18	X		X	

## ISLAND UNION ELEMENTARY SCHOOL DISTRICT

Island Union School District includes Island Union Elementary School (kindergarten through eighth grade) in the City of Lemoore.

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- School Safety Plan

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Island Union Elem. School	Elem. School	\$5,182,000	341	X		X	

## KINGS COUNTY OFFICE OF EDUCATION

The Kings County Office of Education operates three schools for groups of students not served by local school districts. These include the Shelly Baird School severely disabled students from ages 3-22; the Kings Community School for students from seventh to twelfth grades who were expelled from their home districts; and the J.C. Montgomery/Boot Camp for juvenile offenders. The Kings County Probation Department maintains the facilities at this school.

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Earthquake safety program/drills
- Safety plan is currently being rewritten

## KINGS RIVER-HARDWICK ELEMENTARY SCHOOL DISTRICT

The Kings River-Hardwick School District consists of Hanford's Kings River-Hardwick Elementary School (kindergarten through eighth grade).

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Earthquake safety program/drills

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
Admin Office 1144 Lacey	Office Building	\$3,000,000	30	Yes			
Admin Office 443 Greenfield	Office Building	\$1,700,000	30	Yes			
Lemoore Service Center	Office & Conference Center	\$6,000,000	75	Yes			
Community School	School	\$5,000,000	120	Yes			
Shelly Baird School	School	\$5,000,000	200	Yes			
Support Service Center	Office Building	\$2,500,000	80	Yes			
Various Classrooms	Classrooms	\$9,000,000	200	Yes			

## KIT CARSON UNION ELEMENTARY SCHOOL DISTRICT

The Kit Carson Union School District in Hanford includes Kit Carson Elementary School and the Mid-Valley Alternative Charter School.

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Earthquake safety program/drills
- Emergency plan is reviewed with all employees

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kit Carson School , Mid Valley Alternative Charter School, District Office	Elem School, Administrative Offices, Bus Barn, Storage, Maintenance Shop, Offices, Warehouse, Storage, Food Storage & Preparation Facility	\$9,877,193	477	X		X	

## LAKESIDE UNION ELEMENTARY SCHOOL DISTRICT

Lakeside Union School District in Hanford has two schools: Gardenside Elementary (kindergarten through third grade) and Lakeside School (fourth through eighth grades).

### Past Hazard Events

No information.

### Existing Plans and Programs

- Evacuation plans
- Shelter-in-place plans
- Tornado safety program/drills
- Earthquake safety program/drills

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
Lakeside Elementary School	Elem School	\$6,675,005	350	X		X	
Gardenside Elementary	Elem School	\$4,825,145	10	X		X	

## LEMOORE UNION ELEMENTARY SCHOOL DISTRICT

The Lemoore Union School District includes four elementary schools (Cinnamon, Engvall, Lemoore, and Meadow Lane), Liberty Middle School, and the University Charter School.

### Past Hazard Events

Freezing weather that occurred January 16-19, 2007, burst water pipes and boiler pipes and caused Liberty Middle School to close January 18-19, 2007.

### Existing Plans and Programs

- Evacuation plans

- Earthquake safety program/drills
- Fire drills
- Intruder drills

### Asset Inventory

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cinnamon School	Elem School	\$ 8,000,160	615	X		X	
Engvall School	Elem School	\$ 6,555,470	677	X		X	
Lemoore School	Elem School	\$ 10,599,790	681	X		X	
Meadow Lane School	Elem School	\$ 6,978,510	550	X		X	
Liberty School	Middle School	\$ 13,640,330	714	X		X	
University School	Charter School	\$ 50,577,779	268	X		X	
District Office	Administrative Offices & Board Room	\$ 1,050,790	12	X		X	
Instructional Materials & Supply	Maintenance Shop, Grounds Shop, Offices, Warehouse, Storage, Food Storage	\$1,285,729	16	X		X	
District Office Annex	Technology Offices	\$ 295,920	4	X		X	

## LEMOORE UNION HIGH SCHOOL DISTRICT

The district is a large, rural high school district offering instruction to students from ninth through twelfth grade including programs for vocational education. The district operates one traditional high school, one charter high school, and one continuation high school on the traditional August through June schedule, for the instruction of approximately 2,200 students. LUHSD is somewhat unique in that it serves students that reside on both a Native American Reservation (Santa Rosa Rancheria) and a Military Base (Lemoore Naval Air Station).

### Past Hazard Events

None.

**Existing Plans and Programs**

- Evacuation plans
- Earthquake safety program/drills
- Comprehensive safety plan

**Asset inventory**

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lemoore High School	High School	\$69,291,982	1,910	X		X	
Jamison High School	High School	\$694,500	144	X		X	
Lemoore Middle College High School	High School	\$110,640	216	X		X	
District Office	Offices	\$1,240,450	8	X		X	
Transportation Facilities	Bus Barn	\$936,000	15	X		X	

**PIONEER UNION ELEMENTARY SCHOOL DISTRICT**

The Pioneer Union Elementary School District includes Pioneer Elementary School, Frontier Elementary School, and Pioneer Middle School in Hanford. Total enrollment in the district in 2005 was 1,383 students.

**Past Hazard Events**

No information.

**Existing Plans and Programs**

- Evacuation plans
- Shelter-in-place plans
- Earthquake safety program/drills
- Others: bullying prevention; character counts; stranger on campus; traffic/bike safety

**Asset Inventory**

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				✓	✓	✓	✓
Pioneer Elementary School	Elem School	6,000,000		X		X	
Frontier Elementary school	Elem School	15,821,290	625	X		X	
Pioneer Middle School	Jr. High School	10,756,720	850	X		X	

**REEF-SUNSET UNIFIED SCHOOL DISTRICT**

Reef-Sunset Unified School District includes four elementary schools (Avenal, Tamarack, Kettleman City, and Reef-Sunset Primary Day), one middle school (Reef-Sunset Middle School), three high schools (Adelante Continuation High, Avenal High, and Sunrise Continuation High), Reef-Sunset Secondary Day School, and adult education in the City of Avenal.

**Past Hazard Events**

Freezing weather events occur regularly.

**Existing Plans and Programs**

- Evacuation plans
- Shelter-in-place plans
- Earthquake safety program/drills

**Asset inventory**

Name of Asset	Facility Type	Replacement Value	Occupancy or Capacity	Critical Facility	Vulnerable Populations	Economic Asset	Natural/Cultural /Historic Considerations
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avenal Elem	Elem School	\$16,337,786	834	X		X	
Tamarack Elem.	Elem School	\$2,265,330	542	X		X	
Kettleman City Elem	Elem School	\$11,316,325	321	X		X	
Reef Sunset Middle	Middle School	\$8,324,280	368	X		X	
Avenal High	High School	\$30,332,237	671	X		X	
Sunrise Cont.	Continuation High School	\$639,972	27	X		X	
Adelante Cont.	Continuation High School	\$419,250	8	X		X	
Primary Community	Community Day	\$60,000	9	X		X	
Secondary Community	Community Day	\$60,000	8	X		X	
Avenal Adult	Adult School	\$173,520	66	X		X	
Transp Dept	Bus Garage	\$427,515	5	X		X	
District Office	Administrative Offices & Board Room	\$1,305,770	34	X		X	

## **UNINCORPORATED KINGS COUNTY**



### **COMMUNITY PROFILE**

There are four main community areas in unincorporated Kings County—Armona, Home Garden, Kettleman City, and Stratford. The Board of Supervisors is the governing body for Kings County and many special districts. Each of the five members of the board is elected on a nonpartisan basis to a four-year term.

### **Geography and Climate**

Kings County encompasses approximately 1,391 square miles. It is located slightly south of the geographic center of California and occupies part of the San Joaquin Valley and a portion of the eastern slope of the California Coast Ranges. Kings County is bounded on the southwest by the Coast Ranges, on the north and west by Fresno County, to the east by Tulare County, and to the south by Kern County. Several unincorporated communities are also located within the County, as well as the Naval Air Station Lemoore, and Santa Rosa Rancheria. A majority of the population within unincorporated Kings County is located in the four unincorporated communities of Armona, Home Garden, Kettleman City, and Stratford.

Most of the county is relatively flat. However, elevation ranges from a low of 175 feet above mean sea level in the Tulare Lakebed, to 3,500 feet above mean sea level in the southwest, where the Kettleman Hills and the Kreyenhagen Hills are located. The county is located in the Tulare Lake hydrologic region that comprises the extreme southern portion of the Central Valley. The rivers in this region include the Kings, Kaweah, Tule, and Kern, which all historically drained into the Tulare Lake. The lake was once of substantial size during wet periods but over time, reclamation districts built levees and reclaimed the more than 200,000-acre lakebed for agriculture. The four rivers were diverted upstream and canals were built to drain the lake.

The climate in Kings County can be classified as Mediterranean with average rainfall rates of 7.6 inches annually, occurring primarily between November and April. The average annual temperature is 62 degrees Fahrenheit (°F), although it is not unusual for summer readings to reach well over 100°F. Extreme winter lows fall into the teens on rare occasions. The first freeze usually occurs in December and the last in March. Fog is common during the winter months and can settle in for periods of up to two weeks.

Both Interstate 5 and Highway 198 cross the county and connect to State Routes 41 and 43 and a network of other state highways and county roads. Kings County is served by the Burlington Northern Santa Fe Railroad, and the San Joaquin Valley Railroad. The nearest major airport is Fresno Yosemite International Airport, located approximately 30 miles north of the county line.

### **History**

When the first white settlers arrived in Kings County, the indigenous population consisted of the Tache tribe of the Yokut Indians. The Yokuts controlled the entire San Joaquin Valley from the delta to Tejon Pass. The first white settlement was a ferry situated on the south bank of the Kings River where the Overland stage route crossed. Known as Kingston, this town was part of Tulare County until a bridge replaced the ferry in 1873, and the town went into decline and was abandoned.

A few small settlements followed the initial settlement at Kingston, but the first incorporated community was Lemoore, first surveyed in 1872. The Southern Pacific railroad arrived in the town in 1877, and the second permanent community began along the railroad tracks shortly after its arrival. Named for James Madison Hanford, the paymaster of the Southern Pacific, the second town was incorporated in 1891. Hanford became the county seat two years later, when Kings County was formed from the western half of Tulare County.

The early economy of the county centered on ranching and farming. The first vineyard was established in 1890 and the first dairy came three years later. Settlement in Kings County remained modest throughout much of the county's first century. The third incorporated community, Corcoran, was established along the San Francisco and San Joaquin Railroad in 1905. In 1929, the fourth incorporated town, Avenal, was established on the west side of the county following the discovery of oil in the hills.

**Economy**

It appears 2011 was the start of a rebuilding period for Kings County cities and unincorporated communities. Though property values remain low, there are some encouraging signs in the housing sector (Economic Development Corporation, 2012).

Per capita personal income in Kings County is consistently much lower than the State average. However, Kings County's per capita income has increased by 3.8% between 2005 and 2010, exceeding California's increase of 1.8% for the same period.

	<u>2005-2007</u>	<u>2006-2008</u>	<u>2007-2009</u>	<u>2008-2010</u>
<b>Kings</b>	\$16,951	\$18,041	\$17,217	\$17,604
<b>California</b>	\$28,049	\$29,405	\$28,990	\$28,551
<b>U. S.</b>	\$26,178	\$28,990	\$27,100	\$26,942

Source: U.S. Census American Community Survey

According to the Kings County 2011 Agricultural Crop Report, Kings County is among the largest producing agricultural counties in California. The gross value of all agricultural crops and products produced during 2011 in Kings County was \$2,219,529,000. This represents an increase of \$501,558,000 (29.2%) from the 2010 value and is a record high figure for the county.

Nearly all crop categories increased in value. Apiary Products increased \$108,000 (1.6%) attributed to increased pollination acres and price per colony. Field Crops increased \$163,974,000 (36.5%) due primarily to increased cotton acreage and yield, as well as the alfalfa hay price. Fruit and Nut Crops increased \$92,966,000 (29.1%) due in large part to increased production and price across the board, especially in nuts. Livestock and Poultry increased \$30,436,000 (18.9%) due to more cattle and calves sold and at a higher price. Livestock and Poultry Products increased \$243,473,000 (42.9%) due to increased milk production and price. Seed Crops increased \$52,000 (.7%) due to increased acreage.

Vegetable Crops were the only category to decrease, declining by \$29,451,000 (14.3%) due mainly to a decrease in processing tomato acreage

**Population**

The total estimated county population in 2010 was 152,982 up from 147,729 people in 2007. Population estimates for the unincorporated areas from the 2010 U.S. Census are included in the table below. Additionally, Kings County houses the Naval Air Station Lemoore and had a few small communities not served by special districts those communities are Grangeville and Hardwick.

**Unincorporated Kings County Population, 2010 U.S. Census**

Census-designated place	Total Population	White	African American	Native American	Asian	Pacific Islander	Other races	Two or more races	Hispanic or Latino (of any race)
Armona	4,156	2,058	99	64	85	13	1,597	240	2,784
Grangeville	469	393	15	5	5	0	41	10	145
Hardwick	138	63	5	0	0	0	67	3	86
Home Garden	1,761	652	221	63	50	8	677	90	1,189
Kettleman City	1,439	478	4	8	1	0	887	61	1,383
Lemoore Station	7,438	4,883	729	70	560	53	418	725	1,445
Stratford	1,277	574	16	17	19	1	617	33	1,069
All others not CDPs (combined)	17,488	11,304	377	755	267	18	3,991	776	7,851

**HAZARD IDENTIFICATION**

The official Planning Team for Kings County identified hazards that affect the county and developed hazard profiles based upon the countywide risk assessment, past events and their impacts. Definitions for the rankings and a detailed explanation of the hazards can be found in Element B: Hazard identification and Risk Assessment.

**Unincorporated Kings County—Hazard Profiles**

Hazard	Probability of Occurrence	Potential Magnitude/ Geographic Extent	Significance
Dam Failure	Unlikely	Catastrophic	Low
Drought	Occasional	Critical to Catastrophic	High
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Likely	Critical	Medium
Fog	Highly Likely	Limited	Medium
Freeze	Likely	Limited	Medium
Landslide	Occasional	Negligible	Low
Soil Hazards: Expansive Liquefaction Erosion	Unlikely	Negligible	Low
Tornado	Occasional	Negligible	Low

Wildfire	Likely	Critical	Medium
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**Past Events**

Information on past events was provided in Element B: Hazard Identification and Risk Assessment.

**Asset Inventory**

The table that follows lists the critical facilities and other community assets identified by the county’s Planning Team as important to protect in the event of a disaster.

**Unincorporated Kings County—Critical Facilities and Community Assets**

Facility	Replacement Value	Occupancy/ Capacity
Kings County Government Center	\$89,800,000	
Kings County Historic Courthouse	Priceless	
Kings County Corporation Yard		
Kings County Fairgrounds		
Armona Fire Station No. 5	\$1,630,000	
Corcoran Fire Station No. 11	\$1,500,000	
Stratford Fire Station No. 10	\$1,250,000	
Avenal Fire Station No. 12	\$985,000	
Kettleman City Fire Station No. 9	\$1,290,000	
South Lemoore Fire Station No. 7	\$1,180,000	
Island Fire Station No. 6 (Lemoore)	\$1,050,000	
Hardwick Fire Station No. 2 (Hanford)	\$1,270,000	
Burriss Park Fire Station No. 1 (Kingsburg)	\$1,350,000	
Kings County Health Department-Hanford Clinic	Unknown	
Kings County Health Department-Lemoore Clinic	\$1,075,000	
Kings County Health Department-Avenal Clinic	\$1,075,000	
Kings County Health Department-Corcoran Clinic	\$850,000	
Kings County Health Department-Kettleman Clinic	\$895,000	
Kings View Center - Medical Clinic	\$5,500,000	
San Joaquin Valley Railroad		
Burlington Northern Santa Fe Railroad		
Kettleman Hills Community Center		
Palace Indian Gaming Center		
Chemical Waste Management		
Kettleman City Wastewater Treatment		
Kettleman City CSD Office and Water		
Stratford PUD Wastewater Treatment		
Stratford PUD Water Well		
Stratford PUD Water Well		

Facility	Replacement Value	Occupancy/ Capacity
Stratford PUD Office		
Kettleman City CSD Water		
Kettleman City CSD Water		
Home Garden CSD Water Well		
Home Garden CSD Office		
Home Garden CSD Water Well		
<b><u>Power Stations</u></b>		
Substation - Kettleman Hills		
Substation - Chevron Pipeline Kettleman		
Substation - Tulare Lake		
Substation - Henrietta		
Substation - Angiola		
Substation - Jacobs Corner		
Substation - Guernsey		
Substation - Contadina		
Substation - Armstrong		
Substation - Reserce Oil		
Substation - Quebec Corcoran Prison		
Substation - Boswell		
Substation - Hardwick		
Pumping Plant - Las Perillas		
Pumping Plant - Badger Hill		
Power Switching Station - Armstrong		

More information on critical facilities in the county, including the California Aqueduct, the Kettleman Hills Hazardous Waste Facility, and the Lemoore Naval Air Station can be found in Element B.2 Vulnerability Assessment. The vulnerability assessment also provides information on the county's natural, historical, and cultural assets; economic assets; and social vulnerability to hazards. The assessment indicates that some of the unincorporated areas of the county are the most socially vulnerable in the county. As a general rule, the unincorporated communities tend to be more disadvantaged than their incorporated counterparts. Part of this trend shows there is a higher percentage of the population under the age of 18 and a higher percentage of ethnic origin that may be non-English speaking.

### Estimating Potential Losses

The table on the following page shows the maximum population and building exposure by jurisdiction in Kings County in terms of population and the number and values of structures. As can be seen in the table on the following page, approximately 25% of the structures and value are found in the unincorporated are of the county. More information on how these estimates were calculated can be found in Element B.3 Vulnerability Assessment.

Jurisdiction	Exposed Population	Buildings	
		Number	Value
Kings County Unincorporated Areas	34,1786	9,707	\$1,028,530,819
Avenal	15,505	1,754	\$128,111,815
Corcoran	24,813	2,966	\$257,957,828
Hanford	53,967	14,080	\$1,991,860,304
Lemoore	24,531	5,913	\$853,282,697
<b>Total</b>	<b>152,982</b>	<b>34,420</b>	<b>\$4,259,743,463</b>

### Future Development Trends

Policies in the Kings County General Plan direct urban growth to the four incorporated cities and the four unincorporated communities of Armona, Home Garden, Kettleman City, and Stratford. Of the unincorporated communities, Home Garden is close to being completely developed and Stratford is nearing development capacity, but recent development interest lead to the adoption of Stratford Community Plan in 2010 that made allowance for an expanded community size through a specific plan that could potentially double the size. Current economic circumstances hinder that potential, but the plan is in place.

These areas are not likely to develop much further in the near future due primarily to decreased demand for new housing. Additional residential growth is likely to occur in Armona; however, the community is an area of lower vulnerability to natural hazards. Kettleman City is the community with the greatest potential for substantial commercial and some residential growth as a new surface water treatment system is currently being developed. Current commercial investment and growth include a new FedEx transfer facility being built on a 120,000 square foot turnaround facility to serve their west coast truck fleet, and a new 19,140 square foot multi commercial building being built by Bravo Farms.

One industry that has received a great deal of attention in Kings County the last three year is renewable energy. Multiple utility level solar photovoltaic companies are making investments in locations from Avenal on the west to Corcoran on the east. One of the Avenal projects, a 48 MW solar photovoltaic facility on approximately 400 acre is providing power to the California power grid. In addition, several other commercial solar projects are approved and in various planning stages moving towards construction. These permitted solar facilities comprise 684 MW on 4,073 acres (Kings County Community Development Agency, 2012)

The California High Speed Rail Authority is planning for a high speed rail system that is intended to connect the two major urban centers of Los Angeles and San Francisco. Approximately 800 miles of high speed rail service is envisioned. The first two segments are planned for construction between Merced and Bakersfield, with approximately 28 miles planned to cross through Kings County. In 2012, \$6.5 billion in Federal grant funding and State bond funding were allocated for the first two sections and intend to fund high speed rail alignment and rail construction through 2017. As this new transportation facility is planned to cross through the county near Corcoran and Hanford running north/south and requires a grade separated alignment, the creation of this facility will pose

a new permanent community dividing factor in the county. As specific design factors were not available at the time of this plan development, future construction designs will likely necessitate reassessment and revisions to this plan as the realities of this project are revealed.

## CAPABILITY ASSESSMENT

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capability assessment is divided into five sections: regulatory, administrative and technical, fiscal, outreach and partnerships, and other mitigation efforts.

### Regulatory Capability

The regulatory and planning capabilities table lists planning and land management tools typically used by local and tribal jurisdictions to implement hazard mitigation activities and indicates those that are in place in Kings County.

**Unincorporated Kings County—Regulatory and Planning Capabilities**

Regulatory Tool	Yes/No	Comments
General plan	Yes	Adopted January 26, 2010
Zoning ordinance	Yes	Adopted 1964, last amended 2011 Currently undergoing a comprehensive update
Subdivision ordinance	Yes	2001
Site plan review requirements	Yes	Will be updated as part of the Zoning Ordinance
Growth management ordinance	No	
Floodplain ordinance	Yes	Flood Damage Prevention Ordinance, updated March 2, 2010
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	Fire Prevention and Protection Ordinance
Building code	Yes	Version: 2010 California Building Code
Fire department ISO rating	Yes	Rating: 4
Erosion or sediment control program	No	
Stormwater management program	No	Draft plan
Capital improvements plan	Yes	Draft 10-year plan
Economic development plan	Yes	Kings County Economic Development Corporation
Local emergency operations plan	Yes	2008, The plan will be updated in 2013

**Kings County General Plan, 2010** - The General Plan was originally adopted in 1993 and included several subsequent amendments. A comprehensive General Plan update began in 2006 and resulted in the adoption of the 2035 Kings County General Plan on January 26, 2010, which replaced the 1993 General Plan in its entirety and added a new Health and Safety Element, and Air Quality Element. This update General Plan defines the County's goals, objectives and policies that guide the physical growth, use and development of land under the jurisdictional authority of the

County through the year 2035.

The purpose of the Health and Safety Element is to reduce or eliminate long term risk to people and property from natural or human caused hazards. Traditionally viewed as an element that focuses on planning for catastrophes, this element is now expanded to include community health and community safety related issues that are more commonly associated with the built environment as affecting the health and safety of residents living within the County. This element concentrates on those hazards and community factors which are within the responsibility of the County to mitigate. These include land use decisions and patterns of development that directly and indirectly affect the health, wellbeing and personal/property protection of county residents, and the mitigation of potential natural hazards. The Health and Safety Element integrates the County's Local Hazard Mitigation Plan and describes the location and extent of known hazards, and provides maps of hazardous land uses and evacuation routes.

**Kings County, 2008** - The Emergency Operations Plan addresses the planned response to emergency situations associated with natural disasters, technological incidents, human caused events and national security emergencies in or affecting Kings County. The plan establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Kings County; identifies the policies, responsibilities, and procedures required to protect the health and safety of communities, public and private property, and the environmental effects of natural, human caused and technological emergencies and disasters; and establishes the operational concepts and policies for disaster response and recovery. This plan will be revised and updated in 2013 to meet local, state and federal needs.

**California Division of Forestry and Fire Protection (Cal FIRE) Fresno-Kings Unit Pre-Fire Management Plan, 2012** – The CAL FIRE has primary responsibility for fire protection for over 923,000 acres of direct protection lands in the Fresno-Kings Unit. Most of this area is in Fresno County. In Kings County, CAL FIRE direct protection areas are west of Highway 33. The pre-fire management plan assesses level of service, assets at risk, fuels, and weather to evaluate wildfire risk in the Fresno-Kings Unit. Priority areas and projects are identified for each battalion unit.

**Emergency Services Ordinance, 1975 and 1982** - The purposes of this ordinance are to provide for the preparation and implementation of plans for the protection of people and property within the county in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of this county with the cities in the county and with all other public agencies, corporations, organizations, and affected private persons. The ordinance establishes the Kings Area Disaster Council and designates the membership of the council. Membership includes one member of the Kings County Board of Supervisors (director of emergency services), the assistant director of emergency services, a member of the city council from each of the cities, the emergency manager from each of the cities, and one member at large. The council's powers include the development of emergency and mutual aid plans and agreements and the ordinances and resolutions to implement them.

**Fire Prevention and Protection Ordinance Section 10-16 and 10-17** – Requires every person with land or a building or structure upon land within the unincorporated area of the county, which has vegetation that is flammable or easily ignited and is adjacent to farming lands having flammable

vegetation or a highway, maintain an effective fire break of at least 20 feet in width on the outer boundary of the lands and/or around the building during fire season.

**Flood Damage Prevention Ordinance, Updated 2010** - The purpose of this ordinance is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- Protect human life and health
- Minimize expenditure of public money for costly flood control projects
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public
- Minimize prolonged business interruptions
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges located in areas of special flood hazard
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blight areas
- Assist potential buyers in identifying properties that are in areas of special flood hazard
- Promote those who occupy the areas of special flood hazard assuming responsibility for their actions

**Natural Resources and Conservation District** – The Excelsior-Kings River Resource Conservation District, and the Tulare Lake Resource Conservation District are the county’s two districts primarily responsible for preserving permanent open space land that protects natural watercourses, drainage basins, and sloughs, which are necessary to safeguard the health, safety, and welfare of people in rural and urban areas of the county. These districts facilitate the creation of facilities such as flood control channels, water pumping stations and reservoirs, irrigation ditches and canals, and ditch and canal rights-of-way, settling and water conservation recharging basins and parkways, and recreation areas, parks, playgrounds.

### Administrative and Technical Capability

The table below identifies the county personnel responsible for activities related to mitigation and loss prevention in Kings County. Many positions are full time and/or filled by the same person. A summary of technical resources follows.

**Unincorporated Kings County — Personnel Capabilities**

Personnel Resources	Department/Position
Engineer and/or Planner with knowledge of land development/land management practices	County Community Development Agency; Public Works Director
Professional trained in construction practices related to buildings and/or infrastructure	County Community Development Agency/County Building Official, Public Works Director
Full time building official	County Community Development

	Agency/County Building Official
Floodplain manager	County Community Development Agency/County Building Official
Emergency manager	County Emergency Services Coordinator
Grant writer	YES various departments
Other	Office of Administration, Sheriff's Office, and Public Works Department

The Kings County Community Development Agency has a full-time GIS coordinator, who assists the cities and districts in the county with GIS data needs. Another technical capability is the Emergency Alert System public warning system operated by the Kings County Sheriff's Office. The access to the Emergency Alert System is also available through the National Weather Service office in Hanford.

### **Fiscal Capability**

The following table identifies financial tools or resources that the county could potentially use to help fund mitigation activities. There are currently no specific funding sources for hazard mitigation.

#### **Unincorporated Kings County —Available Financial Tools and Resources**

<b>Financial Resources</b>	<b>Accessible/ Eligible to Use</b>	<b>Comments</b>
Community Development Block Grants	Yes	Kings County Community Development Agency administers program
Capital improvements project funding	Yes	State and federal funding channelled through Kings County Association of Governments and other county agencies such as Public Works
Authority to levy taxes for specific purposes	Yes	Must be approved by voters
Fees for water, sewer, gas, or electric services	No	Services provided through cities or districts and levied through property assessments
Impact fees for new development	Yes	Adopted development impact fees for law enforcement and fire
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	Yes	Requires approval by two-thirds of voters
Incur debt through private activities	Yes	Do not have any in place
Federal Grant Programs (Hazard Mitigation Grant Program)	Yes	Various Departments

### **Outreach and Partnerships**

The Kings County Fire Department provides education and outreach on earthquake and fire safety. Other county departments with education programs include the Sheriff's Office, Agricultural Commissioner, and the Department of Public Health.

The "Are You Okay?" program is a free computerized telephone system provided by the Kings County Sheriff's Office to check on senior citizens or disabled/homebound individuals. It is available in the cities of Corcoran, Hanford, and Lemoore. This program could be enhanced to check on these vulnerable populations during extreme temperature events.

The Kings County Economic Development Commission meets regularly and works with the cities, county, state, utilities, existing businesses, financial institutions, and other interested parties to ensure that economic development programs are meeting community goals. The commission works to create job opportunities and to increase the bottom line for business through development and retention assistance. The commission could be an important partner in outreach efforts to educate businesses about mitigation and emergency preparedness and in economic recovery planning.

The Kings County Association of Governments was created in 1967 as a voluntary association of governments to provide a cooperative body for the resolution of issues that go beyond established jurisdictional boundaries. The association exchanges planning information between member agencies related to planned area wide development with emphasis on transportation; identifies and studies problems in areas of urban growth affecting various agencies; considers questions of mutual concern to the county, cities, and other agencies and makes recommendations on an advisory basis; provides for citizen involvement in the planning process; provides technical services to the member agencies; and operates as the regional transportation planning agency.

## **GOALS AND OBJECTIVES**

Kings County adopts the hazard mitigation goals and objectives developed by the Planning Team and described in Element C.3 Mitigation Goals.

## **MITIGATION ACTIONS**

The planning team for the unincorporated areas of the county identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

## 2012 MITIGATION ACTIONS

### Mitigation Action: Unincorporated Kings County #1—Emergency Power Switching System for Primary Care Clinics

<b>Action:</b>	Purchase, install, test and utilize a Manual Transfer Switch in each of the 5 community clinics to allow the rapid connection of emergency power generators in the event of a major power outage or disaster.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	These clinics have a day to day role in providing basic health services to the least fortunate residents of Kings County. Their usefulness in a major disaster is limited due to the lack of emergency power, which means that a power outage no matter what the source greatly inhibits the Clinics' ability to perform either its day to day mission or its functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project which has a high priority. The initial step of installing the Manual Transfer Switches will be accomplished by the County. The procurement or identification of rental generators to power the clinics in an emergency is the unfunded portion of this project, requiring substantial funding beyond the Department of Public Health's normal budgetary processes. This project could be implemented either as a grant project or grants from the CA Department of Public Health
<b>Responsible Office:</b>	Department of Public Health
<b>Partners:</b>	Kings County OEM and Operational Area partners.
<b>Potential Funding:</b>	Public Health Grant Programs, Hazard Mitigation Grant Program, and limited future general funds.
<b>Cost Estimate:</b>	\$250,000 for the complete installation of 5 Manual Transfer Switches, approximately \$150,000 for (5) 60kw portable generators to power the clinics in an emergency.
<b>Benefits: (Losses Avoided)</b>	Emergency power system will ensure the clinics can stay on line independent of commercial power. This will allow them to continue their lifesaving mission of initial medical care, triage and casualty collection during any disaster that disrupts local commercial power.
<b>Timeline:</b>	Desired completed by the end of calendar year 2013 to coincide with the completion of the County's new emergency plan.

**Mitigation Action: Unincorporated Kings County #2—Identify requirements and create a project plan for an augmentation to emergency power system to the four county Hospitals to maintain HVAC during heat and utility emergencies.**

<b>Action:</b>	Identify requirements to purchase, install, test and utilize a diesel powered emergency generator system to augment the existing power systems to maintain HVAC during any condition or disaster in the County.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	Kings County experiences annually high heat events. Many of these events correspond to periods of limited commercial power availability. Although area hospitals have emergency power, it is insufficient to run their HVAC plants during a power outage. This results in sometimes triple digit temperatures within their facilities. Augmenting the emergency power would provide heating and cooling for the hospital population, power to maintain medical devices, and refrigeration and meal preparation. Emergency power enables the area hospitals to maintain all hospital functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond normal budgetary processes. This project could be implemented either as a phased grant project, a project under the homeland security grant programs.
<b>Responsible Office:</b>	Department of Public Health,
<b>Partners:</b>	Kings County OEM/Fire, Private Medical Service Providers and Office of Community Development.
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program.
<b>Cost Estimate:</b>	\$50,000 for the complete Project plan.
<b>Benefits: (Losses Avoided)</b>	Augmenting the Hospital’s Emergency power system will ensure that they can stay on line independent of commercial power. This will allow them to continue their mission of treating, sheltering and caring for the hospitalized population. It also creates a community resource in the event of a disaster that can shelter additional people, provide a clinic site for casualty collection and treatment, and provide a resource to assist in disaster food service and population protection. The ability to maintain the HVAC systems by generator will allow the hospitals to be fully used annually during heat waves despite limitations of the commercial power grid.
<b>Timeline:</b>	Desired completed by the end of calendar year 2013 to coincide with the completion of the New Hazard Mitigation Plan.

**Mitigation Action: Unincorporated Kings County #3 – Water Recharge Basin Partnership Program**

<b>Action:</b>	Partner with the State and contiguous counties to improve coordination, planning, and investment in long-term water supplies by developing a comprehensive water recharge basin project to meet demands of ongoing growth and development.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	Counties within the central and southern San Joaquin Valley region are experiencing tremendous growth as a result of low land costs, affordable housing, and low mortgage interest rates. This growth surge along with depleting surface and ground water supplies and projected outlook of global warming may severely cripple the available water supplies to Kings County during years of drought. Other regions are currently working on regional water management plans to receive bond funds for water capacity building projects.
<b>Ideas for Implementation:</b>	The Kings River Conservation District is currently coordinating plans to facilitate proactive water capacity building programs and projects to address the future needs of the county’s agricultural, rural, and urban water needs. This effort should be built upon to develop a water management plan that covers Kings County. The plan should incorporate a countywide strategy for conservation programs, recycled water reuse programs, programs that build additional recharge and storage, and policies that work to retain existing surface water rights within the county for future use.
<b>Responsible Office:</b>	State DWR led joint powers authority should be developed to manage this multijurisdictional project.
<b>Partners:</b>	California Department of Water Resources, Kings County water and irrigation districts.
<b>Potential Funding:</b>	Possible grant and bond funds through recent State Propositions.
<b>Cost Estimate:</b>	\$60,000 to \$80,000 for a region wide water capacity study and \$10,000 to \$45,000 for each jurisdiction implementation of planning policy recommendations.
<b>Benefits: (Losses Avoided)</b>	\$1000s in potential agricultural and other resource losses avoided over the long term during years of severe drought. \$1000s in the reduction of emergency responses and recovery supplies for cities and communities unprepared and left without adequate water supplies for their residents.
<b>Timeline:</b>	Countywide water management plan to be completed in three years, then ongoing efforts
<b>Completed by:</b>	Kings County Community Development Agency

**Mitigation Action: Unincorporated Kings County #4 – Community Alerting and Early Warning System (Reverse 9-1-1 like system)**

<b>Action:</b>	Purchase, install, test and utilize a community wide alert and early warning system that alerts residents by phone, email, cell phone and other electronic communication devices.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The County's existing emergency notification system that is exclusively phone based is antiquated and inefficient. It is estimated that due to the proliferation of cell phones and other electronic devices, existing landline based systems reach less than 60% of the targeted households during a notification event. Secondly, updating the core databases and incorporating new technologies is expensive and cumbersome. The County seeks to purchase an updated system that allows families to modify their profile online and alert all the communications devices each household possess to maximize the ability to alert and warn the residents of the county wherever they might be during times of emergency. This countywide system can integrate alert and warning, EAS messaging and customized notifications of first responders, targeted neighborhood or demographic groups as needed.
<b>Ideas for Implementation:</b>	This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local cost sharing project funded by each jurisdictions general funds.
<b>Responsible Office:</b>	Kings County OEM
<b>Partners:</b>	Kings County Operational Area partners, county communications and Cal EMA, State Department of Corrections, State High Speed Rail Authority.
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially the EOC Grant Program
<b>Cost Estimate:</b>	\$350,000 for the complete Countywide system, \$30,000 annually to staff and maintain the system.
<b>Benefits: (Losses Avoided)</b>	Timely alerting and warning to all segments of the county's population during a disaster or major event leads to appropriate and informed responses by the residents. Simplifies sheltering, evacuation, resource efforts which will save time, resources and lives in an emergency.
<b>Timeline:</b>	Desired completed by the end of calendar year 2014.

**Mitigation Action: Kings County #5—Transportable Shelter Caches for Displaced Populations.**

<b>Action:</b>	Purchase 4 8x12 dual axle cargo trailers, 4 triple mode small refrigerators, 80 adjustable cots, 320 standard cots, 800 individual comfort kits, 400 blankets, 400 pillows, 200 folding chairs, light sticks, trash bags and 800 potable 1 liter water bottles; to create four deployable shelter sets in order to shelter up to 400 displaced persons.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Low
<b>Issue/Background:</b>	The county has a large senior and access and functional needs population. In order to augment the ARC disaster services, Kings County would create four disaster caches to assist the ARC in sheltering displaced persons during a disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond the County's normal budgetary processes. This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local fund raising effort.
<b>Responsible Office:</b>	Kings County OEM and the local ARC
<b>Partners:</b>	Kings County Human Services Agency
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially Red Cross fundraising programs.
<b>Cost Estimate:</b>	\$85,000 for the four shelter cache trailers and contents as described above.
<b>Benefits: (Losses Avoided)</b>	The caches will greatly assist the ARC and will allow them to continue their mission of sheltering and caring for the displaced population within the county in congregate care shelters. It also creates a community resource in the event of a disaster that can rapidly mobilize to create viable shelter sites, shelter additional people where needed and provide a resource to assist in population protection. The ability to maintain and deploy these caches where needed in a secure cargo trailer also develops a mutual aid resource to help contiguous jurisdictions in times of need.
<b>Timeline:</b>	Desired completed by the end of calendar year 2014 to correspond with the completion of the new Hazard Mitigation and Emergency Plans.
<b>Remarks:</b>	<i>Low Priority project for public safety.</i>

**Mitigation Action: Unincorporated Kings County #6— Develop a Comprehensive Plan to Fund and Build a New County Emergency Operations Center (EOC)**

<b>Action:</b>	Develop a standing EOC group to review and discuss specifications, supervise the creation of construction plans, identify funding mechanism and requirements and identify the site for the new Kings County EOC.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	The County's Fire Administration building is inadequate and space to effectively coordinate operations on a daily basis and during a disaster need to be improved or built. In recognition of this situation, the County has identified the requirement for a new EOC that will allow for effective pre-disaster training, disaster response operations coordination and recovery operations for the county and the greater operational area. The county is taking a phased approach. The existing EOC in the fire administration building is being moved to a larger but still inadequate interim portable building. This interim building will provide limited utility while a modern, adequate and integrated EOC is designed, funded and built. The County has identified potential sites for the EOC.
<b>Ideas for Implementation:</b>	Due to the current identified needs versus the current economic reality, the county lacks the where-with-all to construct the center without assistance. By phasing the project it can be added as funding becomes available. The goal of this project is to have shovel ready project specifications, plan and site ready for when those funds become available.
<b>Responsible Office:</b>	Kings County OEM
<b>Partners:</b>	Kings County Fire Department, Kings County Environmental Health, Kings County Information Technology Department, and Kings County Public Works Department
<b>Potential Funding:</b>	General Fund, HMP Grants, EOC Grant Program, Partnership with State, County and Transportation Agencies.
<b>Cost Estimate:</b>	\$120,000 in staff time to develop the project plans.
<b>Benefits: (Losses Avoided)</b>	Expanding the current EOC functions into one modern, disaster resistant site will greatly improves daily and disaster emergency coordination, resources management and response.
<b>Timeline:</b>	Completed by the end of calendar year 2015, construction dependent on future funding.
<b>Remarks:</b>	<i>This was identified by the Planning Team as a high priority.</i>

**Mitigation Action: Kings County #7—Assessment of High Speed Rail Project Impacts upon Critical Infrastructure**

<b>Action:</b>	Assess vulnerability of critical infrastructure and lifeline utilities, including access and egress routes that may be disrupted due to the construction of high speed rail through Kings County. Identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	Different governmental entities within the county are responsible for providing necessary daily services such as water, sewer, and storm drainage to residents, and emergency response. The creation of a 28 mile long, high speed rail corridor with a minimum above grade track elevation of 10 feet greatly complicates many of these issues. The lack of on grade crossings canalizes traffic to a limited number of overpasses, complicating evacuation, emergency response and potentially prisoner transport or relocation in times of disaster. The impact of this corridor on flooding, traffic, evacuation and urban growth are poorly understood as insufficient project details are not currently available.
<b>Ideas for Implementation:</b>	Evaluate high speed rail infrastructure construction plans as they become available to assess and prioritize impacts to local infrastructure as this information was not released during the environmental review phase. Local community planning efforts should then identify and prioritize needed infrastructure improvements or enhancements to reduce the vulnerability of crucial infrastructure from natural hazard risk exasperated by this major public works project.
<b>Responsible Office:</b>	Kings County; Cities of Hanford and Corcoran
<b>Partners:</b>	Kings County Community Development Agency and community service districts and public utility district.
<b>Potential Funding:</b>	Kings County General Fund for community planning efforts and LAFCO funds for municipal service review updates.
<b>Cost Estimate:</b>	\$30,000 to \$100,000 for each of the unincorporated and incorporated communities along the rail corridor.
<b>Benefits: (Losses Avoided)</b>	By identifying the potentially negative impacts of this massive public works project, more effective and realistic emergency plans and planning can be accomplished to minimize these impacts. Identifying the impacts to transportation, access and egress, resource mobilization and movement, confusion and delays can be avoided during major response activities, especially during major natural disasters.
<b>Timeline:</b>	Completed by the end of calendar year 2014 to coincide with the estimated beginning of construction on the HSR system.

**Mitigation Action: Kings County #8—Inter-Jurisdictional GIS Program**  
**Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Improve coordination, planning, and investment in a commonly developed GIS system and related databases to establish and maintain a common base map and related geographic information system .
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	High
<b>Issue/Background:</b>	Kings County and the four cities of Avenal, Corcoran, Hanford and Lemoore all rely upon GIS data to varying degrees and for various governmental services. As services may cross jurisdictional boundaries due to mutual aid requests and other inter-jurisdictional coordination efforts, a common base set of GIS data and systems are critical to ensuring coordinated and efficient services. Emergency response departments are all moving towards more GIS integrated operations which further necessitates the need for common and consistent GIS data and systems.
<b>Ideas for Implementation:</b>	The Kings County Community Development Agency operates a GIS Services Section, and the GIS Specialist position is intended to support other County department operations as well as lend support to other governmental entities within the County. Currently, the City of Hanford and City of Avenal contract with the County for GIS Specialist support. Common GIS datasets are also maintained that cover geographic territory in all four cities. Efforts will continue to consolidate and coordinate the development and maintenance of countywide GIS data and applications.
<b>Responsible Office:</b>	Kings County Community Development Agency
<b>Partners:</b>	Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments
<b>Potential Funding:</b>	Local government funds and possible grant funds through recent State Propositions.
<b>Cost Estimate:</b>	\$10,000 to \$60,000 for ongoing countywide GIS data and systems
<b>Benefits: (Losses Avoided)</b>	\$1000s in potential savings to various agencies and reduced loss of life and property
<b>Timeline:</b>	Countywide water management plan to be completed in three years, then ongoing efforts
<b>Completed by:</b>	Kings County Community Development Agency
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. The inter-jurisdictional GIS project is in progress. The County has been completely mapped; Hanford and Avenal have joined in on the</i>

	<p><i>project contracting with County GIS to meet their mapping needs. The project is planned to expand to include all the incorporated Cities and continue to create an integrated countywide GIS system and database.</i></p>
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**Mitigation Action: Kings County #9—Kings County Area Disaster Council  
Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Review and update items related to the Kings County Operational Area Disaster Council in the Kings County Emergency Services Ordinance to improve countywide coordination and the monitoring and implementation of the mitigation plan.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	<p>The emergency services ordinance establishes the Kings Operational Area Disaster Council and designates the membership of the council. Membership includes one member of the Kings County Board of Supervisors (director of emergency services), the assistant director of emergency services, a member of the city council from each of the cities, the emergency manager from each of the cities, and one member at large. The council's powers include the development of emergency and mutual aid plans and agreements and the ordinances and resolutions to implement them.</p> <p>The ordinance requires that the Disaster Council meets regularly, however in recent years the council has failed to meet. The county does not have any other inter-jurisdictional entity that meets regularly to coordinate emergency management and mitigation issues.</p>
<b>Ideas for Implementation:</b>	Review ordinance and work with cities to determine whether the requirements for the Kings County Disaster Council membership and responsibilities should be updated to better reflect future conditions. Decisions about the council's role in monitoring, maintaining, and updating the countywide hazard mitigation plan and the emergency operations plan should be included, as well as information on how the council will intersect with or replace the Hazard Mitigation Planning Committee formed for this planning process.
<b>Responsible Office:</b>	Kings County OEM
<b>Partners:</b>	Kings County Board of Supervisors
<b>Potential Funding:</b>	Kings County General Fund
<b>Cost Estimate:</b>	Staff time/In-Kind
<b>Benefits: (Losses Avoided)</b>	Improved coordination among jurisdictions. Maintenance and monitoring of the hazard mitigation plan and emergency operations plan
<b>Timeline:</b>	2013/2014
<b>Completed by:</b>	Kings County Office of Emergency Management
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project is to be maintained in the 2012 plan. Organizational work to establish the council was accomplished but formal meetings have not yet commenced. The 2013 Meeting of the council will concentrate on updating the current emergency services ordinance. The 2014 Meetings will focus on the EOP update at the op area, county, city and special district levels.</i>

**Mitigation Action: Kings County #10—Public Education Program**  
**Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Develop and implement a comprehensive strategy to improve ongoing public education regarding natural hazards and risk.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	The Planning Team identified the lack of public awareness about natural hazards risk and preparedness as an obstacle to reducing potential losses in the county. In addition, as various issues arise, there is a need to effectively inform the public about them.
<b>Ideas for Implementation:</b>	Improved information about natural hazards may be implemented into media outlets and tools already in use by the county, such as the following: 1) a media list is compiled at the County Administration Office for distribution of fax or email information; 2) the county website home page is updated, as needed, to include information on pertinent topics, such as Warming Centers, Heat Related Illness, West Nile Virus, etc.; 3) a quarterly newsletter is published to all county employees (this is put together by the Human Resources Department). The county may also work with utility districts, such as the Armona Community Services District to provide information in utility bills.
<b>Responsible Office:</b>	Kings County OEM, Operational Area Partners, Office of County Administration
<b>Partners:</b>	County departments, Cal EMA, local media, special districts
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Kings County General Fund, In-Kind
<b>Cost Estimate:</b>	\$100,000
<b>Benefits: (Losses Avoided)</b>	Provides timely, accurate information to our public, both constituents and employees. Ensures consistent information flow. Improves public awareness and education.
<b>Timeline:</b>	Internal newsletter is published quarterly. Media notices and news conferences are sent as needed.
<b>Completed by:</b>	Kings County OEM
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been partially accomplished by the PIO in the CAOs Office. The committee agreed to carry this project forward and to move responsibility for a more comprehensive public education program on disaster preparedness to the Office of Emergency Management.</i>

**Mitigation Action: Kings County #11—Livestock Disposal Plan**  
**Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Establish a livestock disposal plan and compost team to address livestock fatality during extreme heat events.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The prolonged heat wave that caused abnormally high numbers of animal mortalities in the summer of 2006 highlighted the need for a more proactive dead animal management plan, particularly in the dairy industry - a primary economic driver in Kings County. Animal deaths far exceeded the ability of the local rendering plant, which also experienced heat-related shutdowns, to accept and process carcasses in a timely manner. The end result of the declared emergency was the burial of hundreds of animal carcasses in the Chemical Waste Management landfill in the Kettleman Hills.
<b>Ideas for Implementation:</b>	Adopt an Emergency Action Plan for Dead Animal Management as a means to better manage animal mortalities during emergency situations, which cause abnormally high rates of death, particularly in the dairy industry. Also, establish a Kings County Mortality Intervention Team that would be available to provide technical and onsite assistance to animal facility operators on proper carcass disposal methods. Continue to work with our lawmakers to change the law preventing the composting of mammalian flesh.
<b>Responsible Office:</b>	Kings County Agricultural Commissioner
<b>Partners:</b>	Kings County Agricultural Advisory Committee, University of California at Davis Extension, Environmental Health Services, Natural Resources Conservation Service, Kings County Community Development Agency
<b>Potential Funding:</b>	The actual costs to bury the carcasses would be the responsibility of the animal facility owner/operator.
<b>Cost Estimate:</b>	Costs would be dependent upon the nature and length of the extreme heat event or other declared emergency. Operation of the Mortality Intervention Team would be through the Kings County General Fund.
<b>Benefits: (Losses Avoided)</b>	Help prevent the need to dispose of dead animals in the Chemical Waste Management Landfill and conserve landfill capacity. Proper onsite disposal will prevent contamination of ground water.
<b>Timeline:</b>	The Emergency Action Plan for Dead Animal Management was approved at the meeting of the Kings County Board of Supervisors on June 5, 2007.
<b>Completed by:</b>	Kings County Agricultural Commissioner's Office
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by LHMP Planning Team. This project has been partially completed. A detailed Bovine disposal SOP has been developed which represents the largest livestock population. The committee recognized that a poultry, sheep and goat protocols need to be developed especially due to the State's experience with exotic Newcastle and other veterinary diseases that have the potential to impact the county.</i>

**Mitigation Action: Kings County #12—Disaster Evacuation Routes  
Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Ensure the maintenance and enhancement of established disaster evacuation routes.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	Vehicular access to the county and its communities is connected to other outlying areas by key transportation routes, such as state highways 198, 41, and 43. Other roadways maintained by the county also provide alternative access routes. Maintenance of these key routes is critical to any emergency evacuation out of the county or emergency response entering into the county.
<b>Ideas for Implementation:</b>	Key evacuation routes should be identified in the Kings County Emergency Operations Plan and addressed in the Kings County General Plan Safety Element and Circulation Element. Maintenance and warranted enhancements of all county maintained roads is necessary to ensure that key access routes are in good enough condition to accommodate potential emergency demand. Maintenance and warranted enhancements of all county maintained roads is an ongoing operation of the Kings County Public Works Department.
<b>Responsible Office:</b>	Kings County Public Works Department
<b>Partners:</b>	Kings County OEM; Kings County Planning Agency; Cities of Avenal, Corcoran, Lemoore, and Hanford; California Department of Transportation
<b>Potential Funding:</b>	Gas tax, federal/state transportation funding, Kings County General Fund for staff time
<b>Cost Estimate:</b>	Undetermined
<b>Benefits: (Losses Avoided)</b>	Potential saving of lives and \$1000s in countywide loss prevention.
<b>Timeline:</b>	Update and coordination of evacuation information in county plans completed in 2008. Maintenance and enhancement is ongoing.
<b>Completed by:</b>	Kings County Public Works, Chief Engineer
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. After much discussion this project will continue due to the need.</i>

**Mitigation Action: Kings County #13—Traffic Safety for Fog Events**  
**Continued Project from 2007 Plan (See Remarks box)**

<b>Action:</b>	Improve lighting and traffic controls at critical intersections and roadways to improve safety during fog events.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	There is concern about fog-related traffic safety issues that usually occur during a few months in the fall. Fog-related traffic accidents may occasionally occur due to fast speeds or reduced awareness. The annual fog conditions will continue to exist in the San Joaquin Valley floor and therefore potentially result in the loss of life and property.
<b>Ideas for Implementation:</b>	The only cost-effective method of improving traffic safety during fog events is to increase education and enforcement. The California Highway Patrol already handles highway and county roadway traffic enforcement and paces traffic along major highways during times of severe fog. Improved lighting or traffic controls along the highways and major arterial streets is considered by California Department of Transportation and city public works departments based upon traffic accident and fatality reports. Increased awareness and education should occur through the media to remind motorists of the reduced visibility and need to slow their travel speeds down.
<b>Responsible Office:</b>	Kings County Public Works
<b>Partners:</b>	Kings County Sheriff's Department; law enforcement agencies and public works department in each city, California Highway Patrol, California Department of Transportation
<b>Potential Funding:</b>	Potential funding sources have not yet been identified.
<b>Cost Estimate:</b>	Cannot be determined as needed improvements are discovered through ongoing monitoring of fog-related accidents and their frequency
<b>Benefits: (Losses Avoided)</b>	Reduced traffic accidents and injuries due to fog events
<b>Timeline:</b>	Efforts are ongoing with responsible agencies reviewing traffic accident data and monitoring weather conditions.
<b>Completed by:</b>	Kings County Public Works
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. After much discussion this project will continue to the 2012 plan.</i>

## 2007 MITIGATION ACTIONS

### Mitigation Action: Kings County—Long-Term Water Supply

Current Status: Overtaken by Events and Dropped (See Remarks box)

<b>Action:</b>	Improve coordination, planning, and investment in long-term water supplies to meet demands of ongoing growth and development.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	High
<b>Issue/Background:</b>	Counties within the central and southern San Joaquin Valley region are experiencing tremendous growth as a result of low land costs, affordable housing, and low mortgage interest rates. This growth surge along with depleting surface and ground water supplies and projected outlook of global warming may severely cripple the available water supplies to Kings County during years of drought. Other regions are currently working on regional water management plans to receive bond funds for water capacity building projects.
<b>Ideas for Implementation:</b>	The Kings County Water District has attempted to coordinate proactive water capacity building programs and projects to address the future needs of the county’s agricultural, rural, and urban water needs. This effort should be built upon to develop a water management plan that covers Kings County. The plan should incorporate a countywide strategy for conservation programs, recycled water reuse programs, programs that build additional recharge and storage, and policies that work to retain existing surface water rights within the county for future use. The Kings County portion of the San Joaquin Valley Regional Blueprint may provide an appropriate avenue to address this planning effort.
<b>Responsible Office:</b>	Kings County Community Development Agency to take the lead until another more appropriate agency or joint powers authority can take over
<b>Partners:</b>	Cities of Avenal, Corcoran, Lemoore, and Hanford; special districts; water and irrigation districts; Local Agency Formation Commission of Kings County; and Kings County Association of Governments
<b>Potential Funding:</b>	Possible grant and bond funds through recent State Propositions.
<b>Cost Estimate:</b>	\$60,000 to \$80,000 for a countywide water capacity study and \$10,000 to \$45,000 for jurisdiction implementation of planning policy recommendations.
<b>Benefits: (Losses Avoided)</b>	\$1000s in potential agricultural and other resource losses avoided over the long term during years of severe drought. \$1000s in the reduction of emergency responses and recovery supplies for cities

	and communities unprepared and left without adequate water supplies for their residents.
<b>Timeline:</b>	Countywide water management plan to be completed in three years, then ongoing efforts
<b>Completed by:</b>	Kings County Community Development Agency
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> mitigation strategies workshop this project was reviewed by the LHMP Planning Team. The long- term water supply has been overtaken by events. The local project has been co-opted by a multijurisdictional project in cooperation with the State Department of Water Resources. This Project will cover the work within Kings County as well as several adjacent counties that share the same aquifer and watershed.</i>

**Mitigation Action: Kings County—Assessment of Critical Infrastructure**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Assess vulnerability of critical infrastructure and lifeline utilities, including water distribution systems, to identify and prioritize projects for multi-hazard risk reduction.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	Cities and community service districts within the county are responsible for providing necessary daily services such as water, sewer, and storm drainage to residents. Urban growth pressures in the county have increased service demands from these systems, and older portions are falling under disrepair. The collapsed city water well in Corcoran in 2006 demonstrated how vulnerable an entire community is when these services are no longer functioning and must rely upon outside assistance to provide. Older portions of the cities and communities also have deteriorated infrastructure, which are vulnerable during hazard events.
<b>Ideas for Implementation:</b>	Incorporate an assessment of service infrastructure into the state mandated Municipal Service Reviews (MSRs) required for all community service districts. MSRs and district spheres of influence boundaries are required to be completed by the end of 2007. The Local Agency Formation Commission (LAFCO) would use this information to more closely review system expansions. These assessments can also then be incorporated into the county's community planning efforts to identify and prioritize needed infrastructure improvements or enhancements to reduce the vulnerability of crucial infrastructure from natural hazard risk.
<b>Responsible Office:</b>	LAFCO of Kings County
<b>Partners:</b>	Kings County Community Development Agency and community service districts and public utility district.
<b>Potential Funding:</b>	Kings County General Fund for community planning efforts and LAFCO funds for preparation of state mandated MSRs.
<b>Cost Estimate:</b>	\$3,000 to \$10,000 for each of the four unincorporated communities.
<b>Benefits: (Losses Avoided)</b>	Strategic prioritization of capital improvement efforts to increase the effectiveness of infrastructure improvements. Ensure that existing infrastructure needs are taken into account when growth or expansion of systems is proposed. Potential savings of \$1000s of piecemeal improvements and unplanned emergency response.

<b>Timeline:</b>	Completed by the end of calendar year 2007 to coincide with the completion of the county's four unincorporated community planning projects and LAFCO's Municipal Service Reviews.
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdiction subject to this plan. The work was completed in 2007-2008 as part and parcel of the Safety Element and municipal service review updates. The methodology involved was to execute comprehensive service capacity surveys for the cities and special districts</i>

**Mitigation Action: Kings County—Kings County Area Disaster Council**  
**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Review and update items related to the Kings County Area Disaster Council in the Kings County Emergency Services Ordinance to improve countywide coordination and the monitoring and implementation of the mitigation plan.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	<p>The emergency services ordinance establishes the Kings Area Disaster Council and designates the membership of the council. Membership includes one member of the Kings County Board of Supervisors (director of emergency services), the assistant director of emergency services, a member of the city council from each of the cities, the emergency manager from each of the cities, and one member at large. The council's powers include the development of emergency and mutual aid plans and agreements and the ordinances and resolutions to implement them.</p> <p>The ordinance requires that the Disaster Council meets regularly, however in recent years the council has failed to meet. The county does not have any other inter-jurisdictional entity that meets regularly to coordinate emergency management and mitigation issues.</p>
<b>Ideas for Implementation:</b>	Review ordinance and work with cities to determine whether the requirements for the Kings County Disaster Council membership and responsibilities should be updated to better reflect future conditions. Decisions about the council's role in monitoring, maintaining, and updating the countywide hazard mitigation plan and the emergency operations plan should be included, as well as information on how the council will intersect with or replace the Hazard Mitigation Planning Committee formed for this planning process.
<b>Responsible Office:</b>	Kings County Office of Emergency Services
<b>Partners:</b>	Kings County Board of Supervisors
<b>Potential Funding:</b>	Kings County General Fund
<b>Cost Estimate:</b>	Staff time/In-Kind
<b>Benefits: (Losses Avoided)</b>	Improved coordination among jurisdictions. Maintenance and monitoring of the hazard mitigation plan and emergency operations plan
<b>Timeline:</b>	Two years

<b>Completed by:</b>	Kings County Office of Emergency Management
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project is to be maintained in the 2012 plan. Organizational work to establish the council was accomplished but formal meetings have not yet commenced. The 2013 Meeting of the council will concentrate on updating the current emergency services ordinance. The 2014 Meetings will focus on the EOP update at the op area, county, city and special district levels.</i>

**Mitigation Action: Kings County—Public Education Program**

**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Develop and implement a comprehensive strategy to improve ongoing public education regarding natural hazards and risk.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	The Planning Team identified the lack of public awareness about natural hazards risk and preparedness as an obstacle to reducing potential losses in the county. In addition, as various issues arise, there is a need to effectively inform the public about them.
<b>Ideas for Implementation:</b>	Improved information about natural hazards may be implemented into media outlets and tools already in use by the county, such as the following: 1) a media list is compiled at the County Administration Office for distribution of fax or email information; 2) the county website home page is updated, as needed, to include information on pertinent topics, such as Warming Centers, Heat Related Illness, West Nile Virus, etc.; 3) a quarterly newsletter is published to all county employees (this is put together by the Human Resources Department). The county may also work with utility districts, such as the Armona Community Services District to provide information in utility bills.
<b>Responsible Office:</b>	Kings County OEM, Operational Area Partners, Office of County Administration
<b>Partners:</b>	County departments, Cal EMA, local media, special districts
<b>Potential Funding:</b>	Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Kings County General Fund, In-Kind
<b>Cost Estimate:</b>	\$100,000
<b>Benefits: (Losses Avoided)</b>	Provides timely, accurate information to our public, both constituents and employees. Ensures consistent information flow. Improves public awareness and education.
<b>Timeline:</b>	Internal newsletter is published quarterly. Media notices and news conferences are sent as needed.
<b>Completed by:</b>	Kings County OEM
<b>Remarks:</b>	<i><b>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been partially accomplished by the PIO in the CAOs Office. The committee agreed to carry this project forward and to move responsibility for a more comprehensive public education program on disaster preparedness to the Office of Emergency Management.</b></i>

**Mitigation Action: Kings County—Vulnerable Populations**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Develop a program or system for supporting vulnerable populations during emergency events.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	High
<b>Issue/Background:</b>	<p>In the context of emergencies and disasters, the Kings County Department of Public Health has identified special needs populations or vulnerable populations as those members of our community with little or no ability to address their own preparedness, response, and recovery, as well as those people whose life’s circumstances leave them needing more than what traditional emergency response agencies provide. This community includes the following:</p> <ul style="list-style-type: none"> <li>• Physically disabled (ranging from minor disabilities causing restriction of some motions or activities, to totally disabled requiring full-time attendant care for feeding, toileting, and personal care)</li> <li>• Mentally disabled (ranging from minor disabilities where independence and ability to function in most circumstances is retained, to no ability to safely survive independently, and attend to personal care)</li> <li>• Blind, visually impaired, low vision</li> <li>• Deaf, hearing impaired, hard-of-hearing</li> <li>• Medically fragile/dependent, including those dependent on life sustaining medications, such as with HIV/AIDS and diabetes, or those dependent on medications to control conditions and maintain quality of life, such as pain medications, allergy medications, seizure control medications, etc.</li> <li>• Medically compromised, including people with multiple chemical sensitivities or weakened immune systems, and those who cannot be in (or use) public accommodations for a variety of reasons</li> <li>• Frail/elderly, seniors</li> <li>• Ex-convicts, registered offenders, and other clients of the criminal justice system</li> <li>• Limited or non-English speaking, monolingual</li> <li>• Homeless and shelter dependent, including shelters for abused women and children</li> </ul> <p>Although the county makes every effort to include this community into their emergency response and recovery plans, there is not a specific plan written to address the populations listed above.</p>
<b>Ideas for Implementation:</b>	The Kings County Department of Public Health has developed a team of local non-profit organizations and agencies, which currently provide services to vulnerable populations. The group shall establish

	goals and objectives for developing community awareness regarding preparedness and planning. The Department of Public Health will use various means to ensure information is available via different venues to ensure accessibility to residents of Kings County.
<b>Responsible Office:</b>	Kings County Department of Public Health, Bioterrorism Department
<b>Partners:</b>	Kings County Office of Emergency Services, Bioterrorism Advisory Committee, Community Volunteers
<b>Potential Funding:</b>	Current planning efforts are funded through California Department of Public Health, Emergency Preparedness Grant. Other funding sources are being researched
<b>Cost Estimate:</b>	\$15,000-\$20,000, not including impact costs for those participating in planning group
<b>Benefits: (Losses Avoided)</b>	Emergency planning for vulnerable populations will help reduce loss of life and injury during emergency events. Increased community awareness and planning will also be beneficial.
<b>Timeline:</b>	Ongoing
<b>Completed by:</b>	Sabrina Bustamante, Kings County Department of Public Health, Emergency Response Coordinator
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This Project has been completed by all jurisdictions subject to this plan. The work was completed in 2006-2007 as part and parcel of the Safety Element and municipal service review updates. The methodology involved was to execute comprehensive service capacity surveys for the cities and special districts</i>

**Mitigation Action: Kings County—Plans for Special Needs Students**

**Current Status: Dropped (See Remarks box)**

<b>Action:</b>	Develop a plan for supporting medically fragile and special needs students at each school site during emergency events.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	In reviewing emergency operation plans and developing the hazard mitigation plan, we have determined that we are lacking a plan to assist and sustain medically fragile and special needs students during an emergency situation. Many of these students currently have medical orders for providing medication on file with the school site, but do not have medical orders or long term health plans for a period extending beyond the school day.
<b>Ideas for Implementation:</b>	Kings County Office of Education and Kings County School District Nurses would develop a request for extended care orders from medical providers of medically fragile and special needs students. The nurses would develop a cover letter and a form for the physician's to complete. Parents would receive a copy of the form once it was completed by the physician. Parents would be responsible for providing medical supplies as designated by the physician.
<b>Responsible Office:</b>	Kings County Office of Education
<b>Partners:</b>	Kings County School Districts, medical providers, parents of students with special needs, Kings County Health Department
<b>Potential Funding:</b>	In-kind from partners
<b>Cost Estimate:</b>	Donated time for development of forms. Current staff time to provide information requests to medical providers and parents.
<b>Benefits: (Losses Avoided)</b>	Reduced risk to students' health and safety during emergency events. Protection against liability claims against school districts, health officials, and emergency responders.
<b>Timeline:</b>	Spring 2007, begin meeting with school district nurses. Fall 2007, discussion with medical providers and develop extended care order form. Spring 2008, begin implementation and modify as necessary. By fall 2008, have routine procedure to secure extended care orders for special needs students.
<b>Completed by:</b>	Tamara Ravalfn, Kings County Office of Education, Assistant Superintendent
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. The project was overcome by events.</i>

**Mitigation Action: Kings County—Natural Hazards Review Criteria**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Implement natural hazards review criteria for new development to improve long-term loss prevention.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The Kings County Multi-Hazard Mitigation Plan will be integrated into the Kings County General Plan Safety Element. However, planning documents are only as valuable as the effectiveness of their implementation to affect real change in the built environment. Implementation of the plan should involve a process by which natural hazard information is easily available and reviewable by local government staff.
<b>Ideas for Implementation:</b>	The Kings County Community Development Agency has participated in the development of the countywide mitigation plan from the outset to ensure that a high degree of input and coordination occurred. The Community Development Agency should follow through in the integration and implementation of the recommended policies and actions in the plan for reducing potential hazard-related losses throughout the county. The Community Development Agency will develop a process by which new development proposals are reviewed more critically against the information and policies derived from the mitigation plan. The plan can be integrated as a major part of the County's Safety Element of the General Plan update.
<b>Responsible Office:</b>	Kings County Community Development Agency
<b>Partners:</b>	Kings County Office of Emergency Services
<b>Potential Funding:</b>	Kings County Community Development Agency operational budget can absorb this as a necessary project review component and an ongoing procedure.
<b>Cost Estimate:</b>	\$1,000 to \$2,000 for developing and implementing a procedure for reviewing development applications using information from the hazard mitigation plan.
<b>Benefits: (Losses Avoided)</b>	Potential loss reductions in the \$1000s as any new development within the county will be reviewed for natural hazard impacts.
<b>Timeline:</b>	Implementation would occur after the county's General Plan update is completed in 2008. Estimated implementation of natural hazard review procedure is early 2009.

<b>Completed by:</b>	Greg Gatzka, Kings County Community Development Agency
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed by the County Planning Agency. The new hazard zones have been implemented in all relevant permit and review processes.</i>

**Mitigation Action: Kings County—Livestock Disposal Plan**

**Current Status: Partially completed and carried over to 2012 plan (See Remarks box)**

<b>Action:</b>	Establish a livestock disposal plan and compost team to address livestock fatality during extreme heat events.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The prolonged heat wave that caused abnormally high numbers of animal mortalities in the summer of 2006 highlighted the need for a more proactive dead animal management plan, particularly in the dairy industry - a primary economic driver in Kings County. Animal deaths far exceeded the ability of the local rendering plant, which also experienced heat-related shutdowns, to accept and process carcasses in a timely manner. The end result of the declared emergency was the burial of hundreds of animal carcasses in the Chemical Waste Management landfill in the Kettleman Hills.
<b>Ideas for Implementation:</b>	Adopt an Emergency Action Plan for Dead Animal Management as a means to better manage animal mortalities during emergency situations, which cause abnormally high rates of death, particularly in the dairy industry. Also, establish a Kings County Mortality Intervention Team that would be available to provide technical and onsite assistance to animal facility operators on proper carcass disposal methods. Continue to work with our lawmakers to change the law preventing the composting of mammalian flesh.
<b>Responsible Office:</b>	Kings County Agricultural Commissioner
<b>Partners:</b>	Kings County Agricultural Advisory Committee, University of California at Davis Extension, Environmental Health Services, Natural Resources Conservation Service, Kings County Community Development Agency
<b>Potential Funding:</b>	The actual costs to bury the carcasses would be the responsibility of the animal facility owner/operator.
<b>Cost Estimate:</b>	Costs would be dependent upon the nature and length of the extreme heat event or other declared emergency. Operation of the Mortality Intervention Team would be through the Kings County General Fund.
<b>Benefits: (Losses Avoided)</b>	Help prevent the need to dispose of dead animals in the Chemical Waste Management Landfill and conserve landfill capacity. Proper onsite disposal will prevent contamination of ground water.
<b>Timeline:</b>	The Emergency Action Plan for Dead Animal Management was approved at the meeting of the Kings County Board of Supervisors on June 5, 2007.
<b>Completed by:</b>	Kings County Agricultural Commissioner's Office
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by LHMP Planning Team. This project has been partially completed. A detailed Bovine disposal SOP has been developed which represents the largest livestock population. The committee recognized that a poultry, sheep and goat protocols need to be developed especially due to the State's experience with exotic Newcastle and other veterinary diseases that have the potential to impact the county.</i>

**Mitigation Action: Kings County—Safety Element of General Plan**  
**Current Status: Completed (See Remarks box) Continued for 2012 Projects**

<b>Action:</b>	Integrate the hazard mitigation plan with the Safety Element of the Kings County General Plan.
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The Kings County Multi-Hazard Mitigation Plan evaluates and addresses the same hazards that must also be addressed in local government general plans in California. The county is currently in the process of updating their General Plan. Recognizing the potential duplication of effort over evaluation of the same issues, efforts to update the Safety Element should be conducted in coordination with the multi-hazard mitigation plan.
<b>Ideas for Implementation:</b>	The Kings County Community Development Agency has participated in the development of the countywide mitigation plan from the outset to ensure that a high degree of input and coordination occurred. The Community Development Agency should follow through in the integration and implementation of the recommended policies and actions in the plan for reducing potential hazard-related losses throughout the county. The plan can be integrated as a major part of the county's Safety Element of the General Plan update
<b>Responsible Office:</b>	Kings County Community Development Agency
<b>Partners:</b>	Kings County Office of Emergency Services
<b>Potential Funding:</b>	Kings County General Fund for General Plan update, which is already budgeted for in FY 2006-2007 and planned for funding in FY 2007-2008.
<b>Cost Estimate:</b>	\$2,000 to \$3,000 for integrating the multi-hazard mitigation plan into the county's Safety Element.
<b>Benefits: (Losses Avoided)</b>	Provides General Plan policy direction for development activity with the county's unincorporated areas. Potential loss reductions in the \$1000s as any new development within the county will be considered within the context of the county's Safety Element.
<b>Timeline:</b>	Draft integration to be completed by the end of calendar year 2007 and considered in the overall county General Plan update scheduled for completion in 2008.
<b>Completed by:</b>	Kings County Community Development Agency

<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed. The Safety element and the LHMP were integrated by the use of shared data, mapping and mitigation goals. A modified version of this project will remain open to evaluate needed changes in the Safety Element due to changes in the 2012 Hazard Mitigation Plan.</i>

**Mitigation Action: Kings County—Adoption of DFIRMs**

**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Update flood damage prevention ordinance to include new FEMA digital flood insurance rate maps (DFIRMs).
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Medium
<b>Issue/Background:</b>	The county's flood damage prevention ordinance currently references a flood insurance rate map that will soon be outdated when recently completed DFIRMs are available in 2008.
<b>Ideas for Implementation:</b>	The county's flood damage prevention ordinance will be reviewed to ensure that it correctly references the new DFIRMs that will soon be available from FEMA. The new digital maps will be available in 2008 and can be integrated into the county's current GIS system. This updated information can then be deployed at the front public counter and at workstations for both planning and building inspection staff to use when reviewing development proposals.
<b>Responsible Office:</b>	Kings County Building Inspection Department
<b>Partners:</b>	Kings County Community Development Agency, FEMA
<b>Potential Funding:</b>	Kings County General Fund as part of the county's General Plan update and ongoing GIS maintenance operations
<b>Cost Estimate:</b>	Less than \$1,000
<b>Benefits: (Losses Avoided)</b>	Updating the ordinance will better define the flood zone boundary lines where there are questions regarding buildings proposed for construction. This will assist county personnel in enforcement of the floodplain ordinance ensuring structures are constructed to minimize the risk of flood damage.
<b>Timeline:</b>	Implementation projected for late 2008
<b>Completed by:</b>	Carl Goff, Kings County Community Development Agency, Deputy Building Official
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed. The new DFIRMs established with FEMA have been integrated into all relevant planning and permit processes.</i>

**Mitigation Action: Kings County—Disaster Evacuation Routes**

**Current Status: Not completed, carry over to 2012 projects (See Remarks box)**

<b>Action:</b>	Ensure the maintenance and enhancement of established disaster evacuation routes.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	Vehicular access to the county and its communities is connected to other outlying areas by key transportation routes, such as state highways 198, 41, and 43. Other roadways maintained by the county also provide alternative access routes. Maintenance of these key routes is critical to any emergency evacuation out of the county or emergency response entering into the county.
<b>Ideas for Implementation:</b>	Key evacuation routes should be identified in the Kings County Emergency Operations Plan and addressed in the Kings County General Plan Safety Element and Circulation Element. Maintenance and warranted enhancements of all county maintained roads is necessary to ensure that key access routes are in good enough condition to accommodate potential emergency demand. Maintenance and warranted enhancements of all county maintained roads is an ongoing operation of the Kings County Public Works Department.
<b>Responsible Office:</b>	Kings County Public Works Department
<b>Partners:</b>	Kings County OEM; Kings County Community Development Agency; Cities of Avenal, Corcoran, Lemoore, and Hanford; California Department of Transportation
<b>Potential Funding:</b>	Gas tax, federal/state transportation funding, Kings County General Fund for staff time
<b>Cost Estimate:</b>	Undetermined
<b>Benefits: (Losses Avoided)</b>	Potential saving of lives and \$1000s in countywide loss prevention.
<b>Timeline:</b>	Update and coordination of evacuation information in county plans completed in 2008. Maintenance and enhancement is ongoing.
<b>Completed by:</b>	Kings County Public Works, Chief Engineer
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. After much discussion this project will continue due to the need.</i>

**Mitigation Action: Kings County—Traffic Safety for Fog Events**  
**Current Status: Reviewed and renewed (See Remarks box)**

<b>Action:</b>	Improve lighting and traffic controls at critical intersections and roadways to improve safety during fog events.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	There is concern about fog-related traffic safety issues that usually occur during a few months in the fall. Fog-related traffic accidents may occasionally occur due to fast speeds or reduced awareness. The annual fog conditions will continue to exist in the San Joaquin Valley floor and therefore potentially result in the loss of life and property.
<b>Ideas for Implementation:</b>	The only cost-effective method of improving traffic safety during fog events is to increase education and enforcement. The California Highway Patrol already handles highway and county roadway traffic enforcement and paces traffic along major highways during times of severe fog. Improved lighting or traffic controls along the highways and major arterial streets is considered by California Department of Transportation and city public works departments based upon traffic accident and fatality reports. Increased awareness and education should occur through the media to remind motorists of the reduced visibility and need to slow their travel speeds down.
<b>Responsible Office:</b>	Kings County Public Works
<b>Partners:</b>	Kings County Sheriff's Department; law enforcement agencies and public works department in each city, California Highway Patrol, California Department of Transportation
<b>Potential Funding:</b>	Potential funding sources have not yet been identified.
<b>Cost Estimate:</b>	Cannot be determined as needed improvements are discovered through ongoing monitoring of fog-related accidents and their frequency
<b>Benefits: (Losses Avoided)</b>	Reduced traffic accidents and injuries due to fog events
<b>Timeline:</b>	Efforts are ongoing with responsible agencies reviewing traffic accident data and monitoring weather conditions.
<b>Completed by:</b>	Kevin McAlister, Kings County Public Works, Chief Engineer
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. After much discussion this project will continue to the 2012 plan.</i>

**Mitigation Action: Kings County—Updated Building Code**  
**Current Status: Completed (See Remarks box)**

<b>Action:</b>	Adopt the 2006 International Building Code
<b>Jurisdiction:</b>	Kings County
<b>Priority:</b>	Low
<b>Issue/Background:</b>	Adoption of the International Building Code will help standardize building construction codes throughout the United States. This will help make construction practices and code enforcement uniform and result in better built and safer buildings.
<b>Ideas for Implementation:</b>	The State of California is currently going through proceedings to adopt the 2006 International Building Code. The process will require amendments to the code and it is scheduled to be adopted January 1, 2008. Once adopted at the state level, it then becomes the tool of enforcement at the local jurisdiction level.
<b>Responsible Office:</b>	Kings County Building Inspection Department
<b>Partners:</b>	Kings County Fire Department
<b>Potential Funding:</b>	Kings County General Fund
<b>Cost Estimate:</b>	Undetermined. Cost will involve training and purchases of new code books and computer assistance programs.
<b>Benefits: (Losses Avoided)</b>	Uniform code enforcement. Reduced risk to lives and property through safer buildings.
<b>Timeline:</b>	Mandatory adoption January 1, 2008
<b>Completed by:</b>	Carl Goff, Kings County Community Development Agency, Deputy Building Official
<b>Remarks:</b>	<i>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. This project has been completed. The new 2010 California Building Code has been integrated into all relevant planning and permit processes.</i>

**Mitigation Action: Kings County—Earthquake Hazards at Schools**  
**Current Status: Overtaken by Events and Dropped (See Remarks box)**

<b>Action:</b>	Develop a plan for training school maintenance crews to identify and address nonstructural hazards in schools to mitigate earthquake risk.
<b>Jurisdiction:</b>	Multi-Jurisdictional
<b>Priority:</b>	Low
<b>Issue/Background:</b>	Although school districts conduct earthquake drills with students on a routine basis and follow codes to assure facilities are in proper compliance, many classrooms, offices, etc, still have bookcases and other objects which would not be stable during an earthquake.
<b>Ideas for Implementation:</b>	<p>Kings County Office of Education and Kings County Self-Insured Schools would develop a facility hazards check-off list and train maintenance staff in the identification of nonstructural hazards. In addition, maintenance crews would be trained on how to address and mitigate these hazards.</p> <p>Training would be conducted by the Director of Kings County Self-Insured Schools (KCSIS) in conjunction with Schools Insured Schools of California (SISC) and provided to maintenance and operations directors and chief business officials of Kings County School Districts.</p>
<b>Responsible Office:</b>	Kings County Office of Education
<b>Partners:</b>	KCSIS, SISC, Kings County School Districts
<b>Potential Funding:</b>	In-kind from partners
<b>Cost Estimate:</b>	Donated time for development of forms, training, and recordkeeping by partner agencies
<b>Benefits: (Losses Avoided)</b>	Reduced risk to students, staff, and school property during future seismic events. Protection against liability claims and workers compensation claims against school districts and emergency responders.
<b>Timeline:</b>	Summer 2007, meet with KCSIS and SISC to develop training materials. Fall 2007, provide training in conjunction with regularly scheduled trainings of maintenance directors and chief business officials. Spring 2008, begin implementation and modify as necessary. By fall 2008, have routine procedure to identify and address nonstructural hazards in schools to mitigate earthquake risk.
<b>Completed by:</b>	Tamara Ravalfn, Kings County Office of Education, Assistant Superintendent
<b>Remarks:</b>	<i><b>Project Disposition: At the September 27<sup>th</sup> workshop this project was reviewed by the LHMP Planning Team. After much discussion dropped from the planning effort as it was over come by events.</b></i>



## **Santa Rosa Rancheria**

### **GENERAL INFORMATION**

#### **Overview**

The Tachi Yokut Tribe is a federally recognized tribal government with sovereign jurisdiction and lands within the City of Lemoore in Kings County. The Tachi Yokut Tribe maintains governmental and commercial operations ranging from residential housing, a school and cultural department, to a casino and hotel resort.

#### **History**

#### **Facts**

##### **Location & Geophysical Features**

It is located 4.5 miles (7.25 km) southeast of Lemoore, California. Established in 1934 on about 40 acres (16.2 hectares), the Santa Rosa Rancheria belongs to the federally recognized Tachi Yokut tribe. It is the site of the Tachi Palace Hotel & Casino. The population was 517 at the time of the 2000 United States Census. Ruben Barrios was elected as the Tribal Chairman in 2009.

The Santa Rosa Rancheria expanded in size over the years to 643 acres (260 hectares) by the beginning of 2008. On May 28, 2008, then-Tribal Chairman Clarence Atwell Jr. and Dale Morris, Pacific Region Director of the U.S. Bureau of Indian Affairs, signed documents that added an additional 1,163 acres (471 hectares) of trust land, thus enlarging the Rancheria to 1,806 acres (731 hectares).

## **Public Safety & Preparedness**

The Santa Rosa Rancheria, Tribal Government, Members and Community, require and expect all Officers and Dispatchers of the Tribal Department of Public Safety to conduct themselves at all times, in a manner reasonable and commensurate with their job descriptions and responsibilities. To enforce Tribal law and community ordinances within their discretion to do so, while acting in the best interests of and for the community's common good and in good faith at all times. All staff should accept the Departmental badge as a sign of the Community's faith and trust and shall display a Spirit of Professionalism and maintain a clear sense of commitment, innovation and a constant environment encouraging teamwork and continuous improvement.

Officers and Dispatchers are expected to commit to and upholding their positions of trust by not abusing said trust and maintaining the highest degree of ethical standards with integrity, being the starting, central and finishing focal point of all their actions. The Santa Rosa Rancheria Department of Public Safety is a community service oriented department and all Officers and Dispatchers are expected to provide service and assistance in a manner that is timely, courteous, fair and professional.

The Santa Rosa Rancheria Department of Public Safety is a progressive entity of the Tachi-Yokut Indian Nation, Tribal Government. The DPS Officers are sanctioned by the Tribal Government to provide the Tribal community, employees, guest and assets of the Tribe, with standard police services and protections. The DPS utilizes state of the art tools and equipment to accomplish their mandate. Which includes a computer aided dispatch system (CAD), a computerized report management system (RMS), and the most recent innovations in personal protection equipment and training. The DPS has adopted the industry's education and training standard for its officers with a highly competitive compensation and benefit package.

## Community Activity

### Health & Wellness

The community generally holds an annual health and safety fair for its tribal members.

### Hospitals/Medical Centers

There is one medical center called the Tachi Medical Center located on the property.

### Community Services

#### Tribal Community Facilities

There are two areas on the Rancheria where members can convene which is the Tachi Recreation Center and the Elder Center. The Elder Center has a variety of Senior programs in place for senior tribal members.

### Education

There are two centers for education located on the Rancheria which are the Tachi Yokut Early Education Center and the Continuing Education School for adult members of the tribe.

### Public Primary & Secondary Schools

Children are integrated in the local community schools near the Rancheria.

## Hazard Identification and Profiles

Representatives from the Tachi Yokut Tribe identified natural hazards that could affect the tribe and developed hazard profiles based upon the countywide risk assessment and past events and their impacts. Definitions for the rankings used can be found in Element B.

**Santa Rosa Rancheria Hazard Profiles**

Hazard	Probability of Occurrence	Potential Magnitude/ Geographic Extent	Significance
Dam Failure	Unlikely	Catastrophic	Medium
Drought	Occasional	Limited	Medium
Earthquake	Occasional	Critical	High
Extreme Heat	Highly Likely	Limited	Medium
Flood	Occasional	Limited	Low
Fog	Highly Likely	Negligible	Medium
Freeze	Likely	Negligible	Medium
Landslide	Unlikely	Negligible	Low
Soil Hazards: Expansive Liquefaction Erosion	Occasional	Negligible	Low
Tornado	Occasional	Limited	Low
Wildfire	Unlikely	Negligible	Low

## Vulnerability Assessment

The vulnerability assessment analyzes the population, property, and other assets at risk to natural hazards. This section lists the tribe’s assets at risk, including critical facilities and infrastructure; historic, cultural, and natural resources; and economic assets.

### Assets at Risk

The table that follows lists the critical facilities and other community assets identified by representatives from the tribe and are important to protect in the event of a disaster.

Critical Facilities and other Community Assets

Facility	Address	Replacement Value
Tachi Palace Casino and Hotel		

### Estimating Potential Losses

The table below shows the tribe’s total exposure to hazards in terms of population and the number and values of structures. Kings County Assessor’s data was used to calculate the improved value of parcels. GIS was used to quantify the number and value of structures in the 100-year (Zone A). More information on how these estimates were calculated can be found in the Vulnerability Assessment section in Element B.

Exposure to Hazards

Tachi Yokut Tribe	Population	Buildings	Value
Total Exposure (Earthquake)			
Flood: Zone A	40	10	2.0 million
Flood: X-500			

Representatives from the tribe discussed the impacts of different hazards to the Rancheria and determined that the impacts from drought, earthquake, extreme heat, fog, and freezes affect the Rancheria similar to other areas of the Kings County region and do not differ significantly to the descriptions found in the risk assessment in Element B.

## Capability Assessment

Capabilities are the programs and polices currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The assessment is divided into four sections: regulatory, administrative and technical, fiscal, and outreach and partnerships.

### Regulatory Capability

There are several planning and land management tools typically used by local and tribal jurisdictions to implement hazard mitigation activities the Santa Rosa Rancheria works closely with Kings County in this area.

### Administrative and Technical Capability

The table below identifies the personnel resources responsible for activities related to mitigation and loss prevention. A summary of technical resources follows.

**Personnel Capabilities**

<b>Personnel Resources</b>	<b>Department/Position</b>
Planner/Engineer with knowledge of land development/land management practices	
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	Director of Facilities
Full time building official	
Floodplain Manager	
Emergency Manager	Public Safety Office – 10 staff
Grant writer	Tribal Operations Office
Other	

### Outreach and Partnerships

The Santa Rosa Rancheria works closely with the Kings County Office of Emergency Management and the City of Lemoore on public outreach or other community partnerships related to hazard mitigation.

### Goals and Objectives

The Tachi Yokut tribe adopts the hazard mitigation goals and objectives developed by the Hazard Mitigation Planning Committee and described in Element C.

### Mitigation Actions

The planning team for the Tachi Yokut tribe identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how the action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and timeline also are described.

**2012 Mitigation Actions**

**Mitigation Action: Santa Rosa Rancheria #1—Emergency Power System for the Primary Safety Alerting Point, PSAP**

<b>Action:</b>	Purchase, Install, test and utilize a 100 KW Diesel powered emergency Generator system for the PSAP which is a combination dispatch center and tribal Emergency Operations Center.
<b>Jurisdiction:</b>	Santa Rosa Rancheria
<b>Priority:</b>	High
<b>Issue/Background:</b>	The Santa Rosa Rancheria PSAP is responsible for the day management of emergency dispatch for all the tribe’s public safety agencies as well as the day to day coordination of fire, law and EMS mutual aid. During a disaster the PSAPs role expands to serve as the Rancheria’s emergency Operations Center (EOC). As such it is responsible for coordinating information and resources for the tribe as well as serving as a node of the operational area’s mutual aid system. It currently has no emergency power, which means that a power outage no matter what the source greatly inhibits the PSAPs ability to perform either its day to day mission or its functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond the tribes normal budgetary processes. This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local fund raising effort.
<b>Responsible Office:</b>	Santa Rosa Rancheria Office of Public Safety.
<b>Partners:</b>	Kings County OEM and Tachi Tribal Council.
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially tribal gaming revenues.
<b>Cost Estimate:</b>	\$200,000 for the complete 100KW system including generator, fuel tanks, automatic transfer switches, pad and labor.
<b>Benefits: (Losses Avoided)</b>	Emergency power system will ensure the PSAP and EOC can stay on line independent of commercial power. This will allow them to continue their lifesaving mission of resource dispatch and control during any disaster that disrupts local commercial power, brownouts or rolling blackouts.
<b>Timeline:</b>	Desired completed by the end of calendar year 2013 to coincide with the completion of the Rancheria’s emergency shelter program for seniors and modernization of the Rancherias public safety services.

**Mitigation Action: Santa Rosa Rancheria #2—Emergency Power System for the Senior Center shelter site.**

<b>Action:</b>	Purchase, install, test and utilize a 200 KW Diesel powered emergency Generator system for the Senior Center Shelter Site, which would provide emergency shelter, cooling, medical device power and recharging, refrigeration for critical medications, and life safety for tribal seniors. Center.
<b>Jurisdiction:</b>	Santa Rosa Rancheria
<b>Priority:</b>	High
<b>Issue/Background:</b>	The Santa Rosa Rancheria has senior housing of over 200 mostly medically fragile seniors. The housing area has an onsite senior center that is used for emergency shelter, community activities, recreation and daily senior programs. It currently has no emergency power, which means that a power outage no matter what the source can place this special needs population at risk. Emergency power would provide heating and cooling for the sheltered population, power to maintain medical devices, refrigeration and meal preparation for this population. Emergency power enables the senior center to maintain its functions during a natural disaster.
<b>Ideas for Implementation:</b>	This is a major project requiring substantial funding beyond the tribes normal budgetary processes. This project could be implemented either as a grant project, a project under the homeland security grant programs or as a local fund raising effort.
<b>Responsible Office:</b>	Santa Rosa Rancheria Office of Public Safety and Office of Social Services.
<b>Partners:</b>	Kings County OEM and Tachi Tribal Council.
<b>Potential Funding:</b>	SHSGP Grant Program, Hazard Mitigation Grant Program, and potentially tribal gaming revenues.
<b>Cost Estimate:</b>	\$350,000 for the complete 200KW system including generator, fuel tanks, automatic transfer switches, pad and labor.
<b>Benefits: (Losses Avoided)</b>	Emergency power system will ensure the Senior Center can stay on line independent of commercial power. This will allow them to continue their mission of sheltering and caring for the senior population of the Tachi tribe. It also creates a community resource in the event of a disaster that can shelter additional people, provide a clinic site for casualty collection and treatment, and provide a resource to assist in disaster food service and population protection. The ability to maintain the HVAC systems by generator will allow the center to be used annually during heat waves despite limitations of the commercial power grid.
<b>Timeline:</b>	Desired completed by the end of calendar year 2013 to coincide with the completion of the Rancheria's emergency shelter program for seniors and modernization of the Rancherias public safety services.

School District	Evacuation Plans	Shelter-in-Place Plans	Tornado Program/Drills	Earthquake Program/Drills	Flood Safety Program/Drills	Other Plans
Armona Union	✓	✓	✓	✓		Annual update of safety manual
Central Union	✓	✓	✓	✓	✓	Several, see district section
Corcoran Unified	✓	✓		✓		Safe School Plan, Fire Drills, Intruder Drills
Hanford Elementary	✓	✓	✓	✓		Emergency Op Manual, Comprehensive School Safety Plan, Tornado Plan-no drills
Hanford Joint Union High School	✓	✓		✓	✓	Safe School Plan, Flood Program, but no drills
Island Union Elementary	✓	✓		✓		School Safety Plan
Kings River-Hardwick	✓	✓		✓		
Kit Carson	✓	✓		✓		Emergency plan reviewed with all employees
Kings County Office of Education	✓	✓		✓		Safety plan currently being updated
Lakeside	✓	✓	✓	✓		Comprehensive Safety Plan, Bullying Prevention, Character Counts
Lemoore Elementary	✓	✓		✓		Fire drills, intruder drills
Lemoore High School	✓	✓		✓		Comprehensive safety plan
Pioneer	✓	✓		✓		Bullying prevention, character counts, stranger on campus, traffic/bike safety
Reef-Sunset	✓	✓		✓		Yes, but unspecified
<b>Percentage with Capability</b>	<b>100%</b>	<b>100%</b>	<b>29%</b>	<b>100%</b>	<b>14%</b>	