



1 CITY OF WATERFORD

1.1 Purpose

This Annex summarizes the hazard mitigation elements specific to the City of Waterford. This Annex supplements the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP); therefore, the Annex is not a stand-alone plan but intended to supplement the hazard information provided in the Base Plan document. All other sections of the Stanislaus County MJHMP, or Base Plan, including the sections on the planning process, countywide risk assessment, and procedural requirements related to plan implementation and maintenance apply to the City of Waterford. This Annex provides additional information specific to the City of Waterford, including details on the City's profile, planning process, risk assessment, and mitigation strategy for the community.

1.2 Community Profile

1.2.1 Mitigation Planning History and 2021-2022 Process

This Annex was created during the development of the 2022 Stanislaus County MJHMP update. The City of Waterford did not participate in Stanislaus County's 2017 Local Hazard Mitigation Plan (LHMP) process. However, the City of Waterford did participate in a 2010-2011 Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) process with the County. The MJHMP was approved on May 24, 2011. The City of Waterford adopted the 2010 MJHMP and the 2011 City of Waterford LHMP Annex on September 1, 2011. However, the City elected not to include or report progress on any of the mitigation actions from the outdated and expired version of the MJHMP (a requirement only for plan updates following the release of FEMA's October 1, 2011 Local Mitigation Plan Review Guide). This Annex instead effectively represents a new plan for Waterford based on current development, demographics, and mitigation capabilities that addresses the City's current hazards and vulnerabilities.

During the current update process, the City of Waterford followed the planning process detailed in Chapter 3 of the Base Plan. This planning process consisted of participation in the Hazard Mitigation Planning Committee (HMPC) and the formation of a smaller internal planning team referred to as the City's Local Planning Committee (LPT). The LPT was organized to support the broader planning process, coordinate with the City departmental staff, and develop customized mitigation actions and projects specific to the City of Waterford. The City's LPT is also responsible for the update, implementation, and maintenance of the plan. LPT members are listed in Appendix A.

1.2.2 Geography and Climate

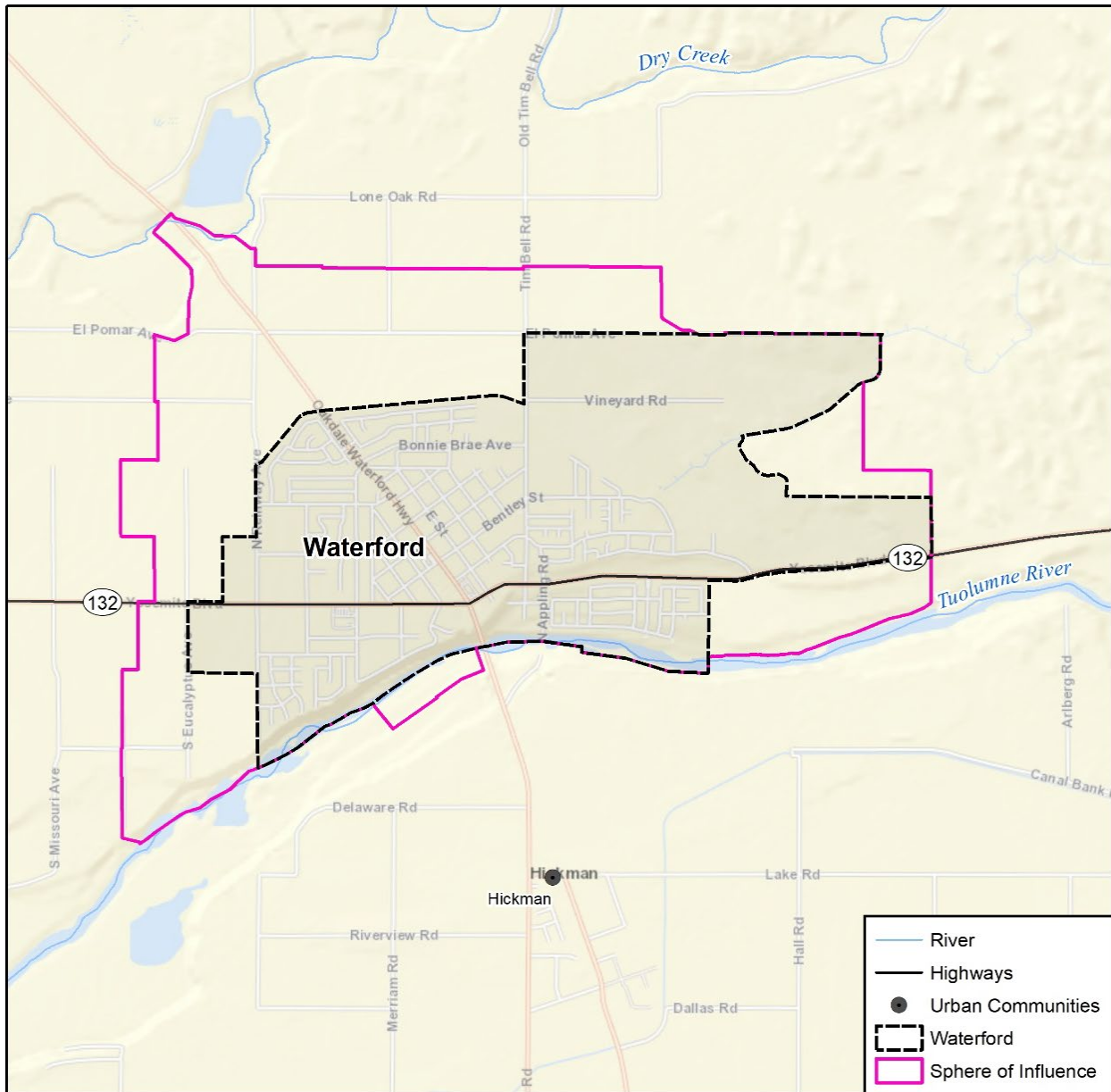
The City of Waterford is relatively isolated from the major growth centers of the Central Valley. Historically, Waterford was home to a ferry that provided north-south travel across the Tuolumne River. Later, the City was located along a railroad corridor serving the surrounding ranch land. Today the City of Waterford is located at the rural crossroads of the east west trending State Highway 132 (Yosemite Boulevard) and the north south roadway system connecting Waterford with the City of Merced.

The City receives an average annual precipitation of 12.21 inches and receives most of this precipitation from November through March (WRCC 2022). The City experiences its average monthly highest temperature in July (94.3 °F), and its monthly lowest temperature in January (53.8 °F). Similar to the rest of Stanislaus County, the City of Waterford has a mild Mediterranean climate.

Figure 1-1 below shows the City limits and Sphere of Influence (SOI) for the City of Waterford. The City limits, or the area where the City has authority to make land-use decisions, is the City's planning area, and consists of 1,536 acres or 2.4 square miles.



Figure 1-1 City of Waterford



wood. Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County

0 0.5 1 Miles



1.2.3 History

According to the City of Waterford General Plan 2025, in 1859, a group of immigrants led by William Wilkerson Baker settled on the south bank of the Tuolumne River about six miles upstream from the present town of Empire. A few years later, Mr. Baker crossed over to the north bank and filed a homestead. He established a store and distributed supplies and mail to the men on their way to the gold mines in Tuolumne and Mariposa Counties to the east. He also built a ferry. This small community became known as Bakerville, and the original street pattern is still evident in the southeast portion of the community. After the railroad was built, the “old town” was moved to higher ground along the railroad which is the present center of the downtown area. Another source states that when the Stockton-Merced branch of the railroad. was constructed in 1890, the name Waterford was given to the Southern Pacific



Station because it was near a much-used ford across the Tuolumne River. The City was incorporated as the “City of Waterford” in 1969.

1.2.4 Economy

With its location along the Tuolumne River, Waterford is a gateway to the recreation areas in the foothills of the Sierra and beyond. Farming, recreation and, of course, “bedrooms” form the basis of Waterford’s economy. Given traditional patterns of rural growth, adjacent to major metropolitan centers, Waterford was destined to be a bedroom community for the Modesto urban center.

The City of Waterford is challenged by its lack of transportation infrastructure (rail, freeway, air) that connects the City with major commercial/industrial centers of the region and the state. Traditionally, the City has been an agricultural service center for the surrounding farmland.

With increased population and growth in the urban centers along Highway 99 corridor to the west, the City’s economic growth has been sustained by its strategic location along Highway 132. This corridor provides access to the recreational resources to the east of the City. These resources include Modesto Reservoir, Turlock Lake, and the Sierra recreation areas in Tuolumne and Mariposa counties. Highway 132 also provides access to Yosemite National Park.

In recent years, the small-town environment, affordable housing and recreation access have become an attractor to new residents who commute to the regional employment centers along the Highway 99 corridor to the west. This influx of new residents has created new local employment opportunities in the retail and service sectors of the local economy. This growth has also resulted in an increase in per capita income levels for the area. Based on an economic study prepared for the City, it is forecasted that the combination of these economic trends will result in the City growing and exceeding the median and per capita income levels of other major population centers in the area and the County as a whole.

Estimates of select economic characteristics for the City of Waterford are shown in Table 1-1.

Table 1-1 City of Waterford Economic Characteristics, 2015-2019

Characteristic	City of Waterford
Families below Poverty Level (%)	16.1%
All People below Poverty Level (%)	19.5%
Median Family Income	\$59,196
Median Household Income	\$58,904
Per Capita Income	\$20,891
Population in Labor Force	57.6%
Population Employed*	52.9%
Unemployment Rate**	8.1%

Source: U.S. Census Bureau, California Department of Finance, 2015-2019 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces. **Does not reflect unemployment numbers due to COVID-19 Pandemic

The most common industries within a five-mile radius of Waterford are agriculture, forestry, fishing and hunting, and mining (a combined average of 16.6 percent of workers). Educational services, and health care and social assistance and manufacturing are other two major industries, which resonates with the information regarding manufacturing being one of Stanislaus County’s major industries in Chapter 2 Community Profile of the main plan. The tables below show the labor force breakdown by occupations and industry based on estimates from the 2015-2019 five-year American Community Survey (ACS).



Table 1-2 City of Waterford Employment by Industry, 2015-2019

Occupation	# Employed	% Employed
Agriculture, forestry, fishing and hunting, and mining	565	16.6%
Educational services, and health care and social assistance	524	15.4%
Manufacturing	485	14.2%
Construction	358	10.5%
Arts, entertainment, and recreation, and accommodation and food services	351	10.3%
Professional, scientific, and management, and administrative and waste management services	317	9.3%
Retail trade	280	8.2%
Transportation and warehousing, and utilities	178	5.2%
Wholesale trade	126	3.7%
Other services, except public administration	126	3.7%
Public administration	54	1.6%
Finance and insurance, and real estate and rental and leasing	46	1.3%
Information	0	0.0%
Total	3,410	100%

Source: U.S. Census Bureau, California Department of Finance, 2015-2019 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces

Table 1-3 City of Waterford Employment by Occupation, 2015-2019

Occupation	# Employed	% Employed
Management, business, science, and arts occupations	876	25.7%
Service occupations	604	17.7%
Sales and office occupations	522	15.3%
Natural resources, construction, and maintenance occupations	897	26.3%
Production, transportation, and material moving occupations	512	15.0%
Total	3,410	100%

Source: U.S. Census Bureau, California Department of Finance, 2015-2019 American Community Survey (ACS), 5-year estimates, www.census.gov/

*Excludes armed forces

1.2.5 Population

In May 2021, the State Department of Finance (DOF) released population data for the state demographic report, According to the report the City of Waterford has a population of 8,944 persons as of January 1, 2021 and gained 31 residents from the previous year. Select demographic and social characteristics for the City of Waterford from the 2015-2019 American Community Survey and the California Department of Finance, are shown in Table 1-4.

Table 1-4 City of Waterford Demographic and Social Characteristics

Characteristic	City of Waterford
Gender/Age	
Male	50.8%
Female	49.2%
Median age (years)	33.9
Under 5 years	8.3%
Under 18 years	31.7%
65 years and over	10.5%



Characteristic	City of Waterford
Race/Ethnicity	
White	43.2%
Asian	2.1%
Black or African American	0.8%
American Indian/Alaska Native	0%
Hispanic or Latino (of any race)	51.3%
Native Hawaiian and Other Pacific Islander	0.1%
Some other race	0%
Two or more races	2.5%
Education*	
% High school graduate or higher	66.1%
% with bachelor's degree or Higher	6.5%
Social Vulnerability	
% with Disability	14.9%
% Language other than English spoken at home	44.1%
% Speak English less than "Very Well"	16%
% of households with a computer	89.3%
% of households with an Internet subscription	85.1%
% of households with no vehicle available	3.3%

Source: U.S. Census Bureau, California Department of Finance, 2015-2019 American Community Survey (ACS), 5-year estimates, www.census.gov/

* Population 25 years and over

The following table with information from the ACS 5-year estimates (2015-2019) is related to housing occupancy in the City of Waterford.

Table 1-5 City of Waterford Housing Occupancy and Units, 2015-2019

Housing Characteristic	Estimate	Percentage
Housing Occupancy		
Total Housing Units	2,706	100%
Units Occupied	2,485	91.8%
Vacant	221	8.2%
Housing Units		
1-unit detached	2,284	84.4%
1-unit attached	24	0.9%
2 units	55	2.0%
3 or 4 units	178	6.6%
5-9 units	125	4.6%
10-19 units	0	0%
20 or more units	10	0.4%
Mobile Home	30	1.1%
Boat, RV, van etc.	0	0%
Housing Tenure		
Owner Occupied	1,674	67.4%
Renter Occupied	811	32.6%

Source: U.S. Census Bureau, California Department of Finance, 2015-2019 American Community Survey (ACS), 5-year estimates, www.census.gov/



1.2.6 Disadvantaged Communities

There is one census tract in the western portion of the City of Waterford that has a higher housing burden (6099002802). Based on information from the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen tool, approximately 16% of the people residing in this census tract are housing burdened low-income households. Housing-burdened low-income households are households that are both low income and highly burdened by housing costs. California has very high housing costs relative to the rest of the country, which can make it hard for households to afford housing ("CalEnviroScreen 4.0" 2021). Households with lower incomes may spend a larger proportion of their income on housing and may suffer from housing-induced poverty ("CalEnviroScreen 4.0" 2021). These households are also more likely to be adversely affected during a hazard event and less likely to recover. In other words, in Waterford, there are approximately 1,860 housing units in the census tract in the western portion of the City, and about 740 of them are considered low income and 290 are considered housing burdened.

The OEHHA CalEnviroScreen tool applies a formula to generate a combined ranking score that considers 21 indicators for each census tract that cover pollution indicators, such as diesel emissions and concentrations of toxic clean-up sites and population indicators, such as poverty and unemployment rates. The census tracts with CalEnviroScreen rankings between 75 and 100 percent (i.e., a combined score in the top 25 percent of all census tracts in the State) are considered to be disadvantaged communities (DACs). The census tract in the City of Waterford with a higher housing burden has a CalEnviroScreen ranking of 42, meaning the percent of housing burdened is higher than 42% of the rest of California. The City can use this information to conduct targeted outreach and engage community members to consider what other hazards and mitigation strategies or programs should be considered to meet community needs. The City can also engage these communities to proactively prioritize hazard mitigation projects that benefit DACs.

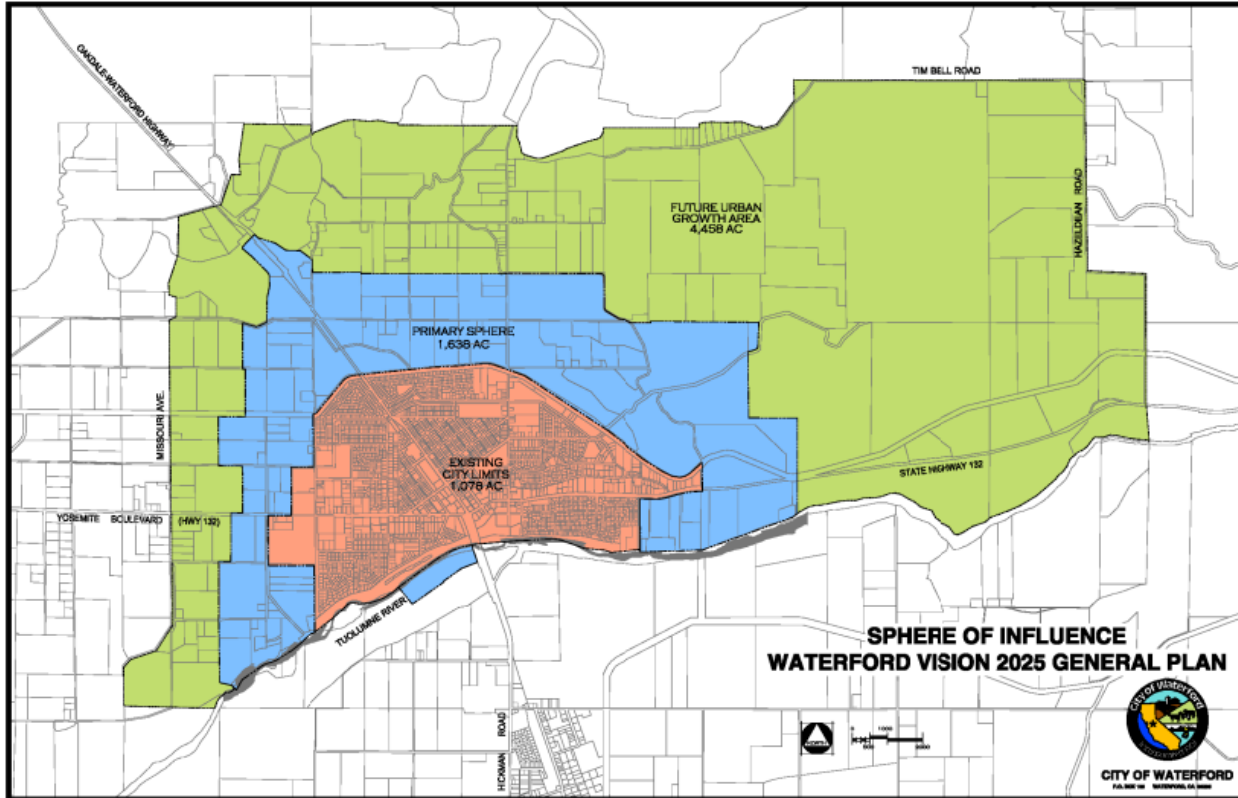
1.2.7 Development Trends

According to Waterford Vision 2025 General Plan, the plan's guiding principles included: conserving natural resource areas and promoting an urban form that integrates housing, shops, workplaces, schools, parks and civic facilities. The City's development trends are summarized in the City's vision: "a community whose growth and expansion occurs in such a manner as to enhance the existing community and preserves and maintains Waterford's rural small community charm." With regards to the City's long-range planning and vision for urban expansion, the guiding policies include maintain the City's compact form; maintain efficient and cost-effective service delivery systems; and preserve agricultural lands and open space outside the City's growth boundaries



The City has examined several growth alternatives concerning the direction of future urban expansion. The City defined its future Urban Growth Area to include approximately 4,458-acres and its intention to expand its SOI to include an area of approximately 1,608 acres. There were approximately 1,108 acres in the 2005 City limits. Within the Waterford Urban Planning Area, sufficient land has been set aside to accommodate the City’s projected growth needs beyond the year 2025. Figure 1-2 below shows the City of Waterford Planned Urban Growth Area and SOI according to the Waterford 2025 General Plan.

Figure 1-2 City of Waterford Planned Urban Growth Area & Sphere of Influence, Waterford 2025 General Plan

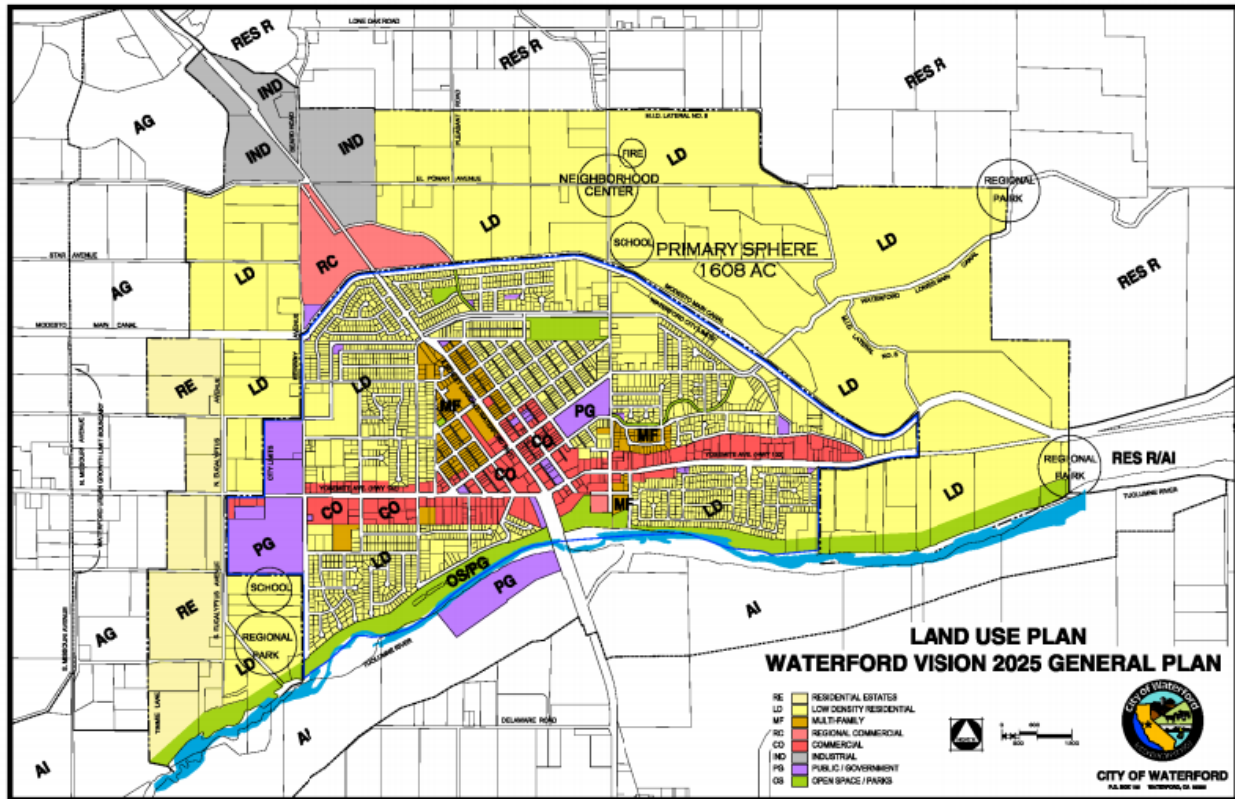


Source: City of Waterford 2007

Figure 1-3 below, presents the proposed general distribution of the uses of land within the City of Waterford and its Urban Planning Area.



Figure 1-3 City of Waterford Land Use Diagram, Waterford 2025 General Plan



Source: City of Waterford 2007

1.2.8 Future Development

The areas located in the SOI shown in Figure 1-1 are areas each City plans to grow into and are potentially slated for future development. Understanding the potential hazard exposure in the area can help to mitigate the impacts of events before development occurs in those areas.

The City regularly updates its building codes to meet minimum standards in the California Building Code (CBC) last updated in 2019. Compliance with the 2019 CBC ensures construction standards are met and hazards risks related to earthquake, landslides, flood, severe weather, and wildfire are minimized. The City also complies with the National Flood Insurance Program (NFIP) and all development must meet minimum flood protection standards set forth by FEMA. Participation in the 2022-2027 MJHMP update planning process also ensures the City of Waterford continually reviews and updates hazard information and takes this information into account when reviewing development applications. This process will help the City make better decisions on where, when, and how future development occurs.

During this plan update process, a parcel analysis was conducted using the SOI and overlaid with available hazard risk layers to determine where future development may be at risk of natural hazard events. The results of the analysis have been integrated into the applicable hazard sections: dam incidents and flood hazards. Table 1-6 is the summary of the SOI total exposure for the City of Waterford.



Table 1-6 Sphere of Influence Total Exposure Summary

Property Type	Improved Parcel Count	Improved Value	Estimated Content Value	Total Value
Commercial	1	\$1,147,621	\$1,147,621	\$2,295,242
Residential	3	\$588,645	\$294,323	\$882,968
Residential-Income	1	\$67,867	\$33,934	\$101,801
Rural, Farm, Agricultural	76	\$12,289,901	\$12,289,901	\$24,579,802
Unclassified	1	\$1,045,144	\$1,045,144	\$2,090,288
Total	82	\$15,139,178	\$14,810,922	\$29,950,100

Source: Stanislaus County Assessor, Wood analysis

2 HAZARD IDENTIFICATION AND SUMMARY

The City of Waterford LPT identified the hazards that affect the City and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to their community (see Table 2-1). There are no hazards that are unique to Waterford, although the flood risk in the City is greater and distinct from the flooding risk in the County’s planning area. The purpose of this section is to profile the City of Waterford hazards and assess the City’s specific vulnerabilities.

The hazards profiled in the County MJHMP Base Plan discuss the overall impacts to the County’s planning area. This information is summarized in the hazard description, geographic extent, magnitude/severity, previous occurrences, and probability of future occurrences sections. The information in the City of Waterford’s risk assessment summarizes only those hazards that vary from the County’s planning area. The hazard profile information is organized in a similar format here as a way to identify priority hazards for mitigation purposes.

Table 2-1 summarizes the hazards profiled in the County’s planning area and risk assessment to provide a way for the LPT to evaluate which hazards are addressed in their General Plan Safety Element and which hazards are relevant and priority hazards for the City. The City’s General Plan Safety Element addresses safety issues including seismic hazards, flooding hazards, fire hazards, and hazardous materials. Among these hazards in the General Plan, flooding (including dam inundation) is further addressed in this Annex, while seismic hazards and wildfire hazards are further addressed in the Base Plan. Climate change considerations are also addressed in the Base Plan.

Table 2-1 City of Waterford —Hazard Profiles

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance	Priority Hazard?
Agriculture Pest and Disease	Extensive	Likely	Negligible	Low	No
Aquatic Invasive Species	Limited	Likely	Negligible	Low	No
Cyber Attack	Significant	Likely	NA	Medium	No
Dam Incidents	Extensive	Unlikely	Catastrophic	High	Yes
Drought	Extensive	Likely	Critical	High	Yes
Earthquake	Extensive	Occasional	Limited	Medium	No
Extreme Heat	Extensive	Highly Likely	Critical	Medium	No
Flood	Limited	Likely	Negligible	Low	No
Landslide, Mud/Debris Flow, Rockfall	Limited	Occasional	Negligible	Low	No
Public Health Hazards: Pandemic/Epidemic	Extensive	Occasional	Critical	High	No



Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance	Priority Hazard?
Severe Weather: Dense Fog	Extensive	Likely	Critical	Medium	No
Severe Weather: Hail, Heavy Rain, Thunderstorms, Lightning	Extensive	Highly Likely	Critical	High	No
Severe Weather: High Wind/Tornado	Extensive	Highly Likely	Critical	High	No
Wildfire	Limited	Occasional	Negligible	Low	No
Geographic Area 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 (Extent) 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			

2.1 Vulnerability Assessment

The intent of this section is to assess Waterford’s vulnerability that is separate from that of the planning area as a whole, which has already been assessed in Section 4 Hazard Identification and Risk Assessment in the Base Plan. For dam incidents and flood hazards, this vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area. For the other hazard profiles, the City described the specific vulnerabilities in the community by developing problem statements that qualitatively summarize areas of concern associated with the hazards that vary from other parts of the County planning area. These specific vulnerabilities are referred to as “problem statements” in the risk assessment. The problem statements are based on the risk assessment mapping and modeling and where spatial data and maps are not available, they are based on specific input from the City LPT. With this information mitigation actions were then developed to address these specific vulnerabilities; this process provides the connection between the problem statement and the mitigation action.

The information to support the hazard identification and risk assessment was based on a combination of the previous LHMP for the City and County and jurisdiction-specific information collected during the 2021 update. A Data Collection Guide and associated worksheets were distributed to each participating municipality or special district to complete during the update process in 2021. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to each jurisdiction.

Each participating jurisdiction was in support of the main hazard summary identified in the Base Plan (see Table 4-2). However, the hazard summary rankings for each jurisdictional Annex may vary due to specific hazard risks and vulnerabilities unique to that jurisdiction. The information in this Annex helps differentiate the jurisdiction’s risk and vulnerabilities from that of the overall County.



Note: The hazard “Significance” reflects the overall ranking for each hazard and is based on the City of Waterford’s LPT input from the Data Collection Guide and the risk assessment developed during the planning process (see Section 4 of the Base Plan), and the set of problem statements developed by the City LPT. The hazard significance summaries in Table 2-1 above reflect the hazards that could potentially affect City. The discussion of vulnerability for each of the following hazards is located in Section 2.3 Estimating Potential Losses, which includes an overview of the local issues and areas of concern associated with the hazard, a problem statement for the priority hazard, and a quantitative risk assessment, where spatial data is available. Based on this analysis, the priority hazards for the City of Waterford for mitigation are identified below.

- Dam Incidents
- Drought

Cyber Attack, Drought, Earthquake, Extreme Heat, Pandemic/Epidemic and Severe Weather hazards are not addressed in this vulnerability assessment as the exposure is similar to the overall County exposure, and the potential for losses are difficult to quantify specific to the City of Waterford. Additionally, hazards assigned a significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further and are not assessed individually for specific vulnerabilities in this Annex. In the City of Waterford, those hazards include Agriculture Pests and Disease, Aquatic Invasive Species, Flood, Landslide (Mud/Debris Flow, Rockfall), and Wildfire. For example, flooding, landslide, and wildfire hazards were assessed for the City and based on the analysis and mapping neither hazard resulted in significant vulnerabilities or impacts.

2.2 Assets

This section considers Waterford’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets and growth and development trends.

2.2.1 Property Exposure

The following data on property exposure is derived from the Stanislaus County 2021 Parcel and Assessor data. This data should only be used as a guideline to overall values in the City as the information has some limitations. It is also important to note that 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 and is not included in the values below. Table 2-2 shows the exposure of properties (e.g., the values at risk) broken down by property type for the City of Waterford.

Table 2-2 City of Waterford Property Exposure by Type

Property Type	Improved Parcel Count	Improved Value	Estimated Content Value	Total Value
Commercial	117	\$38,179,265	\$38,179,265	\$76,358,530
Industrial	18	\$4,182,790	\$6,274,185	\$10,456,975
Residential	2,114	\$311,482,233	\$155,741,117	\$467,223,350
Residential-Income	29	\$5,006,986	\$2,503,493	\$7,510,479
Rural, Farm, Agricultural	20	\$2,708,574	\$2,708,574	\$5,417,148
Unclassified	76	\$28,263,326	\$28,263,326	\$56,526,652
Vacant Commercial	2	\$61,743	\$61,743	\$123,486
Total	2,376	\$389,884,917	\$233,731,703	\$623,616,620

Source: Stanislaus County Assessor, Wood analysis

2.2.2 Critical Facilities and Infrastructure

For the purposes of this plan, a critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA sorts critical facilities into seven lifeline categories as shown in Figure 4-1 in the Base Plan.

Table 2-3 shows a summary of the critical facilities within the City of Waterford. Critical facilities and other community assets as important to protect in the event of a disaster.

**Table 2-3 Critical Facilities within the City of Waterford**

Lifeline	# of Critical Facilities
Communication	-
Energy	-
Food, Water, Shelter	6
Hazardous Materials	-
Health and Medical	-
Safety and Security	7
Transportation	3
Total	16

Within the City of Waterford, the following are considered critical facilities:

- Stanislaus Consolidated Fire Protection District Station 34
- Waterford City Hall
- Waterford Police Department
- Waterford Police Department building
- Water supply lines and wells
- Wastewater treatment plant, pumping stations, and trunk lines
- Major electrical transmission lines and substations
- Major communication lines and microwave transmission facilities
- Major public and private schools
- Emergency shelter
- Public Library
- Hospital facilities, nursing homes and dialysis centers

There are also several designated shelters in Waterford for use in an emergency event such as First Southern Baptist Church and Waterford Community Center.

2.2.3 Historic, Cultural and Natural Resources

There are no historical resources in the City of Waterford that are designated on a federal, state or local level based on the California Office of Historic Preservation.

Natural resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. According to the City's General Plan Open Space & Conservation Element, the Waterford planning area contains several important habitats that could contain species of plant and animal life considered "sensitive". For example, the northern and eastern portions of the City, in the region of Dry Creek and the Modesto Reservoir, contain seasonal wetlands and vernal pools in scattered locations. These seasonal wetlands and vernal pools provide potential habitats for several species of wildlife that are listed as threatened and endangered. Awareness of natural assets then can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters.

2.3 Estimating Potential Losses

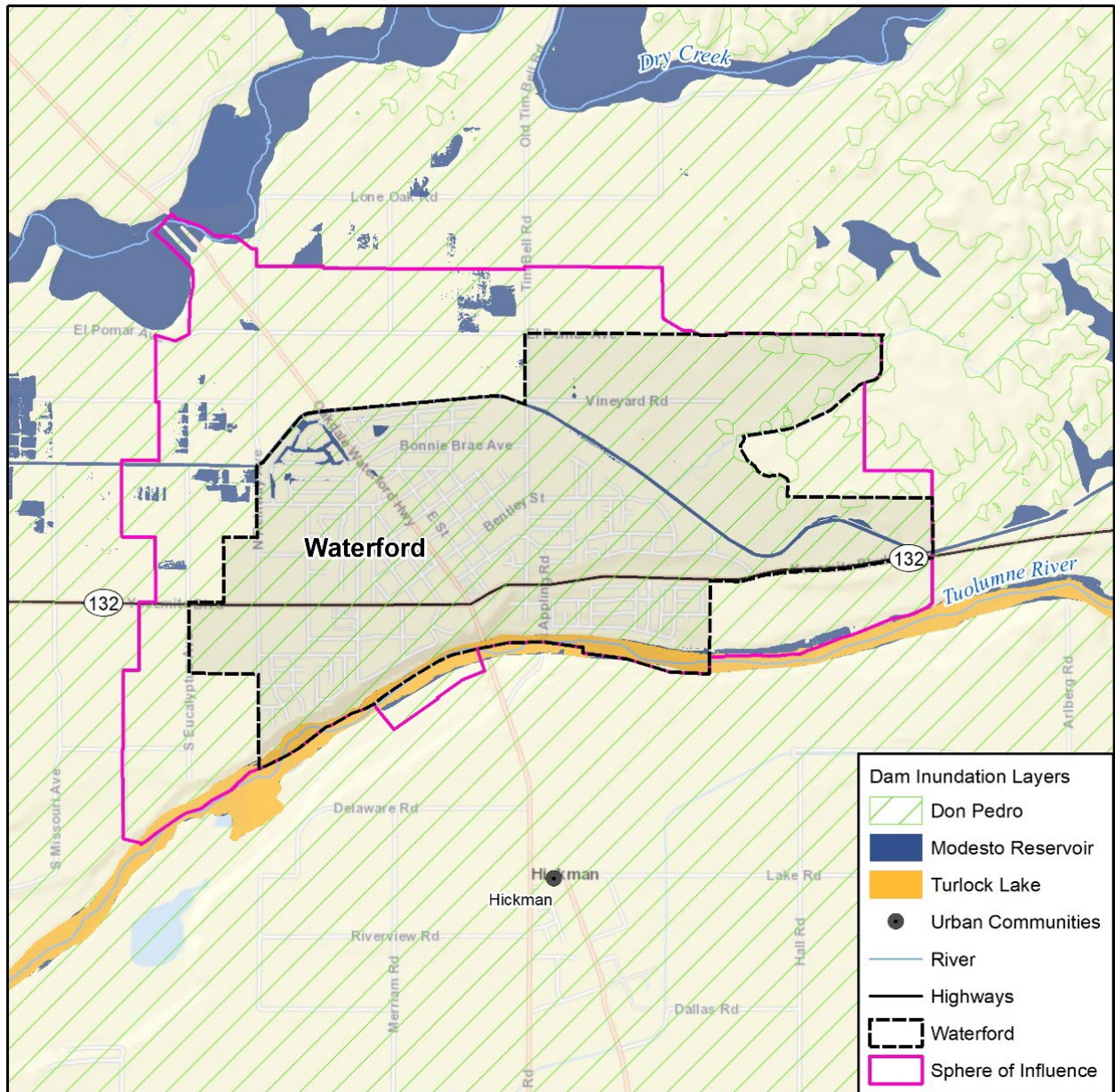
2.3.1 Dam Incidents

Protection from flood hazards created by dam failures is critical to the safety and well-being of Waterford residents. A dam vulnerability assessment was completed during the 2021 update, following the methodology described in Section 4 of the Base Plan. Dam inundation areas from the Don Pedro, Turlock Lake and Modesto Reservoir dams with the City of Waterford are shown in Figure 2-1. Table 2-4 summarizes the values at risk within Don Pedro dam's inundation area. All these three dams are rated as high hazard. Both Don Pedro and Modesto Reservoir dams are also rated as Extremely High by the California Department of Water Resources (DWR), Division of Safety of Dams (DSOD). Extremely High rated dams are expected to cause considerable loss of human life or result in an inundation area with a population of 1,000 or more. All areas within City Limits and SOI are vulnerable to dam incidents. The



City would experience catastrophic damage if Don Pedro dam were to breach. A total of 16 critical facilities are located within dam inundation areas.

Figure 2-1 City of Waterford Potential Dam Inundation Areas



wood. Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County,
Department of Water Resources,
Division of Safety of Dams (DSOD)

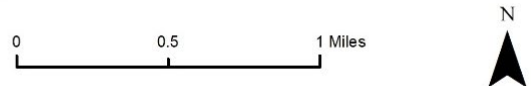




Table 2-4 Don Pedro Dam Inundation

Property Type	Improved Parcel Count	Population
Commercial	117	
Industrial	18	
Residential	2,114	7,547
Residential-Income	29	104
Rural, Farm, Agricultural	20	
Unclassified	76	
Vacant Commercial	2	
Total	2,376	7,651

Source: California DSOD, National Inventory of Dams, Stanislaus County Assessor's Office

Future Development

The results of the SOI and dam analysis are shown in Table 2-5.

Table 2-5 Sphere of Influence Areas Exposed to Don Pedro Inundation

Property Type	Improved Parcel Count	Population
Commercial	1	
Residential	3	10.71
Residential-Income	1	3.57
Rural, Farm, Agricultural	76	
Unclassified	1	
Total	82	14

Source: Stanislaus County Assessor, Wood analysis

2.3.2 Drought

According to the City's 2016 Water Master Plan (WMP), the City of Waterford operates and maintains three separate service areas (systems); River Pointe, Waterford, and Hickman. The service areas are hydraulically independent, and there are no emergency interconnections between any two systems.

The River Pointe service area is a new development (since 2004) with approximately 330 metered residential customers, and a buildout capacity of approximately 350 total connections. The water system consists of two wells, a water treatment facility for the removal of manganese, two 100,000-gallon storage tanks, and booster pumps. The water production capacity of the River Pointe system exceeds the service area demands.

The Waterford service area is an older water system, with facilities dating back to at least 1945. The system provides water for both residential and commercial development. The Waterford system has six wells, and approximately 91,000 feet of distribution pipes. Wells and distribution pipelines are of various sizes, ages, and materials, and some wells and pipes need replacement. The system has approximately 2,260 service connections. A comprehensive water meter installation program began in 2005 and was completed in 2014 to comply with State water code requirements. Due to minimal elevation change, the City currently only has a single pressure zone. The Waterford system also currently has no storage.

For both River Pointe and Waterford systems, the source water is from local groundwater aquifers, exclusively, as the City does not currently use surface water. The total production capacity for the systems are 3,406 gallons per minute (gpm) and 1,550 gpm, for Waterford and River Pointe systems respectively. It is also mentioned in the WMP that none of the Waterford wells appear to be operating at this minimum, and some are excessively low. Poor efficiency can be due to many reasons, including age, dropping water tables due to overdrawing of the aquifer, well screen encrustation or obstruction, and pump bowl damage from sand wear.



The Hickman water service area includes approximately 185 service connections that serves a population of approximately 430 persons. Most of Hickman is residential, though there are approximately 11 commercial connections, including a public elementary school. The Hickman system has two wells, with a combined production of approximately 600 gpm. One well is equipped with a specific treatment system for taste and odor control. The Hickman system also has no storage. The source capacity of the Hickman system is also inadequate to meet demands and requires significant capital improvements.

The City's total water production capacity is adequate, due to the recent permit adjustment (Division of Drinking Water (DDW)). The City's water permit requires sufficient capacity to meet maximum day and peak hour demands. However, the system capacity does not provide adequate fire suppression capacity during a high-demand period, under typical waterworks standards. By joining the River Pointe and Waterford service areas, all capacity requirements would be met. The River Pointe water supply system is the newest infrastructure owned by the City. The River Pointe wells were constructed based on a modern design. Therefore, the River Pointe facilities are expected to remain an important part of the City's water production. With the consolidation of the River Pointe and Waterford systems, surplus capacity in the River Pointe system could be used outside of the River Pointe service area, although the City has still been working on addressing the concerns related to the planned consolidation of these two systems.

Regarding water conservation, as noted in the 2016 WMP, the City's installation of water meters has already achieved a lower average water demand and thus water conservation. Other mandatory conservation measures (i.e., SBx7-7, SB407, AB 1881, California Green Building Code, and energy conservation programs that impact water use, such as low water use clothes and dishwashing machines) will further increase conservation efforts over time. For example, new development is required by law to use at least 20% less water than existing development. Conservation and efficient water use will continue to be an important part of managing demands and reducing the amount of source water required. (City of Waterford 2016)

The City currently relies solely on groundwater, as mentioned previously. However, with significant increases in groundwater pumping due to growing water demands in the agricultural and urban sectors, and a decrease in groundwater recharge due to drought or other factors, the diversification of the City's water supply should be considered given the potential changes that may occur in groundwater quantity, quality, reliability, and cost. Like many areas in California, the City is seeing declines in the local groundwater table. For example, despite a significant decrease in its water use over the past two years of nearly 30%, the City has seen an average drop in the groundwater surface elevation of nearly 15 feet (City of Waterford 2016). Future state groundwater regulations are expected to address this problem eventually, but this may also place restrictions on the City's access to local groundwater in the future. Nevertheless, groundwater is, and is expected to continue to be, a key water supply source for the City.

Other sources of water the City may pursue include surface water, and recycled wastewater from the City's Wastewater Treatment Plant (WWTP). Surface water sources include local rivers, reservoirs, and state/federal water project conveyance systems. The City may also have a unique opportunity to acquire surface water due to its location near the Modesto Irrigation District's treatment and conveyance facilities. Furthermore, the City should establish a long-term goal to diversify its water supply portfolio, since the lack of a diversified water supply for the City indicates that climate change could impact the City due to the potential reduction in groundwater recharge and runoff, increasing concerns related to groundwater overdraft and declining groundwater quality. The City is now participating in both the Stanislaus and Tuolumne Rivers Groundwater Basin Association and the Turlock Groundwater Basin Association and should continue its participation in regional groundwater management associations to develop viable water use and conservation strategies. (City of Waterford 2016)

2.3.3 Flood

The primary types of flood events in Stanislaus County that may impact the City of Waterford are riverine and local urban flooding. 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.

The southern portion of the City of Waterford along the Tuolumne River is in the FEMA 1% and 0.2% annual chance floodplains. The physical risks associated with potential flooding and the regulatory requirements for floodplain management are important considerations when decisions are being made



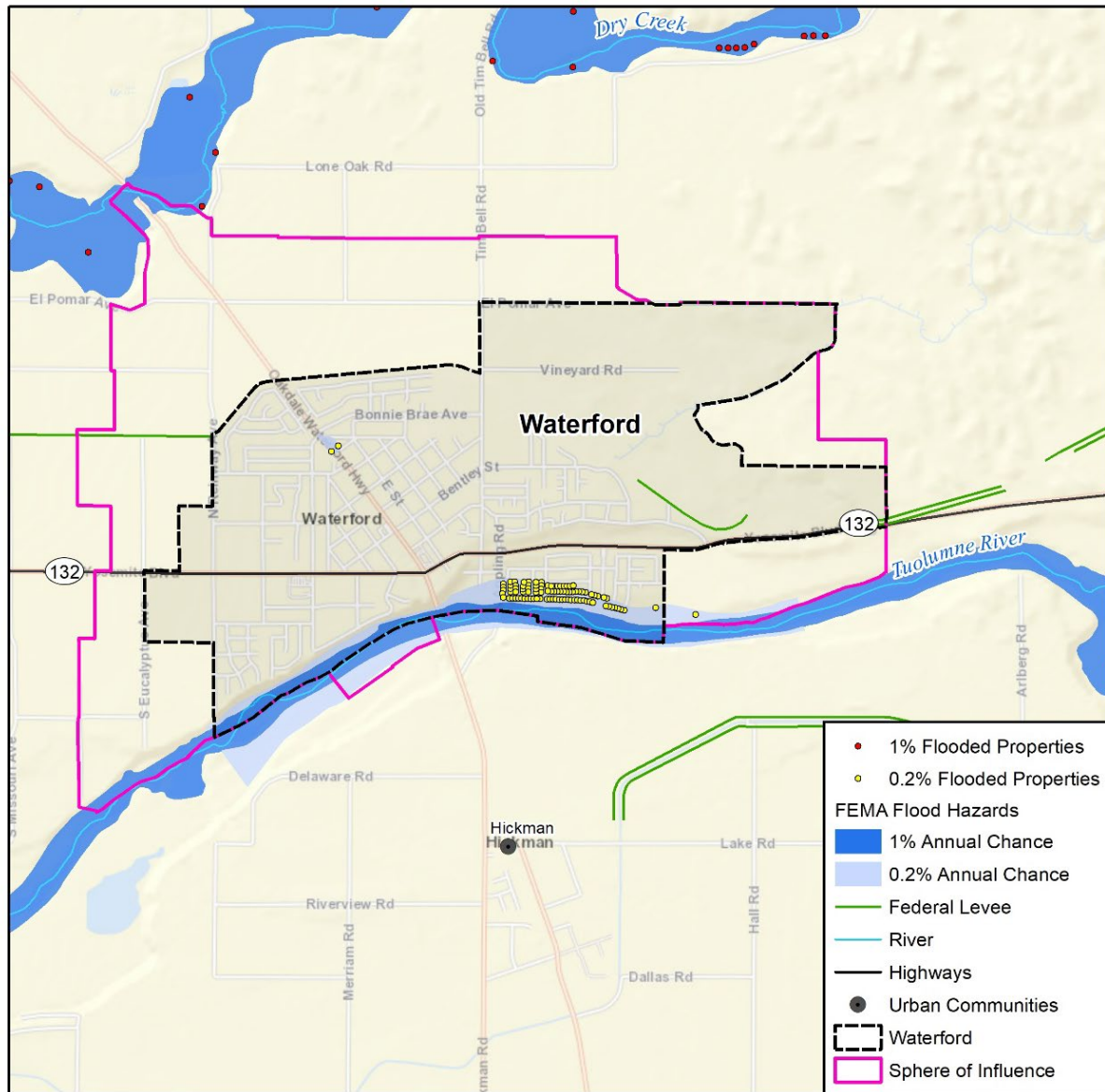
regarding future land use throughout the City. Parts of the City may also be vulnerable to localized stormwater flooding during severe storms. The rest of the City of Waterford to the north lies outside the FEMA 1% and 0.2% annual chance floodplains. Based on the history of flooding in the County of Stanislaus, the City of Waterford and surrounding areas are considered likely to have the hazard potential for future flooding.

A flood vulnerability assessment was completed during the 2021 update, following the methodology described in Section 4 of the Base Plan. FEMA 1% and 0.2% annual chance floodplains within the City are shown in Figure 2-2. None of the City's improved parcels are located within 1% annual chance floodplains.

Table 2-6 summarizes the values at risk in the City's 0.2% annual chance floodplains.



Figure 2-2 City of Waterford FEMA 1% and 0.2% Annual Chance Floodplains



wood. Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County,
FEMA NFHL 8/24/2021

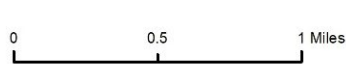


Table 2-6 City of Waterford FEMA 0.2% Annual Chance Flood Hazard, by Property Type

Property Type	Improved Parcel Count	Improved Value	Estimated Content Value	Total Value	Estimated Loss	Population
Industrial	1	\$27,971	\$41,957	\$69,928	\$17,482	
Residential	91	\$24,377,622	\$12,188,811	\$36,566,433	\$9,141,608	325
Residential-Income	1	\$510,594	\$255,297	\$765,891	\$191,473	4
Total	93	\$24,916,187	\$12,486,065	\$37,402,252	\$9,350,563	328

Source: Stanislaus County Assessor's Office; National Flood Hazard Layer Effective 8/24/2021; FEMA; Wood analysis



Based on this analysis, the City of Waterford has 93 improved parcels located within the 0.2% annual chance floodplain for a total value of around \$37.4 million. The potential loss is estimated at around \$9.4 million if these areas were inundated by the 0.2% annual chance flood. The population at risk was calculated for 0.2% annual chance floodplains based on the number of residential properties at risk and the average number of persons per household (3.57). There are an estimated 328 persons at risk to 0.2% annual chance flood in the City of Waterford.

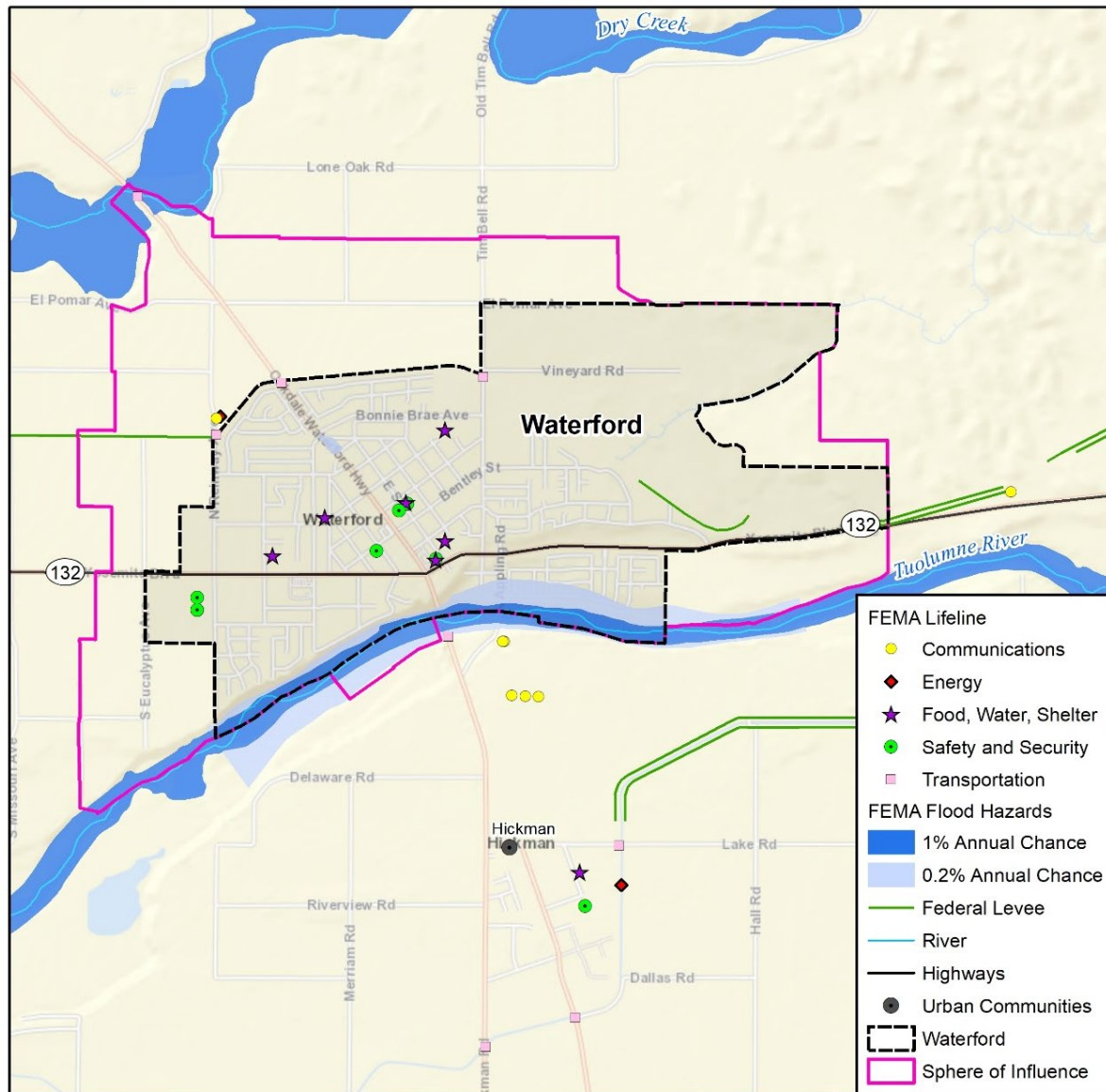
The City is not near the DWR Awareness 100-year floodplains; these mapped floodplains are located to the south of the City, well outside the City limits.

Critical Facilities at Risk

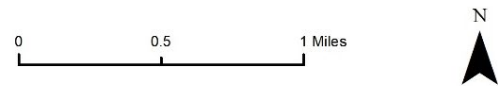
Critical facilities are those community components that are most needed to withstand the impacts of disaster as previously described. As shown in Figure 2-3, there are no critical facilities within the City's floodplains.



Figure 2-3 Critical Facilities within the FEMA 1% and 0.2% Annual Chance Floodplain



wood. Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County,
HIFLD, NID, DWR, FEMA NFHL 8/24/2021



Insurance Coverage, Claims Paid, and Repetitive Losses

The City of Waterford joined the NFIP on July 16, 1979. NFIP Insurance data indicates that as of April 2022, there were five flood insurance policies in force in the City with \$1,750,000 of coverage. None of these policies is located in A-zones. All of the policies are single-family residential and located in the B, C, and X zone. There has been one historical claim for flood losses. According to the FEMA Community Information System accessed April 6, 2022, the City has no Repetitive Loss properties or Severe Repetitive Loss properties.

Future Development

The results of the SOI flood analysis are shown in Table 2-7. None of the parcels within the SOI are exposed to the 1% annual chance flood. A total of 1 parcel within the SOI is exposed to the 0.2% annual



chance flood. This indicates the risk to existing development that could be under the City's jurisdiction if the area was annexed.

Table 2-7 Sphere of Influence Areas Exposed to 0.2% Annual Chance Flood Hazard

Property Type	Improved Parcel Count	Improved Value	Estimated Content Value	Total Value	Estimated Loss	Population
Rural, Farm, Agricultural	1	\$7,664	\$7,664	\$15,328	\$3,832	N/A
Total	1	\$7,664	\$7,664	\$15,328	\$3,832	N/A

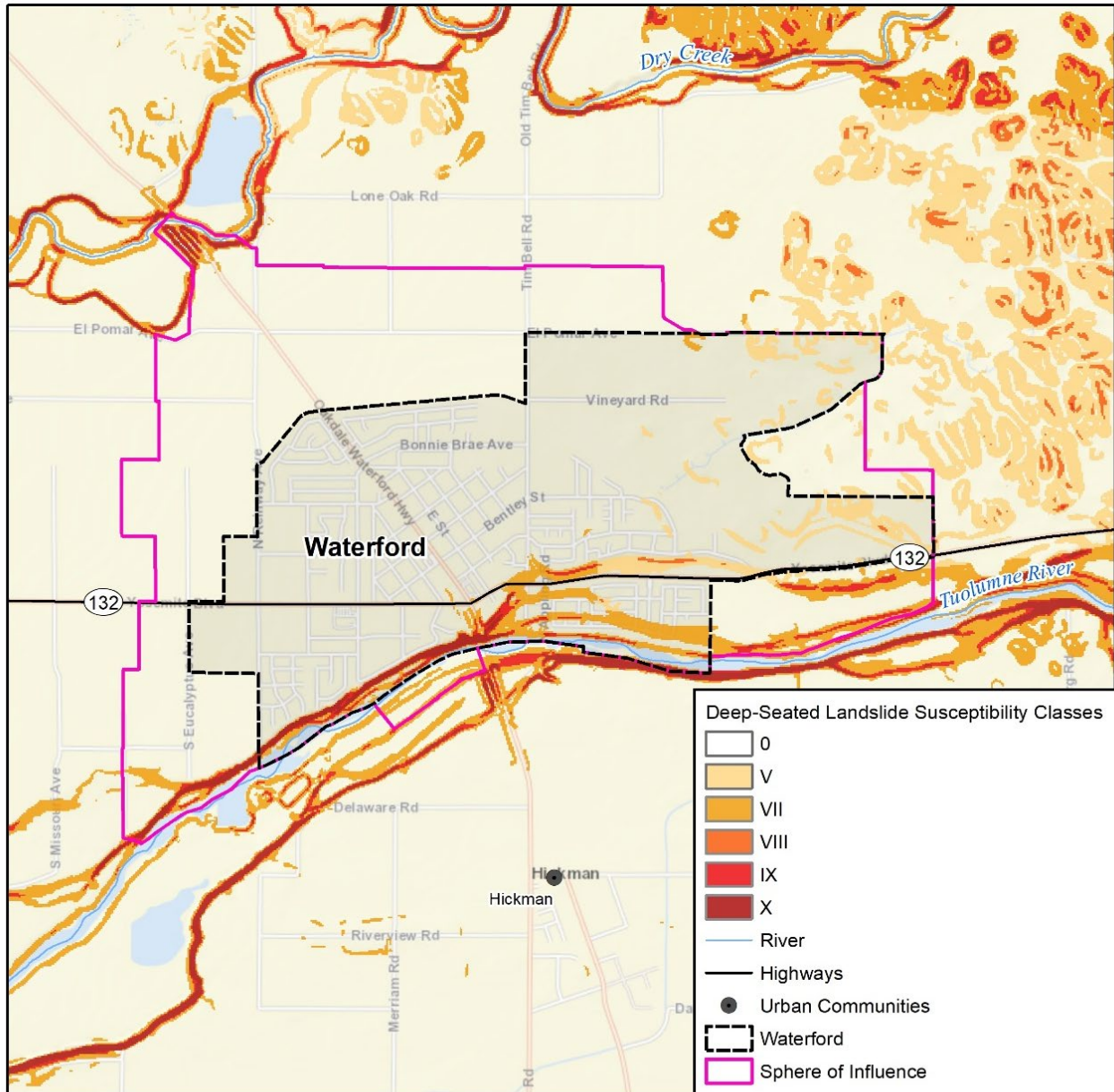
Source: Stanislaus County Assessor, Wood analysis

2.3.4 Landslide

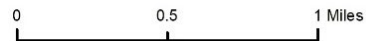
As shown in Figure 2-4, most of the City is not susceptible to deep-seated landslide hazards, although there is a long and narrow segments located in the southern portion of the City that has high susceptibility along the Tuolumne River. However, landslide hazard is overall rated as low for the City and is not a priority hazard. This hazard profile and the map are prepared for planning and awareness purposes.



Figure 2-4 City of Waterford Deep-Seated Landslide Susceptibility



Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County,
Department of Conservation,
California Geological Survey

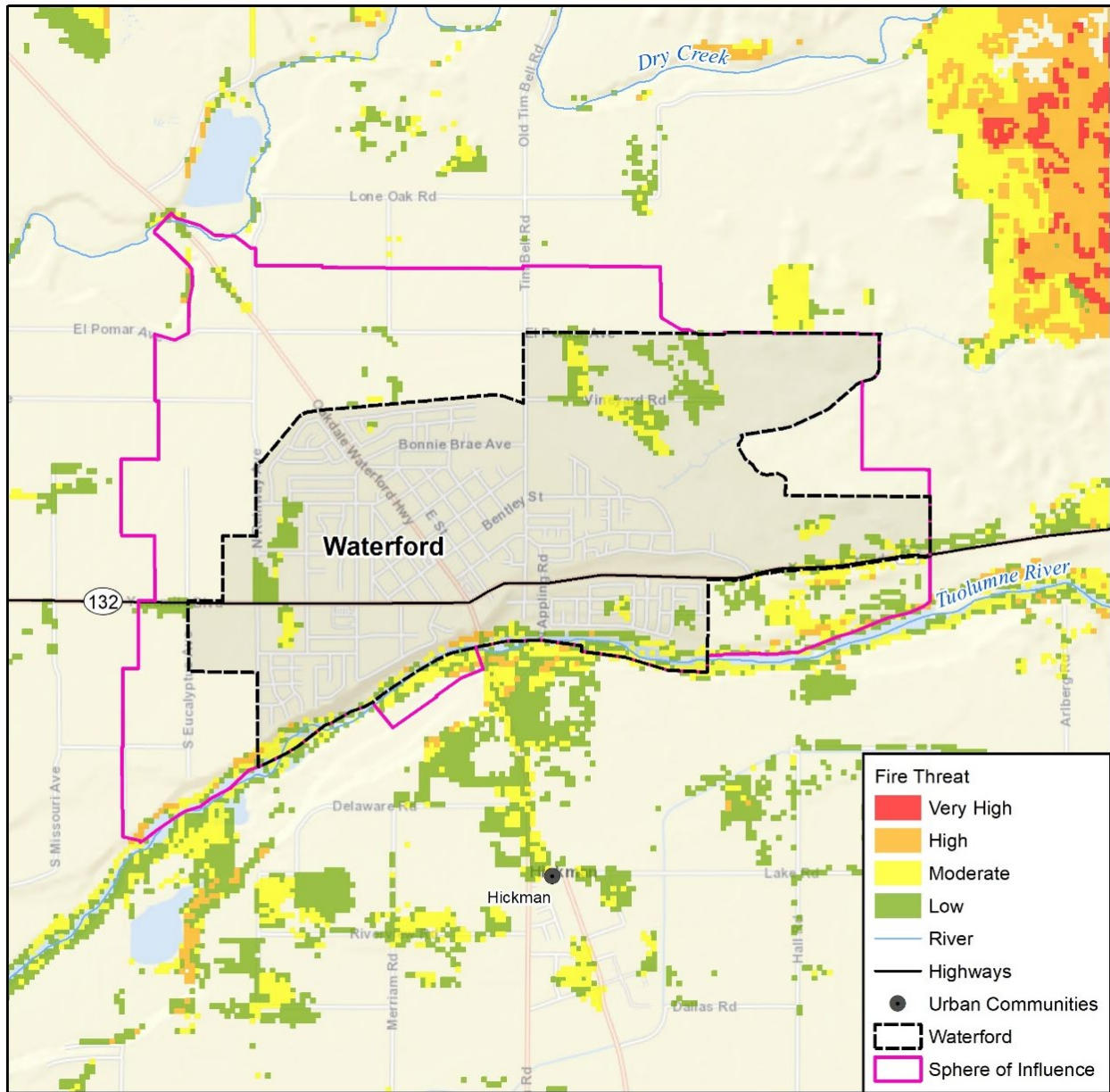


2.3.5 Wildfire

As shown in Figure 2-5, there are limited areas within the City limits that have moderate or low wildfire threat; these areas are mostly within the southern portion, northeast, and west of the City. No area in the City has high fire threat. Therefore, wildfire is rated as low for the City and included in this analysis for public awareness and planning purposes only.



Figure 2-5 City of Waterford Wildfire Threat Areas



wood. Map compiled 2/2022;
Intended for planning purposes only.
Data Source: Stanislaus County, CALFIRE, FRAP



3 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 capabilities 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. To develop this capability assessment, the LPT representatives reviewed a matrix of common mitigation activities to inventory which of these policies or programs and shared any updates or changes through the Waterford Data Collection



Guide. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contribute to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the LPT representatives and Wood consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, in summarizing current capabilities and identifying gaps, the LPT representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The City of Waterford’s capabilities are summarized below.

3.1 Regulatory Capability

The regulatory and planning capabilities table lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities. The table below indicates those that are in place in the City of Waterford.

Table 3-1 City of Waterford —Regulatory and Planning Capabilities

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
General Plan	Yes	Adopted June 2007
Zoning ordinance	Yes	Title 17
Subdivision ordinance	Yes	Title 16
Growth management ordinance	No	No
Floodplain ordinance	No	Chapter 15.32 Flood Damage Prevention
Other special purpose ordinance (stormwater, steep slope, wildfire)	No	No
Building code	Yes	Title 15
Fire department ISO rating	No	N/A
Erosion or sediment control program	No	No
Stormwater management program	No	No
Site plan review requirements	Yes	Chapter 17.52 Architectural and Design Review Procedures
Capital improvements plan	No	A Capital Improvement Plan is not available while info regarding Capital Projects is available.
Economic development plan	No	No
Local emergency operations plan	Yes	Adopted in November 2011
Other special plans	No	
Flood insurance study or other engineering study for streams	Yes	Included in the County’s FIS, which was revised on August 24, 2021
Elevation certificates (for floodplain development)	No	No
Other		

Waterford General Plan Vision 2025 (2007)

The Waterford Vision 2025 General Plan recognizes that residential development is a necessary component of growth and will occur (is occurring) in the early phases of “City Building”. The plan, however, recognizes that it must accommodate business and industry to improve the quality of life for residents of the city in the future; a future that includes increasing energy costs, global warming, and changes in the region’s demographics and basic economic structure over the next few decades.

Waterford’s “vision” did not evolve without some resistance. Some agricultural interests were strongly opposed the “urban limit line” established along the western boundary of the city restricting urban encroachment into “prime” agricultural farmlands. Others had concerns of the impacts of noise, traffic, and air pollution on the city’s residents with growth.

The General Plan identifies the community’s environmental, social, and economic goals, as well as records the local government’s policies and standards for the maintenance and improvement of existing development and the location and characteristics of future development. In addition, the General Plan provides citizens with information about their community and with opportunities to participate in the local planning and decision-making process. The General Plan also improves the coordination of community



development and environmental protection activities among local, regional, state, and federal agencies. Furthermore, the General Plan establishes a basis for subsequent planning efforts, such as the preparation of specific plans, redevelopment plans, and special studies, to deal with unique problems or areas in the community.

Emergencies Organizations and Functions Ordinance, Chapter 2.48

The declared purposes of this chapter are to provide for the preparation and carrying out of plans for the protection of persons and property within the City in the event of an emergency; the direction of the Emergency Organization; and the coordination of the emergency functions of the City with all other public agencies, corporations, organizations and affected private persons.

The Ordinance establishes the City/County Disaster Council membership, the Disaster Council powers and duties, which include overseeing the preparedness activities of the various County departments and other jurisdictions in the Stanislaus County operational area, including the preparation of emergency and disaster plans, policies, and procedures, and ensuring unity of purpose.

The Ordinance also establishes the Operational Area Council. The Operational Area Council is responsible for coordinating, reviewing, and recommending for approval all emergency or disaster response policies, procedures, plans, and other influencing factors or events that would affect the Stanislaus operational area. The Operation Area Council does not have operational duties or powers during an event or emergency and is created to serve in the preparedness and planning phases only.

Emergency Operations Plan (2011)

The purpose of the City of Waterford Emergency Operations Plan (EOP) is to establish a comprehensive approach to various identified natural, man-made and technological disasters. The EOP provides an overview of operational concepts, identifies the components of the City's Emergency Management Organization, and describes the overall responsibilities of federal, state and local agencies. This EOP does not address ordinary day-to-day emergencies, or the established routine procedures used to cope with such incidents. Rather, this plan concentrates on operational concepts and response procedures relative to large-scale emergencies and disasters. The EOP is a preparedness document and is designed to be read, understood, and exercised prior to an emergency. The EOP has been developed following the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

Flood Damage Prevention Management Chapter 15.12

The purpose of the City's Flood Damage Prevention Management Ordinance is to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations. These regulations are 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 are generally undertaken at the expense of the general public. The ordinance is also in place to minimize damage to public facilities and utilities in SFHAs and help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard. Moreover, the ordinance ensures that potential buyers are notified that property is in a SFHA and ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. Furthermore, the ordinance aims to minimize prolonged business interruptions.

All new construction or substantial development of residential structures shall have the lowest floor, including basement, elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least two feet above the highest adjacent grade if no depth number is specified (in an AO zone), or elevated to or above the base flood elevation in an A zone as well as all other zones. For new construction or substantial development of residential structures in all other zones, upon the completion of the structure, the elevation of the lowest floor including the basement shall be certified by a registered professional engineer or surveyor and verified by the community building inspector to be properly elevated. Such certification and verification shall be provided to the floodplain administrator.



3.2 Administrative and Technical Capability

The table below identifies City personnel with responsibilities for activities related to mitigation and loss prevention in the City of Waterford. Many positions are full-time and/or filled by the same person. A summary of technical resources follows.

Table 3-2 City of Waterford —Personnel Capabilities

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Planning Division	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Building Department	
Planner/engineer/scientist with an understanding of natural hazards	Yes	Planning Division	
Personnel skilled in GIS	No		
Full time building official	Yes	Building Department	
Floodplain manager	N/A	Director of Public Works (Floodplain administrator)	
Emergency manager	Yes	City Manager (Director of Emergency Services)	
Grant writer	Yes	Administration	
Other personnel	Yes	Multiple agencies and departments with support personnel expanding capabilities for mitigation	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	No		
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)	No		
Other			

City Council

The City of Waterford was organized as a General Law City in 1969 and operates under the Council-Manager form of government. The Council-Manager is the most common form of local government and combines the strong political leadership of elected officials (City Council), with the strong managerial experience of an appointed local government manager (City Manager). In a Council-Manager government, the elected council appoints a City Manager, makes major decisions, and wields representative power on behalf of the citizens. The City Manager is, in turn, responsible for hiring a city staff to carry out the implementation of the decisions made by the Council.

The City Council is responsible to ensure the welfare of the people of Waterford. They are empowered to pass laws, approve the spending of money, and set general policy for the City. Members of the Waterford City Council also serve as the Governing Board for the City’s Redevelopment Agency, Public Financing Authority and serve as City representatives on various regional, state, and local organizations, as well as government boards and committees where the concerns and interests of the City require participation and involvement.

City Manager

The City Manager serves as the chief administrative officer of the City of Waterford and directs the activities and operations of the Public Works, City Clerk, Police Services, Planning & Engineering, Parks & Recreation and Finance departments. The Manager advises and assists the City Council in the conduct of City business, provides administrative oversight to recommending and implementing policies, program planning, fiscal management, administration, and provides a variety of other responsible and complex administrative support to the City Council. The City Manager also serves as the Executive Director of the Waterford Public Financing Authority and doubles as the Finance Director. The City Manager attends and



participates in professional, state/local agency, and community meetings as necessary, stays current on issues relative to public administration and relative service delivery responsibilities, responds to and resolves sensitive and complex community and organizational inquiries, issues and complaints, as well as establishes and maintains a customer service orientation within the City organization.

City's Building Division

The Building Division manages all work associated with processing building plans and permits. For all work including tenant improvements in a commercial building to remodels, additions, pools, patios for residential homes, a building permit is required.

City's Economic Development Division

The Economic Development division is responsible for activities to protect, improve, and diversify Waterford's local economy.

The office of Mayor is an elected position for a two-year term. The Mayor is the Presiding Officer at City Council meetings. The Mayor is responsible for the maintenance of order and decorum at all times. The Mayor calls the meeting to order and during the session all persons wishing to speak must first be recognized. The Mayor signs all ordinances, resolutions and contracts approved by the City Council and is the ceremonial head of the City, representing the City at official functions. Council Members are elected to a four-year term.

Fire Department

Stanislaus Consolidated Fire Protection District provides fire protection services for the City of Waterford.

Finance Department

The Finance Department manages and maintains the City's financial records in conformity with Generally Accepted Accounting Principles and compliance with state and federal laws. The Finance Department is committed to developing and maintaining effective and efficient financial planning, reporting and central support systems to provide the City Council, City Manager and other City officials with financial information on a timely and meaningful basis.

Information Technology Program

The Information Technology program provides City-wide support for all office automation equipment, including computers, telephones, cell phones, fax machines, copiers, and other equipment. Program activities include developing, implementing and maintaining long-range policies, standards, equipment inventories, preventive maintenance and repair programs, as well as providing training, on-going user support and day-to-day troubleshooting on all equipment.

Planning Division

The Planning Division is responsible for administering the city's land-use planning and entitlement process as well as managing, implementing and when necessary, updating the General Plan. Planning serves as the first stop for development proposals of any kind and assists developers, architects, builders, business owners and residents seeking approval for their development applications.

Public Works Department

The City of Waterford Public Works Department provides essential services to the community, including water supply production and treatment, wastewater and stormwater collection. The Department's purpose is to develop and maintain the City's infrastructure, buildings, grounds and vehicular equipment, and provide specialized community services, including assisting law enforcement and Fire District with emergency response and site management. The Department provides maintenance services on streets, parks, City trees and landscaped areas.



Police Services

The City of Waterford has contracted with Stanislaus County’s Sheriff’s Department for Police Services since 1998. The community’s safety is the responsibility of both the Waterford Police Services and the community in relaying relevant information, tips, and calls on all crimes. The Waterford Police Services is committed to providing a high visibility of patrol service, increased narcotic enforcement and the targeting of known criminal offenders.

3.3 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.

Table 3-3 City of Waterford —Available Financial Tools and Resources

Financial Resources	Accessible/ Eligible to Use	Has This Been Used for Mitigation in the Past?	Comments
Community Development Block Grants	Yes	No	
Capital improvements project funding	Yes	No	
Authority to levy taxes for specific purposes	Yes	No	Must be approved by voters
Fees for water, sewer, gas, or electric services, new development	Yes	No	
Incur debt through general obligation bonds	Yes	No	
Incur debt through special tax bonds	Yes	No	Requires approval by two-thirds of voters
Incur debt through private activities	Yes	No	Do not have any in place
Federal Grant Programs (Hazard Mitigation Grant Program)	Yes	No	Various Departments

3.4 Outreach and Partnerships

The City of Waterford partners with the Stanislaus County Office of Emergency Services (OES) Division. The Stanislaus County OES is responsible for the day-to-day administration of Stanislaus County’s disaster preparedness, mitigation, response and recovery programs. OES develops and maintains the Stanislaus County EOP and its associated annexes. OES also coordinates training, planning and exercises for first responders throughout the Stanislaus Operational Area. According to Stanislaus County OES’ 2021 – Emergency Management Strategic Plan, OES listed “increased number of outreach engagements (i.e., meetings, events) as an action item to achieve one of its strategic goals, which is to build a culture of preparedness. The Stanislaus County OES will work with community partners to develop agreements for mutual aid, facilitate discussion with partners regarding preparedness planning, conduct outreach activities to engage residents, and attend emergency management trainings and conferences to stay up to date with the most current practices for disaster preparedness. The City also works in coordination with the County on the Stanislaus County MJHMP.

Moreover, the Stanislaus County OES protects the public’s safety by developing and maintaining general and specific preparedness programs for the County and its nine cities. The OES educates and informs the public in the areas of emergency preparedness and fire prevention.

During the 2021-2022 planning process the following outreach efforts were identified that the City of Waterford could support related to hazard mitigation:

- Emergency Operations Webpage
- Flood Hazard and Preparedness Information



- Social Media
- E-Notifications
- Community Events

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. The City LPT will implement additional bi-lingual surveys and outreach materials in the future on hazard mitigation to increase awareness.

3.5 Other Mitigation Efforts

The City of Waterford does not have other hazard mitigation efforts in place, in addition to those already described in this Annex.

3.6 Opportunities for Enhancement

Based on the capability assessment, the City of Waterford has existing regulatory, administrative/technical, fiscal mechanisms in place that help to mitigate hazards. In addition to these existing capabilities, there are opportunities for the City to expand or improve on these policies and programs to further protect the community. These are organized below by regulatory, administrative/technical, fiscal, and outreach opportunities.

Regulatory Opportunities

Future opportunities for regulatory enhancement should focus on compliance with Assembly Bill 2140, including amending the City of Waterford General Plan Safety Element to incorporate the 2022-2027 Stanislaus County MJHMP and City of Waterford Annex by reference.

Administrative/Technical Opportunities

Other future enhancements may include providing hazard training for staff or hazard mitigation grant funding in partnership with Stanislaus County and Cal OES. Existing City staff are aware of the benefits of participating in training and webinars offered by Cal OES Hazard Mitigation Assistance (HMA) Team related to HMGP opportunities, HMGP Sub application Development support, and other funding programs, such as Prepare California Jumpstart. Other opportunities may be related to coordinating and educating key stakeholders in the City. Other stakeholders may be interested in aligning efforts related to hazard mitigation and also supporting HMGP Sub applications and other hazard mitigation trainings.

Fiscal Opportunities

The City can update other plans, such as their CIP to incorporate hazard information and include hazard mitigation actions and climate adaptation strategies that relate to infrastructure systems resiliency associated with the water and wastewater systems. Once projects related to hazard mitigation are approved, the recent CIP can be shared with the community on the City's webpage. Capital investments and improvements related to seismic retrofits, cooling center upgrades, and WWTP upgrades should all be emphasized in the outreach materials as they are related to hazard mitigation. Additionally, given the prioritization of flooding mitigation projects, the City should apply for HMGP grants to fund implementation costs associated with key CIP projects, and related projects in the City's mitigation strategy. These fiscal capabilities may be supported by City staff or augmented with Consultant staff.

Outreach Opportunities

The City can also expand their outreach capabilities related to the implementation of the 2022-2027 Stanislaus County MJHMP and the City of Waterford Annex. Specific enhancements may include continued public involvement through social media posts and advertisements focused on projects successes related to the Annex Mitigation Strategy, and focused outreach to under-represented and special-interest groups in the City. The City can also develop outreach kits for partner organizations.



4 MITIGATION STRATEGY

4.1 Goals and Objectives

The City of Waterford adopted the hazard mitigation goals and objectives developed by the HMPC and described in Section 5 Mitigation Strategy of the Base Plan. Like the Mitigation Strategy in the Base Plan, this section outlines the City's roadmap for future hazard mitigation administration and implementation. The purpose of the strategy is to reduce vulnerabilities from key priority hazards outlined in the risk assessment through regulatory tools and projects.

4.2 Continued Compliance with the National Flood Insurance Program

The City has been an NFIP participating community since 1979. In addition to the mitigation actions identified herein the City will continue to comply with the NFIP. Floodplain management is under the purview of the Director of Public Works as the Floodplain Administrator. This includes ongoing activities such as enforcing local floodplain development regulations, issuing permits for appropriate development in SFHAs and ensuring that this development is mitigated in accordance with the regulations. This will also include periodic reviews of the floodplain ordinance to ensure that it is clear and up to date and reflects new or revised flood hazard mapping.

4.3 Mitigation Actions

The LPT for the City identified and prioritized the following new mitigation actions based on risk assessments, goals, and objectives. 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. Because the City did not participate in the 2017 LHMP the LPT did not have existing mitigation actions to review and did not provide status updates on past hazard mitigation planning efforts.

The mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of the jurisdiction to implement over the next five years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each significant (medium or high) hazard for the five-year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement. Should future projects be identified for significant hazards where the implementing jurisdiction has the capacity to implement, the jurisdiction would add those projects to their Annex. The City also recognizes that other mitigation actions proposed in the County's mitigation strategy will cover the significant hazards in the City that are not currently linked to a mitigation action.



Table 4-1 City of Waterford Mitigation Action Plan

ID	Goal(s) and Lifelines	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate and Potential Funding	Priority	Timeline	Status/Implementation Notes
1	Goals 1, 2, 3 and 5; Safety and Security ; Food, Water, Shelter	Dam Incidents	Dam Safety Awareness Month – Promote dam safety awareness each year on May 31 as part of the National Dam Safety Awareness Day campaign, using FEMA templates and background materials coupled with information from the risk assessment.	Public Works Department, Stanislaus County Office of Emergency Services, USACE, DSOD, Merced Irrigation District, TID	< \$10,000	Medium	1-3 years	New in 2022
2	Goals 1, 4 and 5; Health and Medical, Food, Water, Shelter	Multi-Hazard: Drought, Earthquake, Extreme Heat, Flood, Severe Weather	Water Storage Tanks – The City has a very old water system that is slowly getting upgraded, however, the City does not have storage tanks for water. With water storage tanks, the City will always have the emergency capacity, in case a natural disaster knocks out the City's well sites.	Public Works Department	\$100,000 - \$1,000,000 State Grants	High	1-3 years	New in 2022



5 IMPLEMENTATION AND MAINTENANCE

Moving forward, the City will use the mitigation action table in the previous section to track the progress on the implementation of each project. Implementation of the plan overall is discussed in Section 6 in the Base Plan.

5.1 Incorporation into Existing Planning Mechanisms

The information contained within this plan, including results from the Vulnerability Assessment, and the Mitigation Strategy will be used by the City to help inform updates and the development of local plans, programs and policies. The Public Utilities Department may utilize the hazard information when implementing the City's Capital Projects. The Planning and Building Divisions may utilize the hazard information when reviewing a site plan or other type of development applications. The City will also incorporate this MJHMP into the Safety Element of their General Plan, as recommended by AB 2140.

As noted in Section 6 of the Base Plan, the City of Waterford LPT representatives will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual LPT plan review meeting.

5.2 Monitoring, Evaluation and Updating the Plan

The City will follow the procedures to monitor, review, and update this plan in accordance with Stanislaus County as outlined in Section 6 of the Base Plan. The city will continue to involve the public in mitigation, as described in Section 6.2.1 of the Base Plan. The Police Chief, Planning/Building Division Director and Battalion Chief will be responsible for representing the City in the County LPT, and for coordination with City staff and departments during plan updates. The City realizes it is important to review the plan regularly and update it every five years in accordance with the Disaster Mitigation Act Requirements as well as other State of California requirements.