City of Biggs

Agenda Item Staff Report
For the Regular City Council Meeting:
July 08, 2014

TO: Honorable Mayor and Members of the City Council

FROM: City Administrator

SUBJECT: Butte County Local Hazard Mitigation Plan

Council is asked to consider adopting the Butte County Local Hazard Mitigation Plan (LHMP) via resolution 2014-14

Background
The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Butte County developed this Local Hazard Mitigation Plan (LHMP) update to make the County and its residents less vulnerable to future hazard events. This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Butte County would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant programs.

The County followed a planning process prescribed by FEMA, which began with the formation of a hazard mitigation planning committee (HMPC) comprised of key County representatives, and other regional stakeholders. The HMPC conducted a risk assessment that identified and profiled hazards that pose a risk to the County, assessed the County's vulnerability to these hazards, and examined the capabilities in place to mitigate them. The County is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Floods, levee failures, wildfires, and severe weather are among the hazards that can have a significant impact on the County. The effort was funded by FEMA and Butte County.

On June 30, 2014 FEMA approved of the LHMP pending its adoption by Butte County and each of the participating jurisdictions, therefor we recommend a resolution of adoption.

The 36 pages of the LHMP most relevant to the City of Biggs are attached, and the entire 1124 page LHMP for all of Butte County was previously provided electronically.

Recommendation, Approve the following resolution:

RESOLUTION NO. 2014-14, RESOLUTION OF THE CITY OF BIGGS Adopting the Butte County Local Hazard Mitigation Plan

RESOLUTION NO. 2014-14

RESOLUTION OF THE CITY OF BIGGS

ADOPTING THE BUTTE COUNTY LOCAL HAZARD MITIGATION PLAN

Whereas, The City of Biggs recognizes the threat that natural hazards pose to people and property within our community; and

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

Whereas, the U.S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards;

Whereas, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments;

Whereas, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, The City of Biggs fully participated in the FEMA-prescribed mitigation planning process to prepare this local hazard mitigation plan; and

Whereas, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the Butte County Local Hazard Mitigation Plan and approved it contingent upon this official adoption of the participating governing body;

Whereas, the City of Biggs desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Butte County Local Hazard Mitigation Plan;

Whereas, adoption by the governing body for the City of Biggs, demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this Local Hazard Mitigation Plan.

Whereas, adoption of this legitimacies the plan and authorizes responsible agencies to carry out their responsibilities under the plan. Butte County Appendix D.2 Local Hazard Mitigation Plan Update May 2013

Now, therefore, be it resolved, that the City of Biggs adopts the Butte County Local Hazard Mitigation Plan as an official plan; and

Be it resolved, that the City of Biggs adopts the Butte County Local Hazard Mitigation Plan by reference into the safety element of their general plan in accordance with the requirements of AB 2140, and

Be it further resolved, The City of Biggs will submit this adoption resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000 and to establish conformance with the requirements of AB 2140.

I HEREBY CERTIFY that the foregoing **RESOLUTION** was duly introduced, passed and adopted at a regular meeting of the City Council of the City of Biggs, held on the 8th day of April, 2014 by the following vote:

AYES: Council Members: _____

NOES: Council Members: _____

ABSENT: Council Members: _____

ABSTAIN: Council Members: _____

ATTEST:

_____ _____

Roben Dewsnup, CITY CLERK Roger Frith, MAYOR

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

June 30, 2014

John Gulserian
Emergency Services Officer
Butte County Office of Emergency Management
25 County Center Drive, Suite 200
Oroville, California 95965

Dear Mr. Gulserian:

We have completed our review of the *Butte County Local Hazard Mitigation Plan,* and have determined that this plan is eligible for final approval pending its adoption by Butte County and all participating jurisdictions.

Formal adoption documentation must be submitted to the Regional office by the lead Jurisdiction within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. We will approve the plan upon receipt of the documentation of formal adoption.

If you have any questions regarding the planning or review processes, please contact Phillip Wang, Hazard Mitigation Planner at (510) 627-7753, or by email at phillip.wang@fema.dhs.gov.

Sincerely,

Jeffrey D. Lusk
Acting Director
Mitigation Division
FEMA Region IX

cc: Kirby Everhart, California State Hazard Mitigation Officer
Jose Lara, California Office of Emergency Services, Mitigation Planning

Status of Participating Jurisdictions as of June 30, 2014

Jurisdictions – Adopted and Approved

#	Jurisdiction	Date of Adoption
1		
2		
3		
4		
5		
6		
7		
8		

Jurisdictions - Approvable Pending Adoption

#	Jurisdiction	Date of Adoption
1	Butte County	
2	Biggs, City of	
3	Chico, City of	
4	Gridley, City of	
5	Oroville, City of	
6	Paradise, Town of	
7	Paradise Irrigation District	
8	Thermalito Water and Sewer District	

Annex A CITY OF BIGGS

A.1 Introduction

This Annex details the hazard mitigation planning elements specific to the City of Biggs, a participating jurisdiction to the Butte County LHMP Update. This annex is not intended to be a standalone document, but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City. This annex provides additional information specific to the City of Biggs, with a focus on providing additional details on the risk assessment and mitigation strategy for this community.

A.2 Planning Process

As described above, the City of Biggs followed the planning process detailed in Section 3.0 of the base plan. In addition to providing representation on the Butte County Hazard Mitigation Planning Committee (HMPC), the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants included staff from the following City departments:

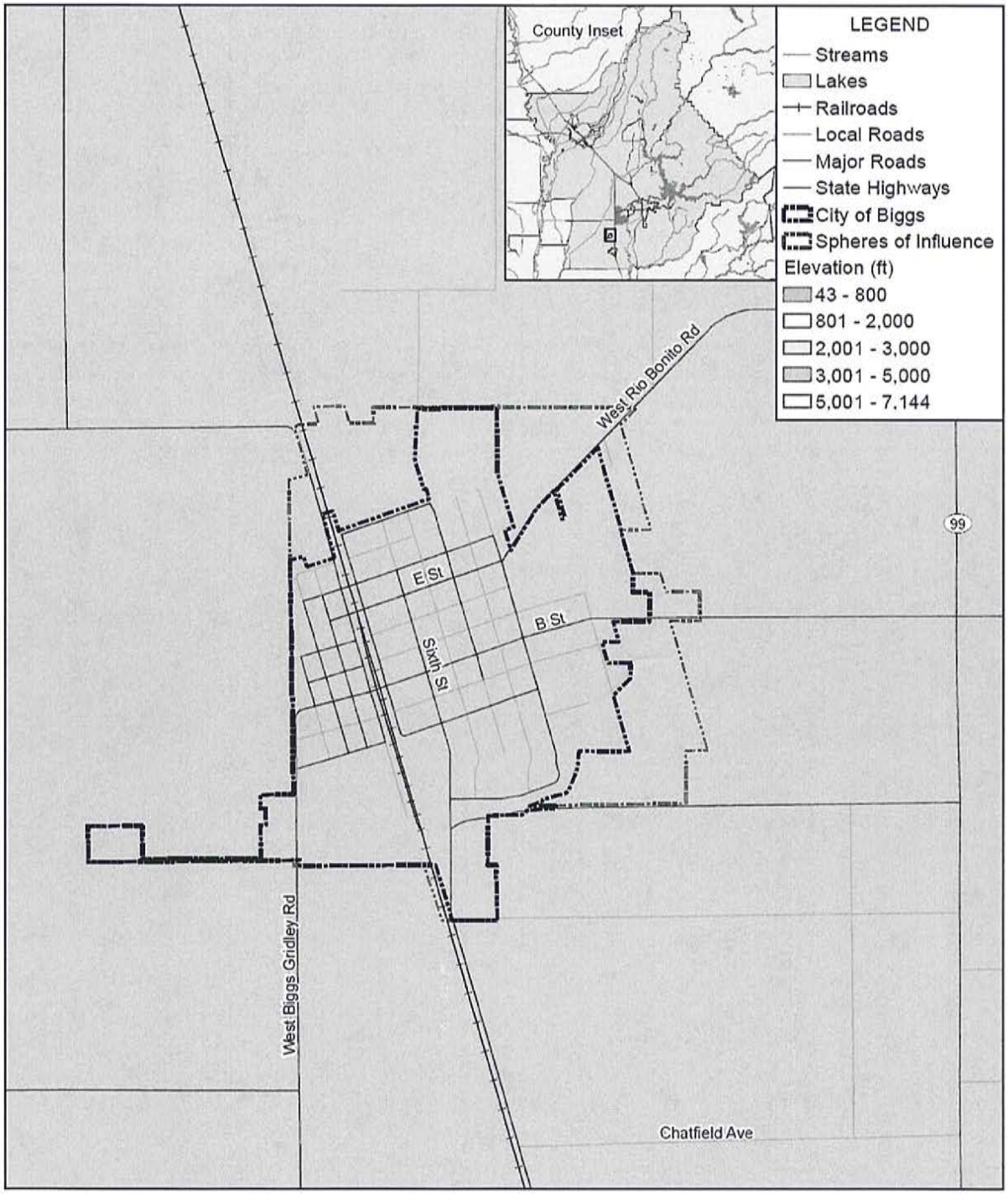
- City Administrator
- Public Works
- City Engineer
- Mayor

Additional details on plan participation and City representatives are included in Appendix A.

A.3 Community Profile

The community profile for the City of Biggs is detailed in the following sections. Figure A.1 displays a map and the location of the City of Biggs within Butte County.

Figure A.1. City of Biggs Base Map



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Map compiled 6/2012; intended for planning purposes only.
Data Source: Butte County

A.3.1 Geography and Location

The City of Biggs is located in the southwest portion of Butte County, approximately five miles north of the City of Gridley. State Route 99 runs in a north-south direction east of the city, and the Union Pacific Railroad extends through the center of the City. The City encompasses approximately 414 acres, or 0.65 square miles. There are currently 540.6 total acres or 0.84 square miles within the Biggs Sphere of Influence (SOI).

The City is located in the fertile farmlands of the Sacramento Valley about an hour north of Sacramento. Known as the "heart of rice country," Biggs is approximately 25 miles south of the City of Chico and 25 miles north of Yuba City, just off State Route 99, at an elevation of 93 feet.

A.3.2 History

The City of Biggs was incorporated in 1903 as a general law city intended to serve the agricultural commerce within the vicinity. The town was originally founded in 1871 by Mr. A.M. Pitts and Lewis Posey. It was named Biggs Station after Major Marion Biggs, a prominent local political leader. After two serious fires in the summer of 1878 a community water system was constructed. The town was rebuilt with brick stores and the word "Station" was dropped from the town name. By 1882 the town had 600 inhabitants and 280 registered voters.

A.3.3 Population

The US Census Bureau 2010 estimated the population of the City of Biggs to be 1,707.

A.4 Hazard Identification and Summary

This section details how the risk varies across the Butte County planning area. The City's planning team identified the hazards that affect the City and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to Biggs (see Table A.1). In the context of the plan's planning area, there are no hazards that are unique to Biggs.

Information on past occurrences and the likelihood of future occurrences is detailed in Section 4, Risk Assessment, of the base plan. Additional information for high and medium significant hazards for the City is included in the Vulnerability Assessment section of this Annex.

Table A.1. City of Biggs Hazard ID Table

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance
Dam Failure	Extensive	Unlikely	Catastrophic	Low
Drought & Water shortage	Extensive	Occasional	Catastrophic	Low
Earthquakes	Extensive	Occasional	Catastrophic	Medium
Earth Movements: Landslide	Limited	Unlikely	Negligible	Low
Earth Movements: Erosion	Limited	Unlikely	Negligible	Low
Floods: 100/500 year	Extensive	Occasional/Unlikely	Catastrophic	High
Floods: Localized Stormwater	Limited	Highly Likely	Negligible	Medium
Hazardous Materials Incidents: Railroads	Limited	Occasional	Limited	Medium (to high)
Invasive Species: Pests/Plants	Limited	Unlikely	Limited	Low
Levee Failure	Extensive	Unlikely	Catastrophic	Medium
Marine Invasive Species	Negligible	Unlikely	Limited	Low
Severe Weather: Extreme Heat	Extensive	Highly Likely	Catastrophic	Medium
Severe Weather: Freeze	Extensive	Occasional	Critical	Medium
Severe Weather: Heavy rain, hailstorm, lightning	Extensive	Highly likely	Catastrophic	High
Severe Weather: Tornado	Significant	Occasional	Critical	Low
Severe Weather: Windstorms	Critical	Likely	Critical	Medium
Volcanoes	Extensive	Unlikely	Catastrophic	Low
Wildfires	Limited	Unlikely	Negligible	Low

Geographic Extent
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Probability of Future Occurrences
Highly Likely: Near 100% chance of occurrence in next year, or happens every year.
Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability
Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Significance
Low: minimal potential impact
Medium: moderate potential impact
High: widespread potential impact

A.5 Vulnerability Assessment

The intent of this section is to assess Biggs's vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 4.3 Vulnerability Assessment of the base plan. This vulnerability assessment provides an inventory of the population, property, and other assets located within the City and further analyzes those assets at risk to identified hazards ranked of medium or high significance (as listed in Table A.1) to the community. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the main plan.

A.5.1 Total Assets at Risk

This section identifies Biggs's total assets at risk, including values at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the community. This data is not hazard specific, but is representative of total assets at risk within a community.

Values at Risk

The following data from the Butte County Assessor's Office is based on the 2012 Assessor's data. This data should only be used as a guideline to overall values in the County, as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is most likely low and does not reflect current market value of properties within the County. It is also important to note, in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table A.2 shows the 2012 Assessor's values (e.g., the values at risk) broken down by property type for the City of Biggs.

Table A.2. City of Biggs Total Exposure

Property Type	Parcel Count	Improved Parcel Count	Improved Value	Other Value	Land Value	Total Value
Agriculture	3	3	$134,824	$1,240	$132,260	$268,324
Commercial	38	29	$3,393,218	$185,433	$737,996	$4,316,647
Industrial	10	4	$9,423,371	$3,932,440	$1,304,668	$14,660,479
Residential	690	583	$39,146,288	$0	$16,948,488	$56,094,776
Unclassified	18	1	$25,000	$0	$50,000	$75,000
Total	759	620	$52,122,701	$4,119,113	$19,173,412	$75,415,226

Source: Butte County 2012 Assessor's Data

Critical Facilities and Infrastructure

For purposes of this plan, a critical facility is defined as:

> Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition was refined by separating out three categories of critical facilities as further described in Section 4.3.1 of the base plan. These categories include At-Risk Populations, Essential Services, and Hazardous Materials Facilities.

An inventory of critical facilities in the City of Biggs from Butte County GIS is provided in Table A.3. Details of critical facility definition, type, name and address and jurisdiction by hazard zone are listed in Appendix E.

Table A.3. City of Biggs Critical Facilities: Summary Table

Category	Type	Facility Count
At Risk Population Facilities	Family Day Care Home	4
	School	3
Essential Services Facilities*	Bridge	5
	Fire Station	1
	Law Enforcement	1
	Wastewater Treatment Plant	1
Hazardous Materials Facilities	CUPA	5
	Total	**20**

Source: Butte County GIS

* The City noted that the (3) Municipal Water Pumping stations, one hydrostatic water pressure tank, and one 100' water tank (with the distribution system, they are collectively the municipal water system) should also be considered essential services.

Natural Resources

The City of Biggs and the areas surrounding it include a rich and diverse range of biological resources. Due to its location in the Sacramento Valley, Biggs is located in an area with high levels of waterfowl activity. However, the developed areas both inside and just outside of the city limits are generally less likely to contain significant wildlife resources or habitat.

There is limited evidence of protected species occurring within the developed areas of the City of Biggs. However, since detailed biological evaluations have generally not been conducted in the vicinity of Biggs, the lack of identified occurrences is not proof of the absence of protected species. While the City's environment is not known to contain threatened or endangered species, various species, including the giant garter snake, the western pond turtle, and the Swainson's

hawk, are known to utilize habitats similar to those located within the Biggs Planning Area. Therefore, future development sites may require review by a qualified individual, to be approved by the City, to determine if species or habitats are present. If potential habitats or species are found, biological surveys may be required to determine the extent, viability, and approach to avoid or potentially mitigate a loss.

Historic and Cultural Resources

The City of Biggs has a stock of historically significant homes, public buildings, and landmarks. To inventory these resources, the HMPC collected information from a number of sources. The California Department of Parks and Recreation Office of Historic Preservation (OHP) was the primary source of information. The OHP is responsible for the administration of federally and state mandated historic preservation programs to further the identification, evaluation, registration, and protection of California's irreplaceable archaeological and historical resources. OHP administers the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and the California Points of Historical Interest programs. Each program has different eligibility criteria and procedural requirements. These requirements are detailed in Section 4.3.1 of the base plan. According to these sources, there are no buildings on these lists in the City of Biggs.

The National Park Service administers two programs that recognize the importance of historic resources, specifically those pertaining to architecture and engineering. While inclusion in these programs does not give these structures any sort of protection, they are valuable historic assets. The Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) document America's architectural and engineering heritage. There are no HABS and HAER structures in the City of Biggs.

The City of Biggs does have a historic core to the City not listed by the OHP. Buildings the HMPC consider historic are:

- Doty Grain Storage
- Ditzler House, 3069 Eighth Street
- 3055 Ninth Street
- 3031 Ninth Street
- Doty House, 3009 Tenth Street
- Biggs Water Tower
- Biggs Jail House built by WPA, 3005 Eighth Street
- 2995 Tenth Street
- Diamond Match, 2687 Eighth Street
- 2967 Tenth Street
- A. J. Store House, 2970 Eighth Street
- South Side of B Street
- Hotel Colonia, Corner of B Street and Sixth Street

- Sacramento Valley Bank, 470 B Street
- Carnegie Library, B Street
- Albers House, 457 B Street
- Methodist Church, 441 C Street
- Hastings House, 429 B Street
- Cannoy House, 1871
- 403 C Street
- 395 C Street
- W. M. Smith, 394 B Street
- B Street and Second Street
- Caldwell House, 393 B Street
- Chatfield House, 372 B Street
- Brinks House, 369 B Street
- Mitchell House, 369 Aleut Street
- 359 B Street
- 353 B Street
- 347 B Street
- Biggs Grammar School (BUSD Administration Building), B Street

Growth and Development Trends

Table A.4 shows the population growth in Biggs and Butte County since 1980, along with its projected population to 2030. Between 1990 and 2000, the City's population increased by 13.4 percent, which is an average annual increase of 1.3 percent. This growth rate was higher than that for the County (1.0 percent) during the same period. From 2000 to 2009, the City experienced a slight decrease in population (0.9 percent).

Table A.4. Past Population Trends in the City of Biggs

Year	Population	Change	% Change	Annual % Change
1980	1,413			
1990	1,581	168	11.9%	1.1%
2000	1,793	212	13.4%	1.3%
2009	1,777	-16	-0.9%	-0.10%

Source: 2009-2014 City of Biggs Housing Element Update

Approximately every four years, the Butte County Association of Governments (BCAG) prepares long-term regional growth forecasts of housing, population, and employment for the Butte County area. The forecasts have been developed by BCAG in consultation with its Planning Directors Group which consists of representatives from each of BCAG's local jurisdiction members and the Butte Local Agency Formation Commission. A low, medium, and

high scenario has been developed for each forecast of housing, population, and employment. The medium scenario for the City is shown in Table A.5.

Table A.5. Population Growth Projection

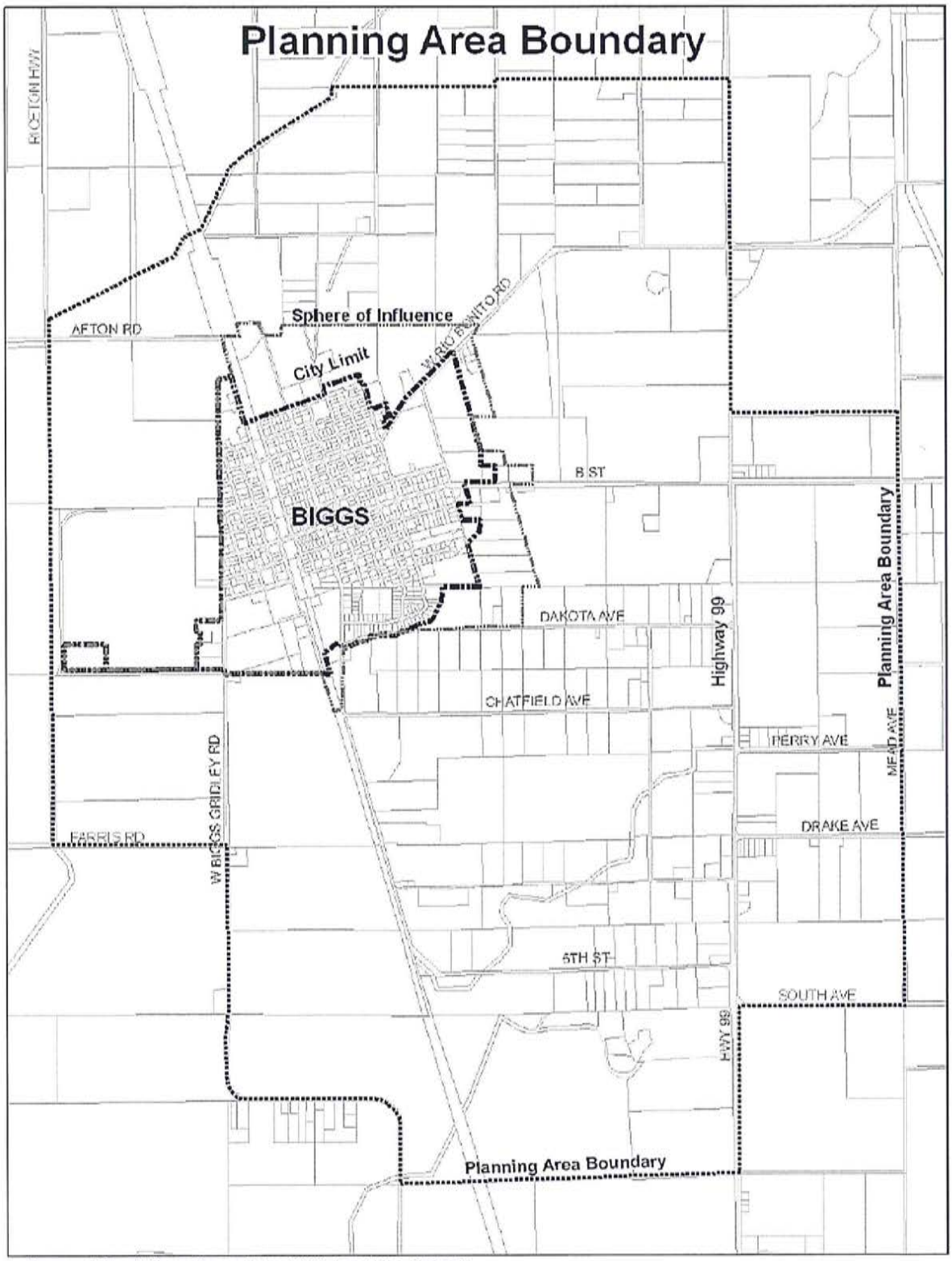
Jurisdiction	2010	2015	2020	2025	2030	2035	Percentage Change 2010-2035
Biggs	1,787	2,139	2,774	3,267	3,830	4,465	150%

Source: Butte County Association of Governments, Regional Growth Projections 2006–2030

The City currently has limited infill and redevelopment opportunities within its existing City Limits and Sphere of Influence (SOI). The 2009-2014 City of Biggs General Plan Housing Element, published and adopted in 2010, listed a total of 16 vacant residential parcels within the City boundary, totaling 10.2 acres.

The results of limited areas available for development have led to significant interest and pressure for the City to facilitate development of land outside of the current City limits. The City Council, various landowners and some of the City's residents have expressed interest in the possibility of extending the current SOI and Planning Area to take advantage of growth opportunities presented by the City's unique location, topography and visual, scenic and natural resources. The SOI is shown in Figure A.2.

Figure A.2. Planning Boundaries for the City of Biggs



Source: City of Biggs General Plan 2011 Land Use Element

Development since 2007 Plan

A discussion of development since the previous 2007 plan can be found in Section 4.3.1 of the base plan.

A.5.2 Priority Hazards: Vulnerability Assessment

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table A.1 as high or medium significance hazards. Impacts of past events and vulnerability of the City to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the base plan for more detailed information about these hazards and their impacts on the Butte County planning area). Methodologies for calculating loss estimates are the same as those described in Section 4.3 of the base plan. In general, the most vulnerable structures are those located within the floodplain or within levee and dam inundation areas, unreinforced masonry buildings, and buildings built prior to the introduction of modern building codes.

An estimate of the vulnerability of the City to each identified hazard, in addition to the estimate of risk of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Earthquakes

Vulnerability to Earthquakes

Likelihood of Future Occurrence—Occasional
Vulnerability—Medium

Biggs and the surrounding area are relatively free from significant seismic and geologic hazards. There are no known or inferred active faults within the city. The only known active fault in

Butte County is the Cleveland Hills fault, the site of the August 1975 Oroville earthquake. This earthquake had a Richter magnitude of 5.7. The 2007 plan contained a Hazus (FEMA's loss estimation software) earthquake scenario. For that Hazus Analysis scenario, a magnitude 5.7 earthquake on the Cleveland Fault (Foothills Fault System) with an epicenter at 39.43 Latitude, -121.55 Longitudes and 8.42 miles below the surface was simulated replicating the historical 8:20 p.m. 1975 earthquake. Results from the 2007 Hazus run are shown in Table A.6.

Table A.6. City of Biggs Hazus Results: 2007 Hazus Analysis

Scenario: Cleveland Fault (Foothills Fault System) Earthquake 5.7	
Direct Economic Loss Estimates (thousands of $)	
Structural Damage	$15.04
Non-Structural Damage	$59.43
Total Loss	$74.47
Bridge Functionality	
Day 1	99.9
Day 3	99.9
Day 7	99.9
Day 14	99.9
Bridge Damage	
None	1.000
Slight	0.000
Moderate	0.000
Extensive	0.000
Completely Destroyed	0.000
Fire Station Functionality	
Day 1	99.2
Day 3	99.3
Day 7	99.9
Day 14	99.9
Fire Station Structural Damage	
None	0.993
Slight	0.006
Moderate	0.001
Extensive	0.000
Completely Destroyed	0.000
Police Station Functionality	
Day 1	99.2
Day 3	99.3
Day 7	99.9

Scenario: Cleveland Fault (Foothills Fault System) Earthquake 5.7	
Day 14	99.9
Police Station Structural Damage	
None	0.993
Slight	0.007
Moderate	0.001
Extensive	0.000
Completely Destroyed	0.000
Commercial Casualties for Evening Event	
Medical Aid	0.0 12
Hospital Treatment	0.001
Life-Threatening Severity	0.000
Death	0.000
Commuting Casualties for Evening Event	
Medical Aid	0.000
Hospital Treatment	0.000
Life-Threatening Severity	0.000
Death	0.000
Educational Casualties for Evening Event	
Medical Aid	0.001
Hospital Treatment	0.000
Life-Threatening Severity	0.000
Death	0.000
Hotels Casualties for Evening Event	
Medical Aid	0.000
Hospital Treatment	0.000
Life-Threatening Severity	0.000
Death	0.000
Industrial Casualties for Evening Event	
Medical Aid	0.000
Hospital Treatment	0.000
Life-Threatening Severity	0.000
Death	0.000
Other Residential Casualties for Evening Event	
Medical Aid	0.006
Hospital Treatment	0.001
Life-Threatening Severity	0.000
Death	0.000

Scenario: Cleveland Fault (Foothills Fault System) Earthquake 5.7	
Single Family Casualties for Evening Event	
Medical Aid	0.004
Hospital Treatment	0.000
Life-Threatening Severity	0.000
Death	0.000
Total Casualties for Evening Event	
Medical Aid	0.023
Hospital Treatment	0.002
Life-Threatening Severity	0.000
Death	0.000

Source: Hazus, 2007 Butte County Multi-Hazard Mitigation Plan

Future Development

The City enforces the state building code, which mandates construction techniques that minimize seismic hazards. Future development in the City is subject to these building codes.

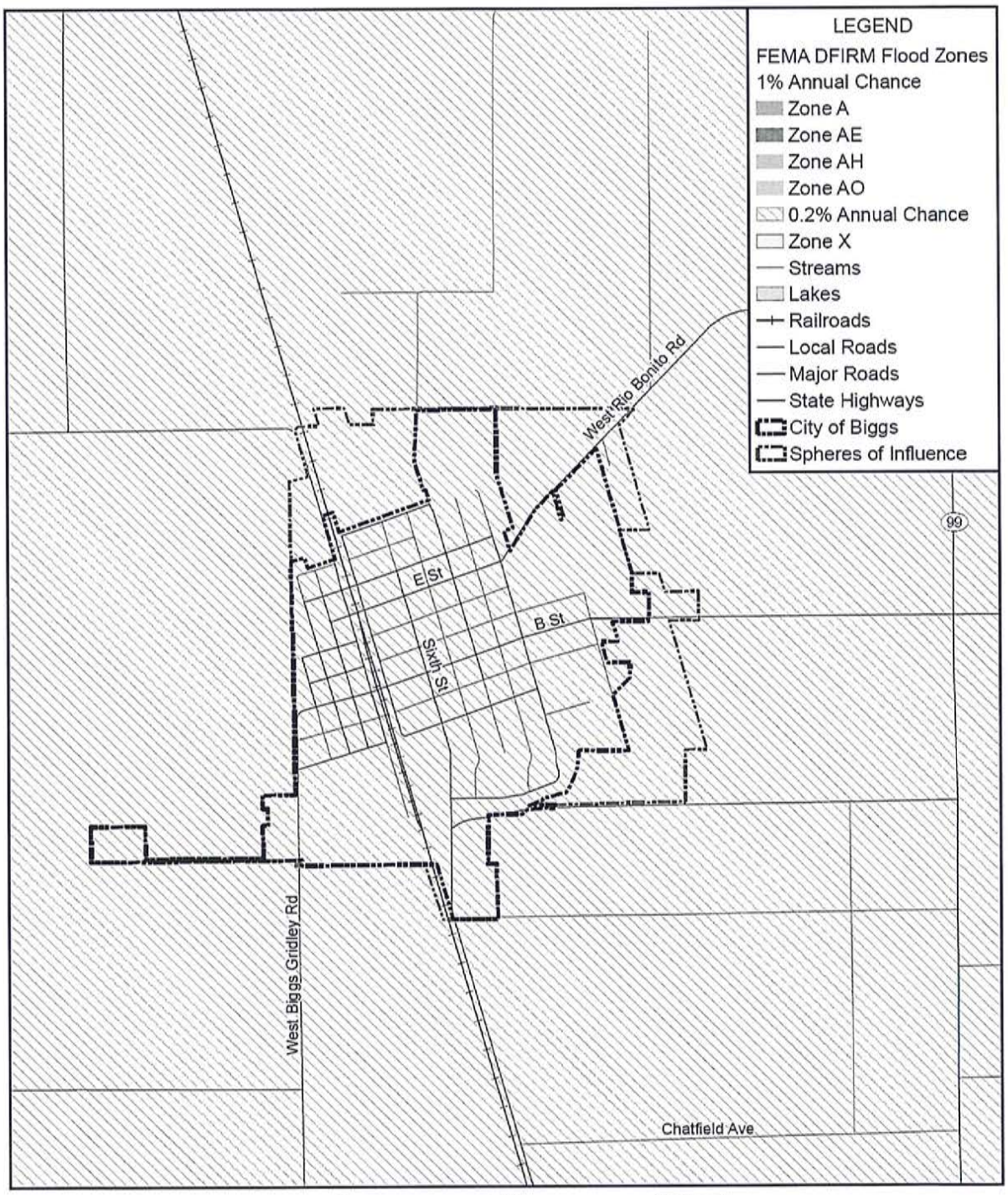
Floods: 100/500 year

Vulnerability to Floods: 100/500 year

Likelihood of Future Occurrence—Occasional/Unlikely
Vulnerability—High

The entire City of Biggs is located outside of the 100 year flood zone as defined by the Federal Emergency Management Agency (FEMA), due to protection provided by the Oroville Dam. However, the entire City is located in the 500-year (0.2% chance) floodplain. This is seen in Figure A.3.

Figure A.3. City of Biggs DFIRM



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Map compiled 8/2012; intended for planning purposes only.
Data Source: Butte County, CAL-ATLAS, FEMA DFIRM 1/6/2011

Values at Risk

GIS was used to determine the possible impacts of flooding within the City of Biggs. The methodology described in Section 4.3.7 of the base plan was followed in determining structures and values at risk to the 1% and 0.2% annual chance flood event. Analysis was done for each watershed in the Butte County Planning Area grouped by 1% and 0.2% annual chance flood zone and showing total improved acres as well as flooded acres for each category. The City of Biggs falls in the Dry Creek/Cherokee Canal and the Feather River/Lower Honcut Creek watersheds. These are shown by land use type in Table A.7. It is to be noted that for this analysis that the improved values and the other values were summed together and are all represented in the improved value column to simplify the tables.

Table A.7. City of Biggs – All Watersheds – Count and Structure Value of Improved Parcels by Land Use in Floodplain Zones

Flood Zone	Land Use	Improved Total Acres	Improved Flooded Acres	Improved Parcel Count	Improved Value	Improved Other Value	Total Value
City of Biggs - Dry Creek/Cherokee Canal Watershed							
0.2% Annual Chance	Agriculture	2	2	2	$78,087	$1,240	$79,327
	Commercial	5	5	29	$3,393,218	$185,433	$3,578,651
	Industrial	16	16	4	$9,423,371	$3,932,440	$13,355,811
	Residential	128	128	504	$34,510,331	$0	$34,510,331
	Unclassified	0	0	1	$25,000	$0	$25,000
Total		**152**	**152**	**540**	**$47,430,007**	**$4,119,113**	**$51,549,120**
City of Biggs - Feather River/Lower Honcut Creek Watershed							
0.2% Annual Chance	Agriculture	11	11	1	$56,737	$0	$56,737
	Residential	23	23	79	$4,635,957	$0	$4,635,957
Total		**34**	**34**	**80**	**$4,692,694**	**$0**	**$4,692,694**
Biggs Grand Total		**186**	**186**	**620**	**$52,122,701**	**$4,119,113**	**$56,241,814**

Source: Butte County 2012 Assessor's Data; Butte County DFIRM, January 2011

Table A.8 shows City of Biggs loss estimates by watershed and shows improved values at risk by FEMA 1% and 0.2% annual chance flood zones.

Table A.8. City of Biggs – 1% and 0.2% Annual Chance Flood Loss by Watershed

Flood Zone	Improved Parcel Count	Improved Value	Estimated Content Value	Total Value	Loss Estimate (20% of Total)
Biggs - Dry Creek/Cherokee Canal Watershed					
1% Annual Chance	–	–	–	$0	$0
0.2% Annual Chance	540	$51,549,120	$40,959,360	$92,508,480	$18,501,696
Total	**540**	**$51,549,120**	**$40,959,360**	**$92,508,480**	**$18,501,696**
Biggs - Feather River/Lower Honcut Creek Watershed					
1% Annual Chance	–	–	–	$0	$0
0.2% Annual Chance	80	$4,692,694	$2,374,716	$7,067,410	$1,413,482
Total	**80**	**$4,692,694**	**$2,374,716**	**$7,067,410**	**$1,413,482**

Source: FEMA, Butte County 2012 Assessor's Data
Contents replacement value is estimated as a percent of structure replacement value: Agriculture – 100%; Commercial – 100%; Industrial – 150%; Residential – 50%; Unclassified – 50%
For this table the improved values and other values have been combined are represented in improved value totaled together.

Population at Risk

As stated previously, there are no 1% chance floodzones in the City of Biggs. The City is located entirely in the 0.2% annual chance floodplain; thus the entire population of Biggs is located in the 0.2% annual chance floodplain.

Critical Facilities at Risk

A separate analysis was performed on the critical facility inventory in Butte County and all jurisdictions by Flood Zone. GIS was used to determine whether the facility locations intersects a DFIRM flood hazard areas, and if so, which zone it intersects. As previously stated, there is no 1% chance floodplain in the City of Biggs. Table A.9 shows the facilities in the City of Biggs in the 0.2% annual chance floodplain. Details of critical facility definition, type, name and address and jurisdiction by flood zone are listed in Appendix E

Table A.9. City of Biggs Critical Facilities in the Floodplain

Flood	Category	Type	Facility Count
0.2% Annual Chance	At Risk Population Facilities	Family Day Care Home	4
0.2% Annual Chance	At Risk Population Facilities	School	3
0.2% Annual Chance	Essential Services Facilities	Bridge	5
0.2% Annual Chance	Essential Services Facilities	Fire Station	1
0.2% Annual Chance	Essential Services Facilities	Law Enforcement	1
0.2% Annual Chance	Essential Services Facilities	Wastewater Treatment Plant	1
0.2% Annual Chance	Hazardous Materials Facilities	CUPA	5
		Total	**20**

Source: Butte County GIS

Future Development

Since the City has no 1% annual chance floodplain, all future development will happen outside of the 1% annual chance floodplain, and likely within the 0.2% floodplain.

Insurance Coverage, Claims Paid, and Repetitive Losses

The City of Biggs joined the National Flood Insurance Program (NFIP) on June 4, 1989. The City does not participate in the CRS program. NFIP data indicates that as of March 31, 2012, there were 19 flood insurance policies in force in the City with $5,495,000 of coverage. There has been 1 historical claim for flood losses totaling $6,482. This was for a pre-FIRM structures. NFIP data further indicates that there are no repetitive loss (RL) buildings in the City.

California Department of Water Resources Best Available Maps (BAM)

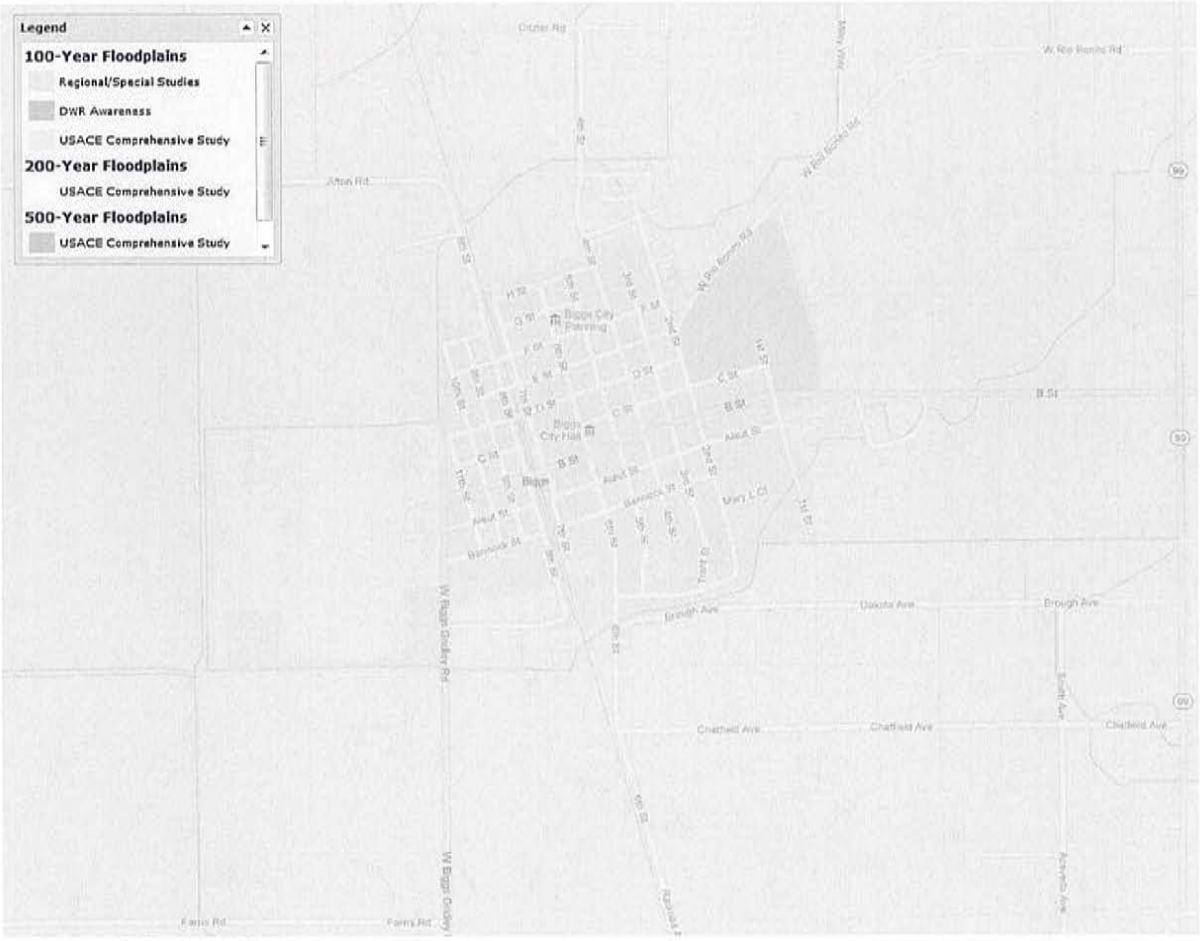
The FEMA regulatory maps provide just one perspective on flood risks in Sutter County. Senate Bill 5 (SB 5), enacted in 2007, authorized the California DWR to develop the Best Available Maps (BAM) displaying 100- and 200-year floodplains for areas located within the Sacramento-San Joaquin (SAC-SJ) Valley watershed. SB 5 requires that these maps contain the best available information on flood hazards and be provided to cities and counties in the SAC-SJ Valley watershed. This effort was completed by DWR in 2008. DWR has expanded the BAM to cover all counties in the State and to include 500-year floodplains.

Different than the FEMA DFIRMs which have been prepared to support the NFIP and reflect only the 100-year event risk, the BAMs are provided for informational purposes and are intended to reflect current 100-, 200-, and 500-year event risks using the best available data. The 100-year floodplain limits on the BAM are a composite of multiple 100-year floodplain mapping sources. It is intended to show all currently identified areas at risk for a 100-year flood event, including FEMA's 100-year floodplains. The BAM are comprised of different engineering studies performed by FEMA, Corps, and DWR for assessment of potential 100-, 200-, and 500-year floodplain areas. These studies are used for different planning and/or regulatory

applications. They are for the same flood frequency, however, they may use varied analytical and quality control criteria depending on the study type requirements.

The value in the BAMs is that they provide a bigger picture view of potential flood risk to the City than that provided in the FEMA DFIRMS. This provides the community and residents with an additional tool for understanding potential flood hazards not currently mapped as a regulated floodplain. Improved awareness of flood risk can reduce exposure to flooding for new structures and promote increased protection for existing development. Informed land use planning will also assist in identifying levee maintenance needs and levels of protection. By including the FEMA 100-year floodplain, it also supports identification of the need and requirement for flood insurance. Figure A.4 shows the BAM for the City of Biggs.

Figure A.4. City of Biggs – Best Available Map



Source: California DWR

Floods: Localized Stormwater

Vulnerability to Floods: Localized Stormwater

Likelihood of Future Occurrence—Highly Likely
Vulnerability—Medium

There are two primary sources of stormwater runoff that are of concern to the City: regional runoff, which originates outside the City, and runoff from properties located inside the City. Regional runoff has historically posed the greatest threat of flooding to properties in the City; however, flood control facilities such as Oroville Dam have minimized this threat considerably. As a result, the more immediate concern for the City is the collection, conveyance, and discharge of stormwater from properties within the City.

Historically, the City experienced localized flooding issues at specific locations in the City. However, as a result of numerous stormwater drainage projects including the installation of a new stormwater drainage system on the west-side of the City, almost all of the areas that once presented issues in the City have been addressed.

Still existing is an area of local flooding located on the north end of Third Street and Second Street. This area of flooding encompasses some ten residential lots. The high water level reaches an elevation of about 8 to 10 inches above the street curb. Also, when the Sacramento River floods, localized flooding is possible because water backs up into the drainage channels and cannot be evacuated and removed from the city.

The County tracks localized flooding areas. For purposes of tracking, Gridley and Biggs are considered one entity. Affected localized flood areas identified by the County in the City of Biggs are summarized in Table A.10.

Table A.10. City of Biggs - Road List of Problem Area Reoccurrences

Road No.	Road Name	Flooding	Washouts	High Water / Creek Crossing	Landslides / Mudslides	Debris	Downed Trees	Other
Gridley Road District								
16181 & 16182	Afton Rd	X						
08443	Central House Rd	X						
09161	Colusa Hwy	X						
04451	Lower Honcut Rd.	X						
05505-B	Middle Honcut Rd	X						

Road No.	Road Name	Flooding	Washouts	High Water / Creek Crossing	Landslides / Mudslides	Debris	Downed Trees	Other
10445-B & 10453	Stimpson Rd.	X						
05263	West Evans Reimer Rd.	X						

Source: Butte County Office of Emergency Management

The role of Reclamation District 833 (RD 833) is of special significance to flood control in and around Biggs. RD 833 channels surround the city and serve the dual purposes of providing and conveying agricultural irrigation water as well as removing storm runoff from the City. Increases in development within the region, coupled with the nearly flat terrain, result in the potential for flooding miles "downstream" from Biggs to the southwest, which is known as the Butte Sink. Avoiding increases in stormwater runoff entering the RD 833 channels has become an important concern due to the potential for increase in downstream flooding.

Future Development

Future development in the City will add more impervious surfaces and need to drain those waters. The City has had an excellent track record of addressing localized flooding in the past, and will continue those efforts in the future.

Hazardous Materials Incidents: Railroads

Vulnerability to Hazardous Materials Incidents: Railroads

Likelihood of Future Occurrence—Occasional
Vulnerability—Medium

The Union Pacific Railroad line passes through the City of Biggs between Seventh and Eighth streets. Hazardous materials are regularly shipped via the rail line and, while unlikely, an incident involving a rail accident within the City could have devastating effects.

The City has little control over the types of materials that are shipped via the rail line. With regard to government activities, the content of shipments may be confidential for reasons of security and/or is generally unknown to the City. While the City has little influence over the types of material transported via the rail line, the potential for rail incidents can be reduced by ensuring that at-grade crossings within the city are operating in a safe and effective manner.

One of the primary concerns is the safety of pedestrians along the tracks and vehicles utilizing at-grade crossings on B Street, E Street, and F Street. The second primary concern, while unlikely, is an incident involving derailment of a train in the vicinity of Biggs and the hazards that could result from spillage of the cargo which the train is transporting.

Population at Risk

To determine the populations at risk from a transportation-related hazardous materials release within identified transportation corridors, an analysis was performed using GIS. A one mile buffer was applied to both sides of Highways 32, 70, 99, 149, 162 and 191 and the Union Pacific Railroads, creating a two mile buffer zone around each corridor. The buffer distance was based on guidelines in the U.S. Department of Transportation's Emergency Response Guidebook that suggest distances useful to protect people from vapors resulting from spills involving dangerous goods considered toxic if inhaled.

In Table A.11, each buffered transportation corridor was intersected with the residential parcels. It is important to note that populations associated with commercial, industrial and other property types may also be affected by a hazardous materials release, but no census/population data is associated with these property types and are therefore excluded from this analysis.

Table A.11. City of Biggs– Population at Risk in Haz Mat Corridors

Jurisdiction	Residential Parcels	Population
Biggs	583	1,761

Source: Butte County GIS, US Census Bureau

Future Development

Given the land use and financial impacts of grade-separated crossings, it is highly unlikely that the at-grade crossings within Biggs will be eliminated during the life of this Plan. Therefore, ensuring proper gate operation at the crossings is the most effective strategy the City can employ to avoid accidents and minimize safety risks.

Proper gate functioning includes ensuring that gates are not in the lowered position unnecessarily. Lowering of gates for excessive time durations or when trains are not present can encourage drivers to maneuver around gates. Over time, such practices can increase the potential for a train/vehicle collision.

Levee Failure

Vulnerability to Levee Failure

Likelihood of Future Occurrence—Unlikely
Vulnerability—Medium

Overtopping of the Sacramento River levees is not considered to be a significant local concern due to the general topography of the region. Levee failure or overtopping of the Sacramento River in areas above Biggs would generally be directed to the lower elevation Butte Sink area and would not directly affect the City. However, when the Sacramento River floods, localized

flooding is possible because water backs up into the drainage channels and cannot be evacuated and removed from the City.

Another potential flooding threat to the City of Biggs is the Hazelbrush Levee, which is the western levee of the Feather River below the Thermalito Afterbay spillway. This levee is located where the Feather River turns from the southwest to the south; immediately downstream from this area, the Feather River channel is constrained by rock piles from Gold Rush days. The combinations of the channel turn and channel blockage, along with the location above Biggs, represents a significant threat to the City. A proposal that has been discussed within the City is the reopening of passages beneath the Union Pacific Railroad tracks to allow water to flow to the west in the event of a levee failure above Biggs. Originally built on trestles, the base of the railroad has been filled and now serves as a levee. Unfortunately, in the event of a levee breach northeast of Biggs, floodwater would flow in a generally southwest direction and upon meeting the rail tracks would be forced toward Biggs.

In the analysis on levee failure, the DFRIM showed no levee protected areas in the City of Biggs. Because of this, no analysis was performed for levee failure in the City.

Biggs is a participant in with the Sutter Butte Flood Control Agency's Feather River West Levee Project.

Future Development

The North Biggs Estates subdivision has added 67 new lots which will be built on beginning 2013.

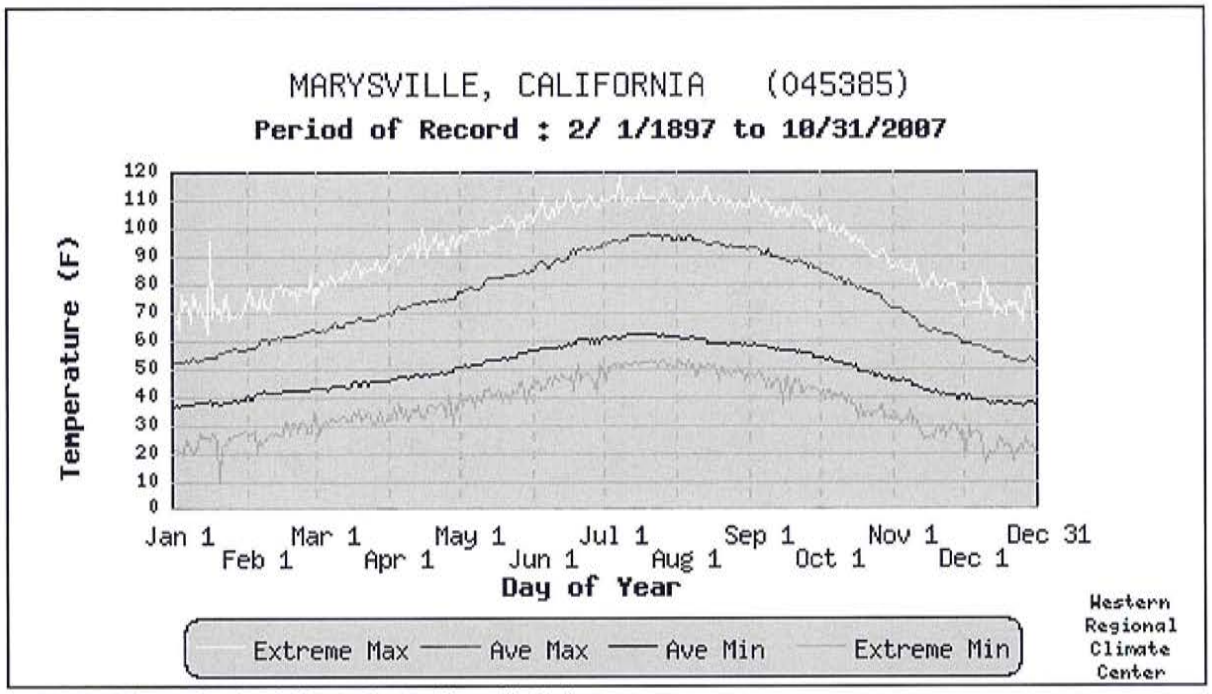
Severe Weather: Extreme Heat

Vulnerability to Extreme Heat

Likelihood of Future Occurrence—Highly Likely
Vulnerability—Medium

The City experiences temperatures in excess of 100 degrees during the summer and fall months. The temperature moves to 105-115°F in rather extreme situations (see Figure A.5 for the nearest station to the City of Biggs). Many months see a high number of days where daily high temperatures exceed 90°F (see Table A.12). Generally, people who live and work in this weather are prepared to cope with the extremes in that they dress appropriately and stay in air conditioned buildings during the peak temperature periods of the day.

Figure A.5. Daily Temperatures Averages and Extremes for the City of Biggs



Source: Western Regional Climate Center, Marysville Station

Table A.12. Record High Temperatures in the City of Biggs

Month	Temperature	Date	Month	Temperature	Date
January	96°	1/16/1907	July	118°	7/8/1905
February	83°	2/28/1985	August	115°	8/14/1933
March	89°	3/27/1988	September	113°	9/2/1950
April	100°	4/15/1947	October	104°	10/3/2001
May	105°	5/29/1910	November	89°	11/10/1955
June	113°	6/16/1961	December	82°	12/9/1909

Source: Western Regional Climate Center, Marysville Station.

Health impacts are the primary concern with this hazard, though economic impacts are also an issue. The elderly and individuals below the poverty level are the most vulnerable to extreme temperatures. Nursing homes and elder care facilities are especially vulnerable to extreme heat events if power outages occur and air conditioning is not available. In addition, individuals below the poverty level may be at increased risk to extreme heat if use of air conditioning is not affordable.

Reliance on air conditioning causes a strain on the electrical energy in the City. Occasionally peak demands outweigh supply and a condition known as brown-out occurs. This is an extremely dangerous situation for electrical equipment as it operates without the needed electricity causing damage to the systems. Days of extreme heat have been known to result in

medical emergencies, civil unrest, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts.

Future Development

Vulnerability to extreme heat will increase as the average age of the population in the City shifts. Greater numbers of future senior citizens will result from the large number of baby boomers in the planning area. The elderly are more at risk to the affects of extreme heat, especially those without proper air conditioning. However, many of the residents of the City are accustomed to living with extreme heat and take precautions to guard against the threat of extreme heat.

Severe Weather: Freeze and Winter Storm

Vulnerability to Freeze and Winter Storm

Likelihood of Future Occurrence—Highly Likely
Vulnerability—High

The City experiences temperatures below 32 degrees during the winter months. The temperature moves to the teens in rather extreme situations (see Figure A.5 in the extreme heat section for the Marysville station). Many months see a high number of days where daily low temperatures fall below 32°F (see Table A.13). Generally, people who live and work in this weather are prepared to cope with the extremes in that they dress appropriately.

Table A.13. Extreme Low Temperatures in the City of Biggs

Month	Temperature	Date	Month	Temperature	Date
January	9°	1/20/1907	July	45°	7/2/1956
February	19°	2/5/1910	August	45°	8/30/1912
March	26°	3/2/1971	September	37°	9/15/1911
April	30°	4/28/1934	October	32°	10/17/1905
May	36°	5/7/1916	November	24°	11/14/1916
June	41°	6/28/1934	December	16°	12/10/1932

Source: Western Regional Climate Center, Marysville Station

Limited data on freeze impacts in the City was available during the development of this hazard's vulnerability. Freeze normally does not impact structures, but is a life safety issue. Areas prone to freezing temperatures are identified normally on a nation-wide assessment scale, which doesn't allow detailed results on specific structures. Secondary impacts of extreme cold can affect the supporting mechanisms or systems of a community's infrastructure. For example, when extreme cold is coupled with high winds or ice storms, power lines may be downed, resulting in an interruption in the transmission of that power shutting down electric furnaces, which may lead to frozen pipes in homes and businesses.

The elderly population in the planning area is most vulnerable to temperature extremes. The residents of nursing homes and elder care facilities are especially vulnerable to extreme temperature events. It is encouraged that such facilities have emergency plans or backup power to address power failure during times of extreme cold.

Winter storms can involve snow and ice, occasionally accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets in the City. The ability for the City to continue to operate during periods of winter storm and freeze is paramount.

Future Development

Future development built to code should be able to withstand snow loads from severe winter storms. Pipes at risk of freezing should be mitigated by either burying or insulating them from freeze as new facilities are improved or added. Vulnerability to freeze will increase as the average age of the population in the City shifts. Greater numbers of future senior citizens will result from the large number of baby boomers in the City. The elderly are more at risk to the affects of freeze. However, many of the residents of the City are accustomed to living with freeze and take precautions to guard against the threat of freeze.

Severe Weather & Storms: Heavy rain, hailstorm, lightning

Vulnerability to Severe Weather & Storms: Heavy rain, hailstorm, lightning

Likelihood of Future Occurrence—Highly Likely
Vulnerability—High

According to historical hazard data, severe weather is an annual occurrence in the City of Biggs. Damage and disaster declarations related to severe weather have occurred and will continue to occur in the future. Heavy rain and thunderstorms are the most frequent type of severe weather occurrence in the area. Wind and lightning often accompany these storms and have caused damage in the past. Problems associated with the primary effects of severe weather include flooding, pavement deterioration, washouts, high water crossings, landslide/mudslides, debris flows, and downed trees.

Future Development

The City enforces the state building code and other ordinances, which regulate construction techniques that minimize damage from heavy storms and rain. Future development in the City is subject to these building codes. New critical facilities such as communications towers should be built to withstand hail damage, lightning, and heavy rains.

Severe Weather: Windstorms

Vulnerability to Windstorms

Likelihood of Future Occurrence—Likely
Vulnerability—Medium

High winds are common occurrences in the City throughout the entire year. Straight line winds are primarily a public safety and economic concern. Windstorm can cause damage to structures and power lines which in turn can create hazardous conditions for people. Debris flying from high wind events can shatter windows in structures and vehicles and can harm people that are not adequately sheltered.

Future losses from straight line winds include:

- Erosion (soil loss)
- Power line impacts and economic losses from power outages
- Occasional building damage, primarily to roofs

Campers, mobile homes, barns, and sheds and their occupants are particularly vulnerable as windstorm events in the region can be sufficient in magnitude to overturn these lighter structures. Livestock that may be contained in these structures may be injured or killed, causing economic harm to the rancher who owns both the structure and the livestock. Overhead power lines are vulnerable and account for the majority of historical damages. State highways can be vulnerable to high winds and dust storms, where high profile vehicles may be overturned by winds and lowered visibility can lead to multi-car accidents.

Future Development

Future development projects should consider windstorm hazards at the planning, engineering and architectural design stage with the goal of reducing vulnerability. The City enforces the state building code and other ordinances, which regulate construction techniques that minimize damage from windstorms. Future development in the City is subject to these building codes.

Wildfires

Vulnerability to Wildfires

Likelihood of Future Occurrence—Unlikely
Vulnerability—Low

Although the HMPC feel this is a low significance hazard, due to the significance of wildfire in California, analysis of wildfire is included here. Major fires are generally categorized as either a conflagration or wildland/forestland. A conflagration may involve residential or commercial areas and spreads across both natural and constructed barriers. Wildland is associated with open

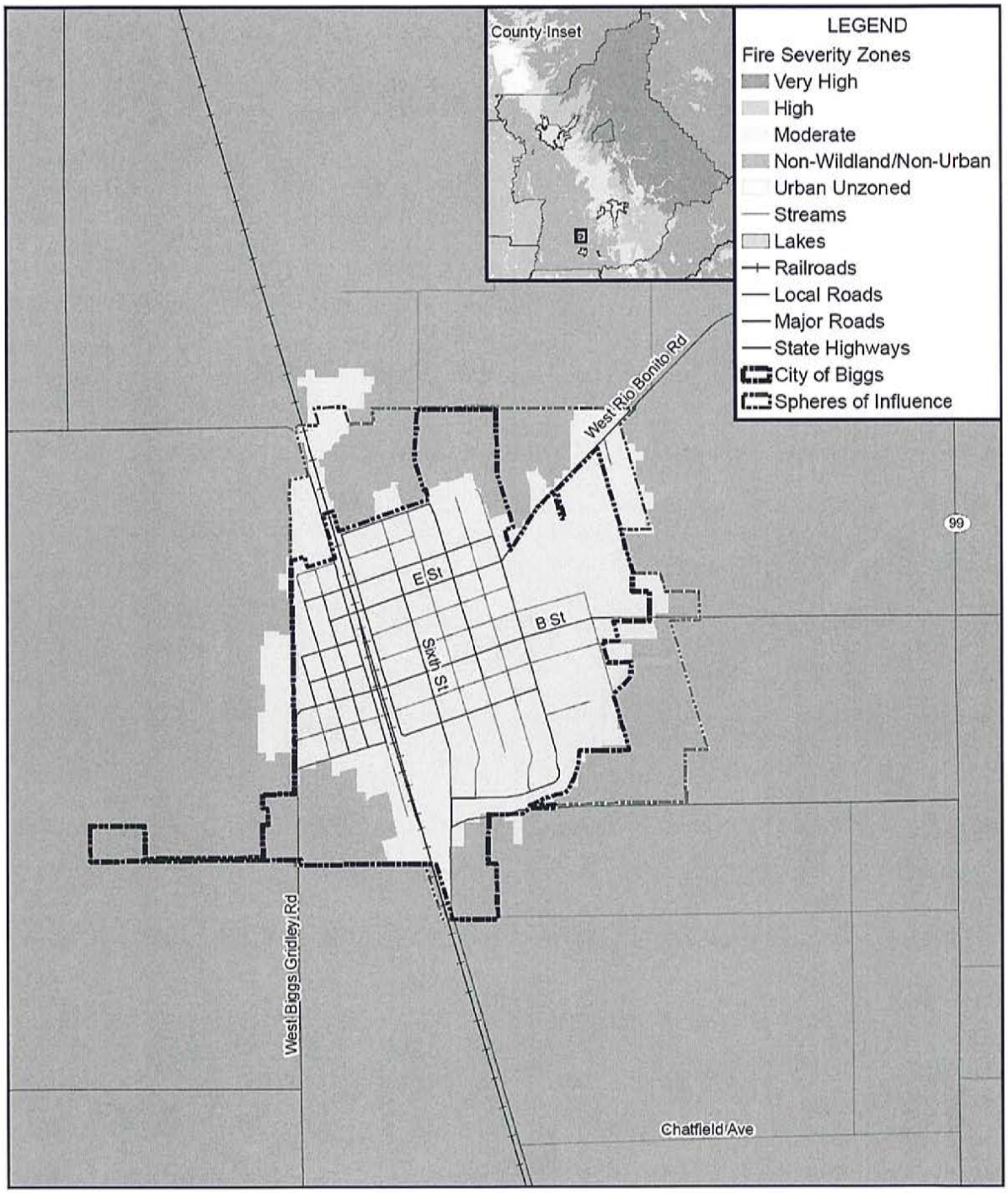
range grasslands and into the foothills of a particular area. Because of development in rural areas adjacent to and within unincorporated Butte County, a third classification has emerged, the Urban Interface wildfire. The urban interface wildfire is one that burns along the urban/rural interface and can result in major losses of property and structures.

A number of factors affect the behavior of wildland and interface fires, including terrain, weather, wind, fuels and seasons. It is well known that fire travels faster uphill than down and is more difficult to fight on steep slopes than on level ground. When weather is hot and the humidity is low, wildland fires can explode with intensity of rapid combustion. Even in the absence of strong winds, a fast-moving fire can generate its own updrafts, particularly in canyons, causing burning brands to be carried high in the air and drop a long distance ahead. This results in spot fires over a wide radius as the wind changes its direction.

Biggs is not immune to numerous types of grass and brush fires and any one of them may accelerate into an urban interface wildfire. Such a situation could lead to evacuation of large portions of the population and the potential for significant loss of personal property, structures, and rangeland. The natural fuels available in or near the City vary greatly in the rate and intensity of burning. Fires in heavy brush and stands of trees burn with great intensity but more slowly than in dry grass and leaves. Dense fuels will propagate fire better than sparse fuels. The local fire season generally extends from June through early October.

Figure A.6 shows wildfire risk in the City of Biggs. Wildfire threat within the City is low.

Figure A.6. City of Biggs Fire Severity Zones



amec

0 2,000 4,000 Feet

N

Map compiled 6/2012; intended for planning purposes only.
Data Source: Butte County, CALFIRE: SRA 11/7/2007,
LRA 5/2008, FRA & LRA 8/2007 DRAFT

Assets at Risk

Analysis of assets at risk for the City of Biggs was performed. There are no buildings in the moderate or higher wildfire threat categories, as shown on Figure A.6.

Population at Risk

The Fire Severity dataset was overlayed on the residential population data. Those parcel centroids that intersect the severity zones were counted and multiplied by the 2012 Census Bureau average household factors for each jurisdiction and unincorporated area. Results were tabulated by jurisdiction. According to this analysis, there is no population in the City at moderate or higher risk to wildfire. This is shown in Table A.14.

Table A.14. City of Biggs - Count of Improved Residential Parcels and Population in Fire Severity Zone

Fire Threat Class	Improved Residential Parcels	Population
Very High	–	–
High	–	–
Moderate	–	–
Non-Wildland/Urban	3	9
Urban Unzoned	580	1,752
Total	**583**	**1,761**

Source: Butte County 2012 Assessor's Data; CAL FIRE

Critical Facilities at Risk

Wildfire analysis was performed on the critical facility inventory in Butte County and all jurisdictions. GIS was used to determine whether the facility locations intersect a wildfire hazard areas provided by CAL FIRE, and if so, which zone it intersects. There are no facilities in the moderate or higher fire severity zone in the City. Details of critical facility definition, type, name and address and jurisdiction by fire zone are listed in Appendix E.

Future Development

Since there are no areas near the City in the moderate or higher wildfire areas, future development in the City will most likely not be at risk to wildfire.

A.6 Capability Assessment

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

A.6.1 Regulatory Mitigation Capabilities

Table A.15 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the City of Biggs.

Table A.15. City of Biggs Regulatory Mitigation Capabilities

Regulatory Tool (ordinances, codes, plans)	Y/N	Date	Comments
General plan	Y		In rewrite
Zoning ordinance	Y		
Subdivision ordinance	Y		
Growth management ordinance	N		
Floodplain ordinance	N		
Other special purpose ordinance (stormwater, steep slope, wildfire)	N		
Building code	Y		Follows State Building Code
BCEGS Rating	N		
Fire department ISO rating	Y		Butte / Cal Fire
Erosion or sediment control program	N		
Stormwater management program	N		
Site plan review requirements	Y		
Capital improvements plan	Y		
Economic development plan	Y		
Local emergency operations plan	Y		In rewrite
Community Wildfire Protection Plans	N		
Flood insurance study or other engineering study for streams	Y		Sutter Butte Flood Control Agency
Elevation certificates	N		
Other			

Source: AMEC Data Collection Guide

General Plan (2011)

California Law requires that every City and County in the state have a General Plan. City of Biggs General Plan, adopted in 2011, was prepared over a two-year period that included an extensive public review process. The General Plan is the most important policy and planning document in the city, and is used by virtually every department. The General Plan is the City's statement of its vision for the future. The General Plan contains policies covering every aspect of the City: land use (how land can be developed), circulation, noise, air quality, housing, open space and conservation, and health and safety.

Ordinances

The City of Biggs has many ordinances related to mitigation.

Zoning (Title 14)

The City of Biggs Zoning Code is the primary implementing mechanism of the General Plan. Unlike the General Plan, which provides long-range, comprehensive general policies for the general direction of land use in the City, the Zoning Code provides more specific descriptions of the types of uses that are allowed in certain areas, development standards (e.g., setbacks, building heights, lot coverage) and other detailed guidance for property development. The Zoning Code is required to be consistent with the General Plan.

The city council is authorized by the Planning and Zoning Laws of the California State Government Code, Title 7, Planning and Land Use, Division 1, Planning and Zoning, Chapter 4, Zoning Regulations, to regulate the following:

1) Use of land and buildings;
2) Height, bulk and size of buildings and structures;
3) Construction and use of signs and billboards;
4) Intensity of land use;
5) Establishment and maintenance of building setback lines.

This includes the regulation of development in the floodplain, as discussed in the flood ordinance below.

Subdivision (Title 13)

The City of Biggs regulates the locations and development of subdivisions within the City. The planning commission of the City of Biggs is hereby designated as the "advisory agency" as said term is used in said Subdivision Map Act, and is charged with the duty of making investigations and reports on the design and improvements of proposed subdivisions.

Building Code Section (11.05.010)

In order to provide minimum standards for the proper regulations of building construction, the Uniform Building Code, 1991 Edition, with Appendices Chapters 32, 35, 38, 49, 55, 57 and 70, and the Uniform Building Code Standards, 1991 Edition, prepared and published by the International Conference of Building Officials, except as specifically modified by the California Health and Safety Code, Division 13, Part 1.5 (State Housing Law), is hereby adopted, incorporated, and made a part of the City Code by reference without further publication as though set forth at length herein and is hereby declared to be the building code for the City and shall apply to and govern all building construction in the incorporated areas of the City.

Flood Ordinance (Chapter 12.05)

It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by methods and provisions designed for:

- Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion or flood heights or velocities;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Controlling the alteration of natural floodplains, stream channels and natural protective barriers which help accommodate or channel floodwaters;
- Controlling filling, grading, dredging, and other development which may increase flood damage; and
- Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

A.6.2 Administrative/Technical Mitigation Capabilities

Table A.16 identifies the City department(s) responsible for activities related to mitigation and loss prevention in Biggs.

Table A.16. City of Biggs Administrative and Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position	Comments
Planner/Engineer with knowledge of land development/land management practices	Yes	Scott Friend, AICP, PMC	Biggs contract Planner
Engineer/Professional trained in construction practices related to buildings and/or infrastructure	Yes	Steve Speights, PE, Ben/En	Biggs contract Engineer
Planner/Engineer/Scientist with an understanding of natural hazards	Yes		
Personnel skilled in GIS	Yes		
Full time building official	No		
Floodplain Manager	No		
Emergency Manager	No		
Grant writer	Yes		
Other personnel	No		
GIS Data – Hazard areas	No		
GIS Data - Critical facilities	No		
GIS Data – Building footprints	No		
GIS Data – Land use	No		
GIS Data – Links to Assessor's data	No		

Personnel Resources	Yes/No	Department/Position	Comments
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	Partial		Siren, City connect system
Other			

Source: AMEC Data Collection Guide

A.6.3 Fiscal Mitigation Capabilities

Table A.17 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table A.17. City of Biggs Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Y/N)	Comments
Community Development Block Grants	Y	Competitive
Capital improvements project funding	Y	Limited
Authority to levy taxes for specific purposes	Y	Possible 218 Fund issue
Fees for water, sewer, gas, or electric services	Y	All but gas
Impact fees for new development	Y	
Incur debt through general obligation bonds	N	
Incur debt through special tax bonds	N	
Incur debt through private activities	N	
Withhold spending in hazard prone areas	Y	
Other		

Source: AMEC Data Collection Guide

A.6.4 Mitigation Outreach and Partnerships

The City of Biggs is a participant in with the Sutter Butte Flood Control Agency's Feather River West Levee Project which will significantly reduce the threat to Biggs from failure of the Feather River levee below the Oroville Afterbay Dam. This project is expected to begin construction in 2013 and be completed in 2015.

A.7 Mitigation Strategy

This section describes the mitigation strategy process and mitigation action plan for the City of Biggs's inclusion with the Butte County Local Hazard Mitigation Plan update.

A.7.1 Mitigation Goals and Objectives

The City of Biggs adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy of the base plan.

A.7.2 NFIP Mitigation Strategy

As a participant of the National Flood Insurance Program (NFIP), the City of Biggs has administered floodplain management regulations that meet the minimum requirements of the NFIP. The management program objective is to protect people and property within the City. The City of Biggs will continue to comply with the requirements of the NFIP in the future.

The City's regulatory activities apply to existing and new development areas of the City; implementing flood protection measures for existing structures and maintaining drainage systems. The goal of the program is to enhance public safety, and reduce impacts and losses while protecting the environment.

The City of Biggs Planning and Engineering Department provides public outreach activities which include map information services, public awareness, public hazard disclosure, and flood protection information. This information is readily available to the public and consists of current and accurate flood mapping. In addition, the Planning and Engineering Department provides information about our stormwater management program and up-to-date information related to the maintenance of our drainage system.

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS which are to reduce flood losses, facilitate accurate insurance rating, and promote the awareness of flood insurance. The City of Biggs is currently evaluating joining the CRS.

A.7.3 Mitigation Actions

The planning team for the City of Biggs identified and prioritized the following mitigation actions based on the risk assessment and in accordance with the process outline in Section 5, Mitigation Strategy, of the base plan. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. General processes and information on plan implementation and maintenance of this LHMP by all participating jurisdictions is included in Section 7, Plan Implementation and Maintenance, of the base plan.

1. *Feather River Flood Control*

Hazards Addressed: Flood

Issue/Background: The City is at risk to flooding from the west bank of the Feather River.

Other Alternatives: No Action

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Priority: High

Responsible Office: Sutter Butte Flood Control Agency

Cost Estimate: $330,000,000

Benefits (Losses Avoided): Reduced risk to people and property from flooding

Potential Funding: Various state and federal funding sources

Schedule: Early phases of construction are scheduled to begin in 2013.

2. *Box Culvert Project – Hamilton Slough*

Hazards Addressed: Flood

Issue/Background: The existing structure (Caltrans Bridge No. 12C0376) is a concrete and wood structure that was originally constructed in 1935. Replacing this would help traffic capacity, provide additional access route, increase road safety and reliability, and increase pedestrian safety.

Other Alternatives: No Action

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Priority: High

Responsible Office: City of Biggs

Cost Estimate: Unknown

Benefits (Losses Avoided): Provides additional access route, road safety and reliability, pedestrian safety.

Potential Funding: CalTrans

Schedule: Construction scheduled to begin in 2013.