

## Annex B City of Elk Grove

### B.1 Introduction

This Annex details the hazard mitigation planning elements specific to the City of Elk Grove, a previously participating jurisdiction to the 2021 Sacramento County Local Hazard Mitigation Plan (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 Elk Grove, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this jurisdiction.

### B.2 Planning Process

As described above, the City of Elk Grove followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Sacramento County Hazard Mitigation Planning Committee (HMPC), the City formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table B-1. Additional details on Plan participation and City representatives are included in Appendix A.

*Table B-1 City of Elk Grove – Internal Planning Team*

| Name             | Position/Title                                   | How Participated                                                                                                                                                                                                                               |
|------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carrie Whitlock  | Long Range Planning Program Manager              | Facilitated LHMP update. Participated as part of the Hazard Mitigation Planning Committee. Provided input and review of sections related to population trends, special populations, climate change, extreme heat, and capabilities assessment. |
| Andrea Cortez    | Real Time Information Center Manager             | Provided input on the emergency operations plan/ emergency operations center information, information on severe weather shelter activations, and wildfires.                                                                                    |
| Christina Castro | Engineering Manager, Capital Improvement Program | Provided input related to the 5-year CIP.                                                                                                                                                                                                      |
| Shoaib Ahrary    | Engineering Manager, Engineering Services        | Reviewed content and provided input on information related to drainage, levees, dams and floodplains.                                                                                                                                          |
| Raymond Kong     | Senior Civil Engineer, Engineering Services      | Floodplain Management: Provided information on flooding hazards, dam failure, and levee failure.                                                                                                                                               |
| Sean Gallagher   | Deputy Public Works Director, Operations         | Provided information related to flooding and storm response.                                                                                                                                                                                   |

| Name               | Position/Title                                        | How Participated                                                                                                                                                                    |
|--------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Melissa Lasher     | Economic Development, Economic Development Analyst II | Provided information related to businesses, large events, and current and upcoming commercial development. No changes were made to the Planning and Regulatory section for EconDev. |
| Jason Hone         | Assistant Director of Community Development           | Provided development (permit issuance) figures and description of substantial improvement/substantial damage determinations.                                                        |
| Kara Taylor-Seeman | Finance/Finance Manager                               | Provided information related to development trends, financing strategies and fiscal data                                                                                            |
| Antonio Ablog      | Planning Manager                                      | Provided information on current and future development.                                                                                                                             |
| Christopher Jordan | Community Development Director                        | Reviewed content and provided input on development and historic trends.                                                                                                             |
| Sarah Bontrager    | Housing and Public Services Manager                   | Reviewed and provided information on senior, disabled, and homeless populations.                                                                                                    |

Coordination with other community planning efforts is paramount to the successful implementation of this LHMP Update. This section provides information on how the City integrated the previously FEMA-approved 2021 LHMP into existing planning mechanisms and programs. Specifically, the City incorporated into or implemented the 2021 LHMP through other plans and programs shown in Table B-2.

*Table B-2 2021 LHMP Incorporation*

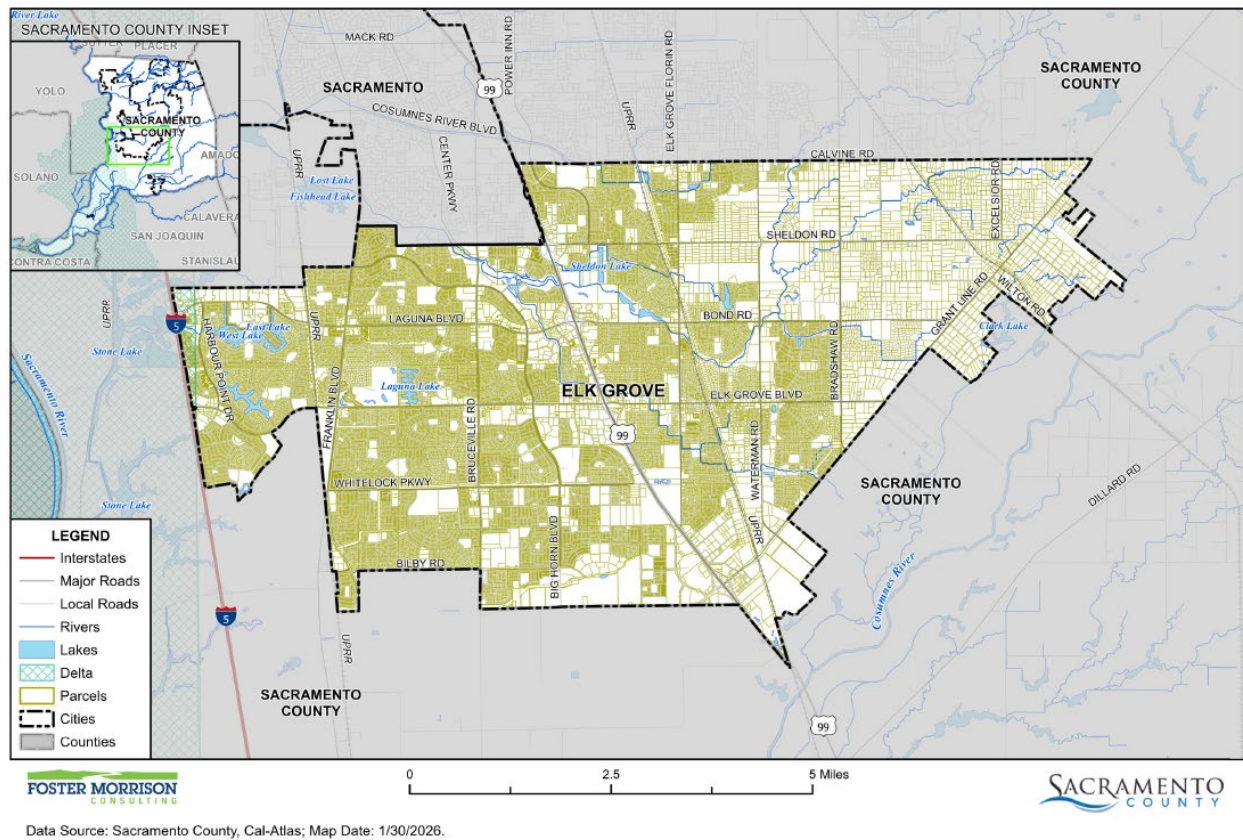
| Planning Mechanism 2021 LHMP Was Incorporated/Implemented In. | Details: How was it incorporated?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Plan                                                  | The General Plan was adopted in February 2019. The Safety Element was updated along with the General Plan update and incorporated as part of the document. Updates to the Safety Element were undertaken in 2022 and utilized hazard information and data from the 2021 LHMP. A Vulnerability Assessment was also completed in October 2017 as part of the General Plan update. Amendments to the General Plan related to hazard mitigation were undertaken in 2025.                                                                                                                                                                                                                                                                                                                                                           |
| General Plan Health and Safety Element                        | Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140). Specifically, this section provides that local agencies can become eligible for increased state reimbursements if they adopt an LHMP in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation. To meet the requirements of AB 2140, the City adopted and incorporated by reference the 2021 LHMP (adopted February 2022) as part of the General Plan Health and Safety Element, which should be consulted when addressing known hazards to ensure the general health and safety of people within the City. |

| Planning Mechanism 2021 LHMP Was Incorporated/Implemented In. | Details: How was it incorporated?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Climate Compass                                               | The Climate Compass is a comprehensive update to the 2019 Climate Action Plan, including actions related to adaptation and resilience. Projects related to increasing community resilience to climate change driven natural disasters are included in the Climate Compass. The 2021 LHMP was utilized for the most recent Climate Compass Update.                                                                                                                                                                                          |
| Capital Improvement Program                                   | Projects to mitigate flood risk and other hazards, including those from the 2021 LHMP are programmed in the annually updated CIP as needed.                                                                                                                                                                                                                                                                                                                                                                                                |
| Emergency Operations Plan (EOP)                               | The Emergency Operations Plan was implemented in September 2018 and updated in spring 2026. It established an Emergency Management Organization and assigns functions and tasks consistent with the County of Sacramento, California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). It provides for the integration and coordination of planning efforts of multiple jurisdictions within the City of Elk Grove, including the integration of applicable elements of the 2021 LHMP. |
| Storm Drainage Master Plan                                    | The City is updating the Storm Drainage Master Plan to include updates to the 200-year flood plan map using QL1 LiDAR, develop 2D hydraulic models to the creek systems, and update needs and related costs and to serve as a comprehensive tool for development of drainage related capital improvement projects. This project, which is integrating key data and projects from the 2021 LHMP, is expected to be completed in 2027.                                                                                                       |

## B.3 Community Profile

The community profile for the City of Elk Grove is detailed in the following sections. Figure B-1 displays a City map and the location of City of Elk Grove within Sacramento County.

*Figure B-1 City of Elk Grove*



### B.3.1. Geography and Climate

Elk Grove contains 42.7 square miles of land and sits at 46 ft. above mean sea level (as shown on Figure B-2). The City is located within the Great Valley geomorphic province, which is primarily described as a relatively flat alluvial plain, about 50 miles wide and 400 miles long, with thick sequences of sedimentary deposits of Jurassic through Holocene age.

Shielded by the Sierra Nevada Mountains to the east, the California Coast ranges to the west, and the Siskiyou Mountains to the north, the City enjoys a mild climate for most of the year. In the summer, however, “northerns” blow from the Siskiyou Mountains, bearing pollens and heat. This is mitigated by the City’s extremely low humidity and the cool delta breezes. The winters are rainy. Rain generally falls only between November and March, with the rainy season tapering off almost completely by the end of April. Average yearly precipitation is 17" to 18", with almost no rain during the summer months, to an average rainfall of 3.7" in January. It rains, on average, 58 days of the year and there are 266 sunny days. In February of 1992, Sacramento had 16 consecutive days of rain (6.41"). A record 7.24" of rain fell on April 20, 1880. The average temperature throughout the year is 61°F, with the daily average ranging from 46°F in December and January to 76°F in July. Average daily high temperatures range from 53°F in December and January to 92°F in July (with many days of over 100°F highs). Daily low temperatures range from 38 to 58°F. The average year has 73 days with a high over 90°F, with the highest temperature

On average, 96 days in the year have fog, mostly in the morning (tule fog), primarily in December and January. The fog can get extremely dense, lowering visibility to less than 100 feet and making driving conditions hazardous.

[illegible]

A portion of the City lies within the former territory of six Plains Miwok tribelets along the Cosumnes River drainage and two, possibly three tribelets along the Sacramento River. James A. Bennyhoff's, an anthropologist and professor at UC Berkeley, California, research revealed that the Plains Miwok were recognized as a distinct language group as early as 1806 when Spanish explorers first entered the region.

In 1850, the community was established as a hotel and a stop for the stage. The City is located about 15 miles south of historic Sutter's Fort and thus became a crossroads for business, entertainment, mail service and agriculture, and acted as home base for gold miners in nearby communities. After it played its part in the early gold rush and statehood history in California, a close-knit community evolved with a distinctly rural and western lifestyle.

Initially, the town developed around a stage stop on the Monterey Trail, though after the railroad passed by east of town, the City’s center shifted to its present location. “Old Town” Elk Grove is located about a mile east of State Route 99 (formerly U.S. Route 99, the north-south artery of the California Central Valley).

Despite the community’s close proximity to California’s capital city, Elk Grove remained quietly independent of Sacramento’s growth and development as it expanded into adjoining countywide areas until the 1980s. The City was incorporated as a general law city on July 1, 2000.

### B.3.3. Economy and Tax Base

US Census estimates show economic characteristics for the City of Elk Grove. These are shown in Table B-3 and Table B-4. Mean household income in 2023 in the City was \$143,428, while median household income in the City was \$120,958.

*Table B-3 City of Elk Grove – Civilian Employed Population 16 years and Over*

| Industry                                                                                   | Estimated Employment | Percent |
|--------------------------------------------------------------------------------------------|----------------------|---------|
| Agriculture, forestry, fishing and hunting, and mining                                     | 553                  | 0.6%    |
| Construction                                                                               | 3,461                | 4.0%    |
| Manufacturing                                                                              | 3,534                | 4.1%    |
| Wholesale trade                                                                            | 1,136                | 1.3%    |
| Retail trade                                                                               | 7,060                | 8.2%    |
| Transportation and warehousing, and utilities                                              | 5,375                | 6.2%    |
| Information                                                                                | 1,102                | 1.3%    |
| Finance and insurance, and real estate and rental and leasing                              | 3,514                | 4.1%    |
| Professional, scientific, and management, and administrative and waste management services | 7,858                | 9.1%    |
| Educational services, and health care and social assistance                                | 26,845               | 31.1%   |
| Arts, entertainment, and recreation, and accommodation and food services                   | 8,455                | 9.8%    |
| Other services, except public administration                                               | 4,520                | 5.2%    |
| Public administration                                                                      | 12,967               | 15.0%   |

Source: US Census Bureau American Community Survey 2023 Estimates

*Table B-4 City of Elk Grove – Income and Benefits*

| Income Bracket      | Percent |
|---------------------|---------|
| <\$10,000           | 3.3%    |
| \$10,000 – \$14,999 | 1.9%    |
| \$15,000 - \$24,999 | 3.1%    |
| \$25,000 – \$34,999 | 3.9%    |
| \$35,000 – \$49,999 | 6.3%    |
| \$50,000 – \$74,999 | 14.7%   |

| Income Bracket        | Percent |
|-----------------------|---------|
| \$75,000 – \$99,999   | 9.2%    |
| \$100,000 – \$149,999 | 19.1%   |
| \$150,000 – \$199,999 | 16.4%   |
| \$200,000 or more     | 22..1%  |

Source: US Census Bureau American Community Survey 2023 Estimates

Major employers in the vicinity are shown in Economic Assets in Section B.4.1.

The City has a wide and varied tax base. Tax base information is tracked and maintained by the Sacramento County Assessor’s Office. The following tables show the tax base for the City. Tax base information is tracked and maintained by the Sacramento County Assessor’s Office. The following table show the tax base for the City. Table B-5 shows the secured real property value for the City (along with the other cities in the County) for the 2024-2025 and 2025-2026 tax years.

*Table B-5 Local Assessment Roll Totals for the City (and other County jurisdictions) for 2024/2025 and 2025/2026*

| Jurisdiction        | 2025-26                | 2024-25                | Net Increase          | % Increase |
|---------------------|------------------------|------------------------|-----------------------|------------|
| Citrus Heights      | 10,025,689,554         | 9,655,026,938          | 370,662,616           | 4%         |
| Elk Grove           | 30,447,141,962         | 28,732,989,483         | 1,714,152,479         | 6%         |
| Folsom              | 21,947,218,449         | 20,668,487,354         | 1,278,731,095         | 6%         |
| Galt                | 3,447,832,371          | 3,232,113,014          | 215,719,357           | 7%         |
| Isleton             | 90,177,374             | 86,380,870             | 3,796,504             | 4%         |
| Rancho Cordova      | 14,722,242,063         | 13,444,934,790         | 1,277,307,273         | 10%        |
| Sacramento City     | 78,585,412,259         | 75,396,324,743         | 3,189,087,516         | 4%         |
| Unincorporated Area | 86,211,221,031         | 81,920,304,075         | 4,290,916,956         | 5%         |
| <b>Totals</b>       | <b>245,476,935,063</b> | <b>233,136,561,267</b> | <b>12,340,373,796</b> | <b>5%</b>  |

Source: Sacramento County Assessor’s Office – 2025 Assessor’s Annual Report

## B.4 Risk Assessment

As defined by FEMA, risk is a combination of hazard, vulnerability, and exposure. “It is the impact that a hazard would have on people, services, facilities, and structures in a community and refers to the likelihood of a hazard event resulting in an adverse condition that causes injury or damage.”

The City of Elk Grove risk assessment identifies and profiles relevant hazards and assesses the exposure of lives, property, infrastructure, and the environment to these hazards. The process allows for a better understanding of the City’s potential risk and vulnerability to hazards and provides a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events.

Building on the Community Profile above, a risk assessment was performed for the City utilizing the existing City boundaries. This includes the following sections:

- B.4.1 Assets Inventory and Growth and Development Trends
- B.4.2 Hazard Identification

### ➤ B.4.3 Hazard Profiles and Vulnerability to Specific Hazards

#### **B.4.1. Assets Inventory and Growth and Development Trends**

This section provides an inventory of the City of Elk Grove’s total assets potentially at risk to hazards and an overview of growth and development trends. This section is broken into two parts:

- **Asset Inventory** – The assets inventory identifies the City of Elk Grove’s total assets, including the people and populations; structures; critical facilities and infrastructure; community lifelines; natural, historic, and cultural resources; and economic assets and community activities of value. This data is not hazard specific, but is representative of total assets within the City, potentially at risk to identified hazards as discussed in Section B.4.3 Hazard Profiles and Vulnerability to Specific Hazards.
- **Growth and Development Trends** – A discussion of growth and development trends in the City, both current and future, is presented.

#### *Assets Inventory*

The City’s asset inventory is detailed in the following sections:

- People and Populations
- Structures
- Critical Facilities and Infrastructure
- Community Lifelines
- Natural, Historic, and Cultural Resources
- Economic Assets and Community Activities of Value

A discussion of each of these assets follows and serves as the template for the asset discussion for each hazard in Section B.4.3.

#### **People and Populations**

The most important asset within any community are the people and populations that reside in the community. This section includes an inventory of past and current populations of the City, and also discusses vulnerable populations and underserved communities as a subsection of people and populations located within the City and potentially at risk to hazards. Information from the City, US Census Bureau, California Department of Finance, and other sources as detailed below form the basis of this discussion.

#### **Historic Population Trends and Current Population**

Population growth can increase the number of people living in hazard prone areas. The California Department of Finance reported that the City of Elk Grove has 188,319 residents, as of January 1, 2026. The City of Elk Grove has seen growth rates as shown in Table B-6. As shown, the City has grown consistently since 1960, with growth slowing recently since the 2021 LHMP.

*Table B-6 City of Elk Grove – Population Changes Since 1960*

| Year  | Population | Change | % Change |
|-------|------------|--------|----------|
| 1960* | 2,205      | –      | –        |
| 1970* | 3,721      | 1,516  | 68.8%    |
| 1980* | 10,959     | 7,238  | 194.5%   |
| 1990* | 17,483     | 6,884  | 59.5%    |
| 2000  | 59,984     | 42,501 | 243.1%   |
| 2010  | 153,012    | 93,028 | 155.1%   |
| 2020  | 176,154    | 23,142 | 15.1%    |
| 2026  | 188,319    | 12,162 | 6.9%     |

Source: US Census Bureau, California Department of Finance (2025)

\*Prior to the City’s incorporation in 2000, it was a Census Designated Place. These numbers are for that CDP. The CDP may not have directly paralleled today’s City boundaries.

### Underserved and Vulnerable Populations and Disadvantaged Communities

The City has a socially and economically diverse community, and many residents that are socially or economically disadvantaged or vulnerable due to varying reasons reside within the City. The City and surrounding County are no strangers to large natural disasters which have had a direct impact on the populations of the area. Thus, it is important to consider the potential effects of hazard events and disasters on these more vulnerable populations. Underserved and vulnerable populations and disadvantaged communities in the City are discussed by the following sources:

- US Center for Disease Control (CDC) Social Vulnerability Index
- California Department of Water Resources (CA DWR) Special Populations and Disadvantaged Community Mapping
- City Planning Team Input

#### *CDC Social Vulnerability Index*

Every community must prepare for and respond to a hazard event, including the range of natural hazards addressed in this Plan, from severe weather extremes to large potentially catastrophic events such as floods or wildfires. A number of factors, including poverty, lack of access to transportation, and crowded housing may weaken a community’s ability to prevent human suffering and financial loss in a disaster. These factors are known as social vulnerability.

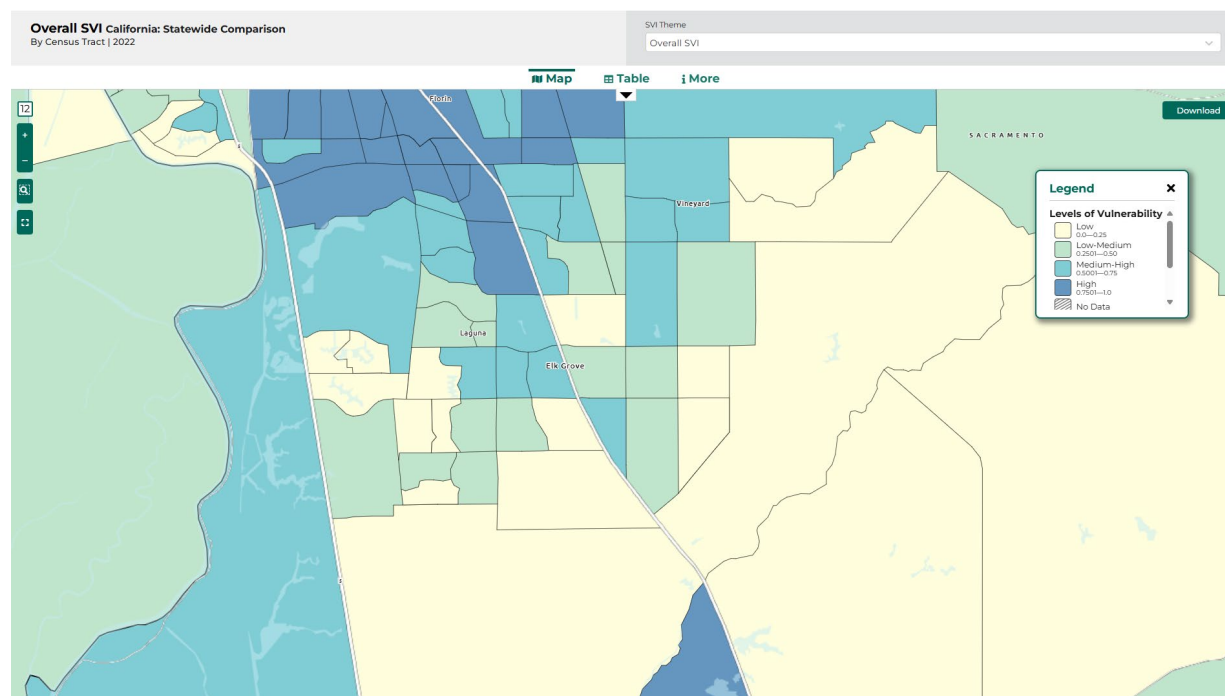
Social vulnerability refers to the potential negative effects on communities caused by external stresses on human health. Such stresses include natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss. The Agency for Toxic Substances and Disease Registry (ATSDR) Geospatial Research, Analysis & Services Program (GRASP) created databases to help emergency response planners and public health officials identify and map communities that will most likely need support before, during, and after a hazardous event. The CDC used these databases to create the CDC Social Vulnerability Index (CDC SVI), which uses 15 U.S. census

variables to help local officials identify communities that may need additional support before, during, or after disasters.

CDC SVI uses U.S. Census data to determine the social vulnerability of every census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The CDC SVI ranks each tract on 15 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes. Each tract receives a separate ranking for each of the four themes, as well as an overall ranking. Maps of the four themes for the City are shown in the figures below.

The overall SVI map is shown in Figure B-3; the socioeconomic SVI for the census tracts in and around the City are shown in Figure B-4; the household composition SVI is shown in Figure B-5; the minority and language SVI is shown in Figure B-6; and the housing and transportation SVI is shown in Figure B-7. Overall, the maps indicate that, in general, the City sees little change in social vulnerability regardless of location. As shown, there are moderate changes in each SVI across the City.

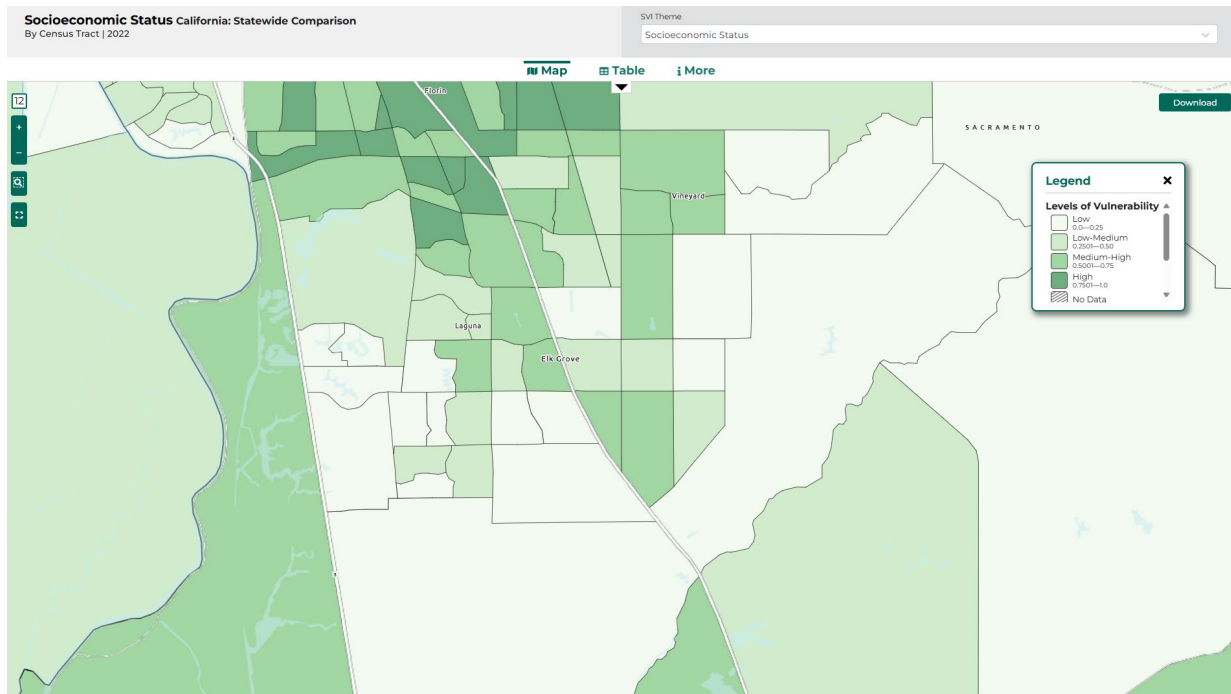
*Figure B-3 City of Elk Grove – Overall Social Vulnerability*



Source: CDC Social Vulnerability Index – map retrieved 9/22/2025

Level of Vulnerability Rating: **Yellow** – Low; **Green** – Low/Medium; **Aqua** – Medium/High; **Blue** – High; **Grey Hatched** – No Data; **Grey** – Not Available

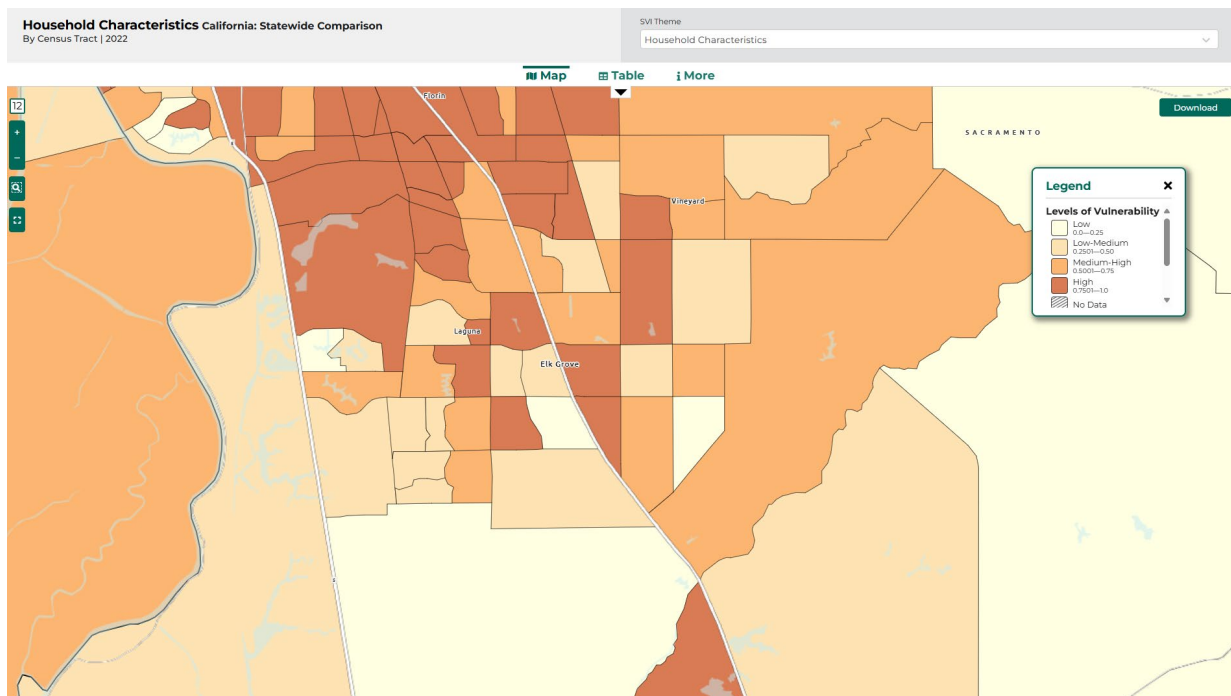
*Figure B-4 City of Elk Grove – Socioeconomic Status Vulnerability*



Source: CDC Social Vulnerability Index – map retrieved 9/22/2025

Level of Vulnerability Rating: **Faint Green** – Low; **Light Green** – Low/Medium; **Green** – Medium/High; **Dark Green** – High; **Grey Hatched** – No Data; **Grey** – Not Available

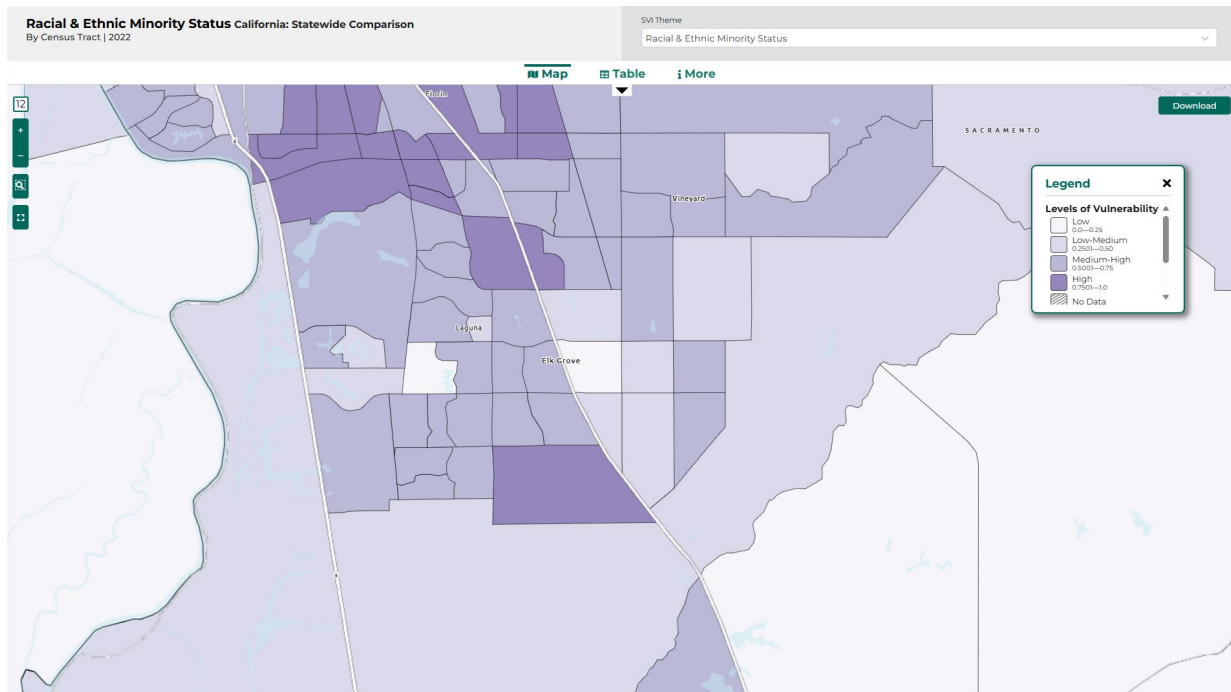
*Figure B-5 City of Elk Grove – Household Characteristics*



Source: CDC Social Vulnerability Index – map retrieved 9/22/2025

Level of Vulnerability Rating: **Faint Orange** – Low; **Light Orange** – Low/Medium; **Orange** – Medium/High; **Dark Orange** – High; **Grey Hatched** – No Data; **Grey** – Not Available

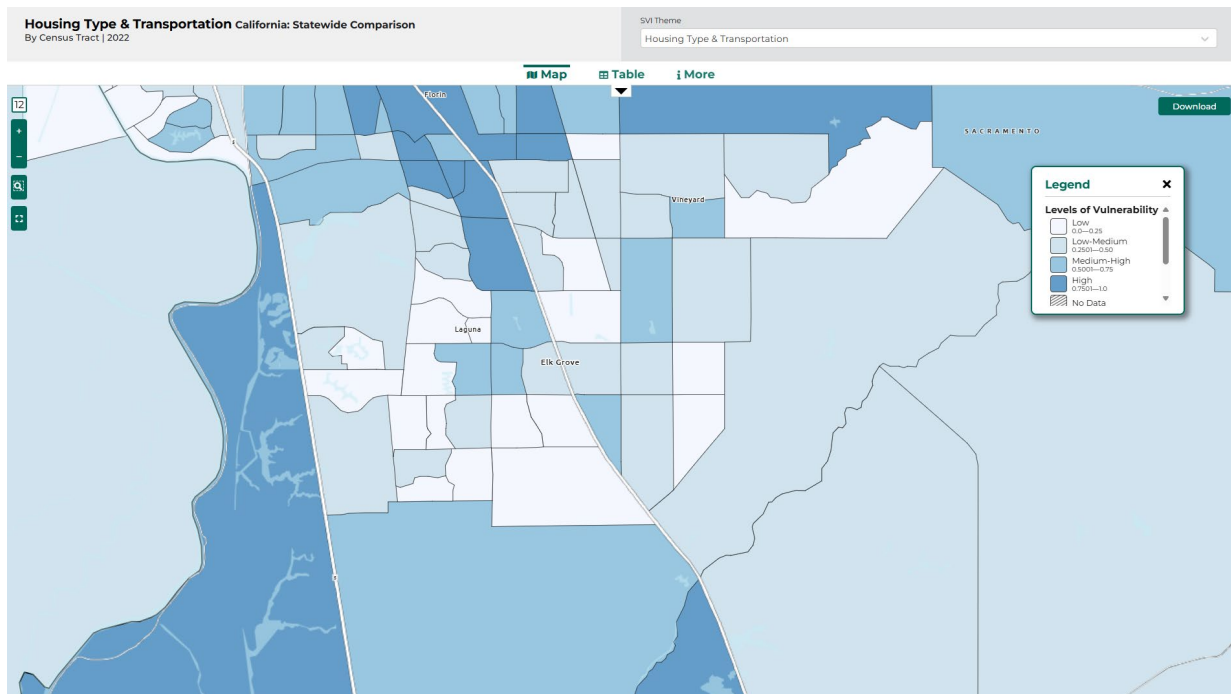
*Figure B-6 City of Elk Grove – Racial and Ethnic Minority Status*



Source: CDC Social Vulnerability Index – map retrieved 9/22/2025

Level of Vulnerability Rating: **Faint Purple** – Low; **Light Purple** – Low/Medium; **Purple** – Medium/High; **Dark Purple** – High; **Grey Hatched** – No Data; **Grey** – Not Available

*Figure B-7 City of Elk Grove – Housing Type and Transportation*



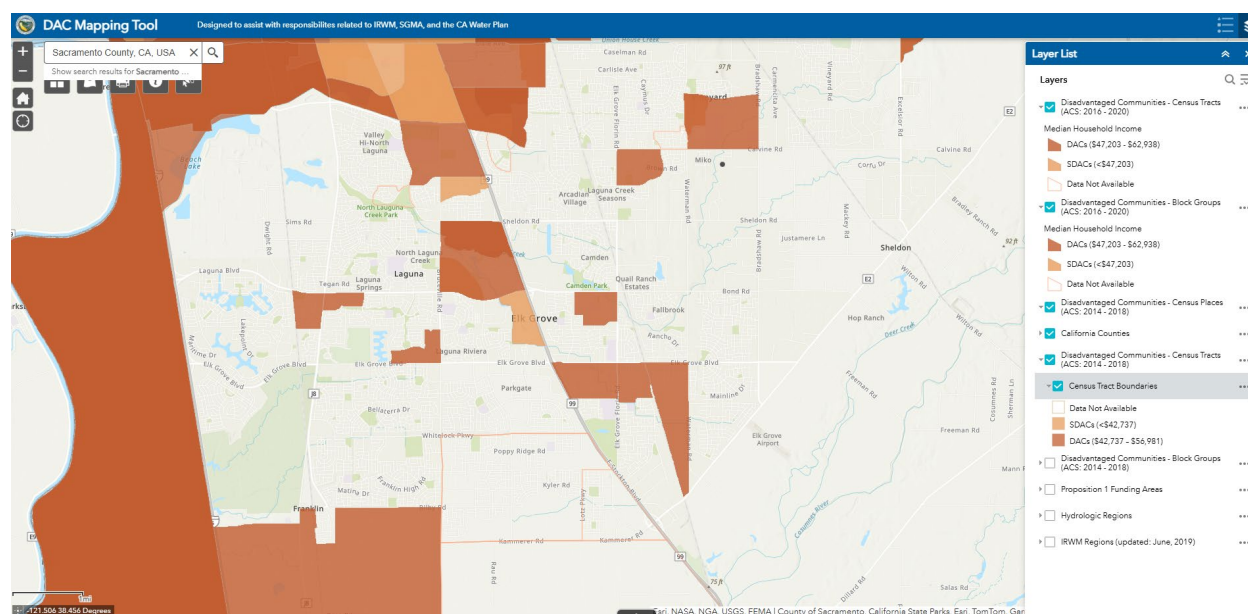
Source: CDC Social Vulnerability Index – map retrieved 9/22/2025

Level of Vulnerability Rating: **Faint Blue** – Low; **Light Blue** – Low/Medium; **Blue** – Medium/High; **Dark Blue** – High; **Grey Hatched** – No Data; **Grey** – Not Available

## California DWR Disadvantaged Community Mapping Tool

The State of California’s Proposition 1 Disadvantaged Community (DAC) Involvement Program is designated to ensure the involvement of DACs as well as Economically Distressed Areas and Underrepresented Communities, which DWR collectively refers to as DACs. The Cal DWR definition for a Disadvantaged Community is a community with an annual median household income (MHI) that is less than 80% of the Statewide annual MHI (PRC Section 75005(g)), and those census geographies with an annual MHI less than 60% of the Statewide annual MHI are considered “Severely Disadvantaged Communities”. Those areas in the City considered disadvantaged are shown in Figure B-8. As shown, portions of the City falls in these DAC areas.

*Figure B-8 City of Elk Grove – Disadvantaged Areas*



Source: Cal DWR DAC Mapping Tool – retrieved 9/22/2025

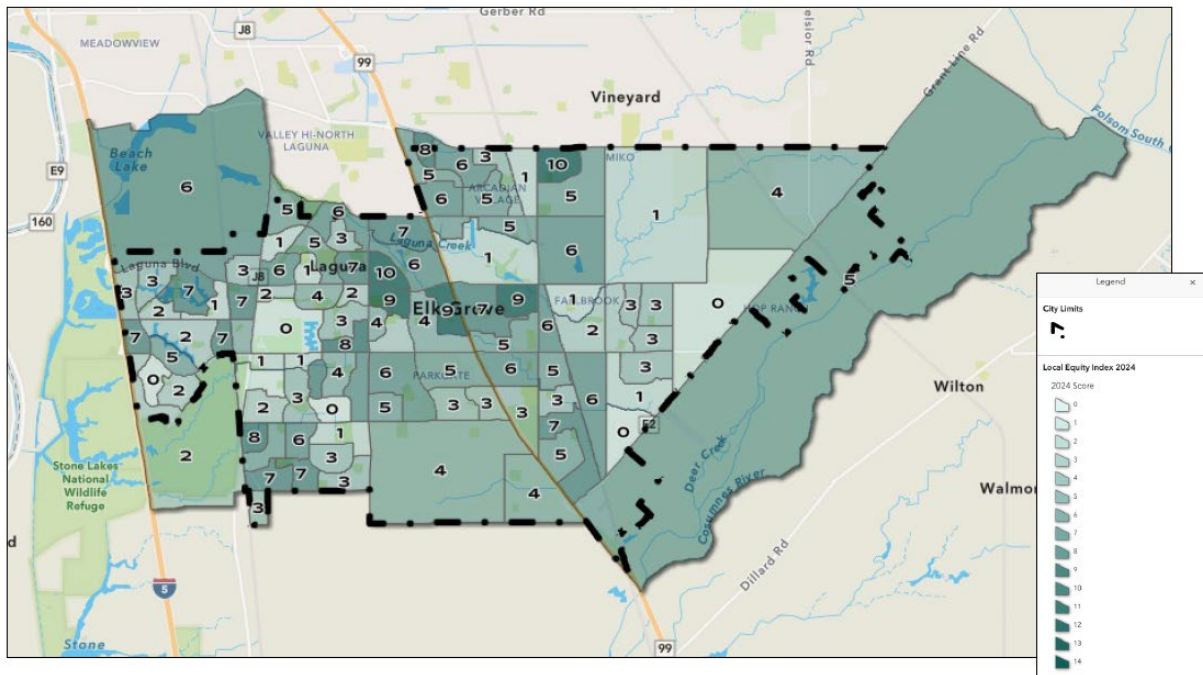
## City Planning Team Input

The City Planning Team provided additional local input on the vulnerable and underserved populations in the City. This is included in the sections below.

Disadvantaged communities as defined under Senate Bill 535 are not located within the City’ limits. There are locations within the City with higher percentages of individuals who would be particularly vulnerable during a hazard event, including those who are over 65 years, individuals and families living below the poverty level, disabled individuals, those with limited English skills, and those without access to vehicles.

Elk Grove has developed a Local Equity Index (LEI) to identify areas within the City boundaries with higher concentrations of vulnerable individuals. The LEI captures data related to household income, public assistance benefits, limited English skills, access to vehicles, housing cost burden, and single parent households.

*Figure B-9 City of Elk Grove – Local Equity Index Map*



Source: City of Elk Grove

### *City of Elk Grove 2024-2029 Housing Element*

The City Planning Team noted that the Elk Grove 2021-2029 Housing Element discusses special populations in the City. While the Housing Element information can be found in the Base Plan, there are unique elements to the City that are included here. Discussions for seniors, those with disabilities, developmental disabilities, people experiencing homelessness, large households, female headed households, and farmworkers were included. These are discussed below.

#### **Seniors**

According to the 2020 – 2024 ACS, there were 12,329 households in the City headed by a person 65 years or older. Of the senior households in the City, approximately 80 percent are owner-occupied and just under 20 percent are renter-occupied.

Several residential care homes and facilities for the elderly are located in the City and provide living assistance to persons 60 years of age and older. As of early 2020, licensed care homes and facilities and those with their licenses pending had a capacity of 1,304 people. In addition to care homes, the City has four affordable senior apartment complexes, providing a total of 595 units for persons 55 and over.

#### **Disabled Citizens**

The U.S. Census defines three types of disabilities, including work disability, mobility limitation, and self-care limitation. According to the 2020-2024 ACS, 8,984 people in the City between the ages of 18 and 64 possessed some type of disability. Along with this, there are 84,947 people in the City's labor force, and

3,955 people are employed with a disability. The City has 55 adult residential care homes that are licensed or have licenses pending. While most of these residential care homes target the senior populations, there are some, including Quinley Residential Care, that provide living assistance to persons 18 to 59 years of age.

### **People with Developmental Disabilities**

The California Department of Developmental Services provides community-based services to approximately 243,000 individuals with developmental disabilities and their families through a statewide system of 21 regional centers, 4 developmental centers, and 2 community-based facilities. The City is serviced by the Alta California Regional Center in Sacramento, which provides a point of entry to services for people with developmental disabilities. The center is a private nonprofit community agency that contracts with local businesses and nonprofits to offer a wide range of services. As of November 2019, the Alta California Regional Center provided services to 23,640 people across six counties; 767 of these individuals lived in the City.

### **People Experiencing Homelessness**

According to the 2026 Sacramento County Point-in-Time Homelessness Count, 7,458 persons were homeless throughout the County on a given night in January of that year, approximately 51 percent of whom were considered chronically homeless (someone with a disabling condition who has either been continuously homeless for at least a year or has been homeless at least four times in the previous three years). For Elk Grove specifically, the Sacramento County Point-in-Time Homelessness Count reported 123 homeless individuals, which is consistent with City estimates. The City's shelter, transitional housing, and motel vouchers programs have capacity for 60+ people at any given time.

The City has several providers of homeless services: The Gathering Inn, which runs the City's 30-bed shelter for adults; Volunteers of America – Northern California and Northern Nevada, which operates the City's three transitional housing and four permanent shared housing resources; Elk Grove Homeless Assistance Resource Team (HART), which offers eviction prevention and rehousing assistance; and the Elk Grove Food Bank, which provides food and clothing resources specifically tailored to the needs of people experiencing homelessness.

### **Large Households**

According to the 2020-2024 ACS, approximately 38 percent of all households in the City include four or more people. According to the 2020–2024 ACS, more than 85 percent of all housing units in the City had at least three bedrooms. Approximately 94 percent of all owner-occupied units and 62 percent of all renter-occupied units had three or more bedrooms. Because the number of units with at least three or more bedrooms significantly exceeds the number of large households in the community, there does not appear to be a housing shortage for large households in the City. However, affordability of larger housing units for large lower-income families may still be an issue.

## Female Headed Households

Female-headed families made up 16.3 percent of all families in the City, and over half of female-headed families (59 percent) have children under 18 as reported by the 2020-2024 ACS. Approximately 10.2 percent of all-female headed households are below the poverty line and, among those, 79.3 percent have children under 18.

## Farmworkers

According to the 2020-2024 ACS, 535 people (0.63 percent of all employed civilians) in the City worked in the agriculture, forestry, fishing, hunting, and mining economic sectors. Forestry, fishing, hunting, and mining are minimal or non-existent industries within, and nearby, the City of Elk Grove. Therefore, the City estimates that most, if not all, of the 535 people are employed in the agricultural industry and may be commuting to jobs in neighboring communities. In all of Sacramento County, 0.86 percent of workers are employed in these industries.

The types of agricultural production in the City do not require large numbers of migrant and seasonal farm laborers and a large influx of farm labor does not occur. The housing need for the limited number of farmworkers in the City is met through existing housing. However, housing for employees is a permitted use in all agricultural zones

Any application for farmworker housing is treated in the same way as other affordable housing projects and all the resources the City has to offer for affordable housing are made available for the development of the project. Incentives such as fee reduction, expedited permit process, and streamlining and modification of development standards are available for the production of farmworker housing.

## Structures

This section inventories the parcels (and associated structures) that make up the built environment of the City. The 2025 Sacramento County Assessor's data and the associated parcel layer was used as the basis of this inventory. The methodology used to derive the number of total and improved parcels (i.e., those with an improved structure value) and land and improved property values (as well as content replacement values) follows the same methodology detailed in Section 4.2.1 of the Base Plan. This data should only be used as a guideline to overall values in the City, as the information has some limitations. The most significant limitation is created by Proposition 13. With respect to 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 City. It is also important to note, in the event of a disaster, it is often 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. However, depending on the type of hazard and impact of any given hazard event, land values may be adversely affected; thus, land values are included as appropriate. Table B-7 shows the Sacramento County Parcel/Assessor Data land and structure values, and content replacement values (e.g., the values at risk) broken down by property use for the City.

*Table B-7 City of Elk Grove – Total Value of Parcels and Structures by Property Use*

| Property Use           | Total Parcel Count | Improved Parcel Count | Total Land Value       | Structure Value         | Estimated Contents Value | Total Value             |
|------------------------|--------------------|-----------------------|------------------------|-------------------------|--------------------------|-------------------------|
| Agricultural           | 23                 | 8                     | \$4,891,204            | \$1,849,722             | \$1,849,722              | \$8,590,648             |
| Care / Health          | 35                 | 28                    | \$40,687,298           | \$261,362,029           | \$261,362,029            | \$563,411,356           |
| Church / Welfare       | 54                 | 50                    | \$42,421,893           | \$185,916,855           | \$185,916,855            | \$414,255,603           |
| Industrial             | 211                | 181                   | \$143,577,316          | \$566,138,251           | \$849,207,377            | \$1,558,922,944         |
| Miscellaneous          | 1,786              | 3                     | \$1,847,940            | \$2,114,435             | \$2,114,435              | \$6,076,810             |
| Office                 | 321                | 290                   | \$127,583,432          | \$592,923,983           | \$592,923,983            | \$1,313,431,398         |
| Public / Utilities     | 71                 | 0                     | \$101                  | \$0                     | \$0                      | \$101                   |
| Recreational           | 22                 | 16                    | \$17,451,074           | \$68,302,280            | \$68,302,280             | \$154,055,634           |
| Residential            | 55,075             | 54,284                | \$6,840,415,879        | \$19,569,773,919        | \$9,784,886,960          | \$36,195,076,758        |
| Retail / Commercial    | 461                | 430                   | \$477,163,774          | \$1,239,284,181         | \$1,239,284,181          | \$2,955,732,136         |
| Unknown                | 34                 | 0                     | \$0                    | \$0                     | \$0                      | \$0                     |
| Vacant                 | 2,275              | 81                    | \$672,034,565          | \$27,932,613            | \$0                      | \$699,967,178           |
| <b>Elk Grove Total</b> | <b>60,368</b>      | <b>55,371</b>         | <b>\$8,368,074,476</b> | <b>\$22,515,598,268</b> | <b>\$12,985,847,821</b>  | <b>\$43,869,520,565</b> |

Source: 2025 Sacramento County Parcel/Assessor Data

## Critical Facilities and Infrastructure

Beyond just the buildings and structures that comprise the built environment, it is important to identify the critical facilities and infrastructure that are critical for life safety and property protection. This is done for the City of Elk Grove below.

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.*

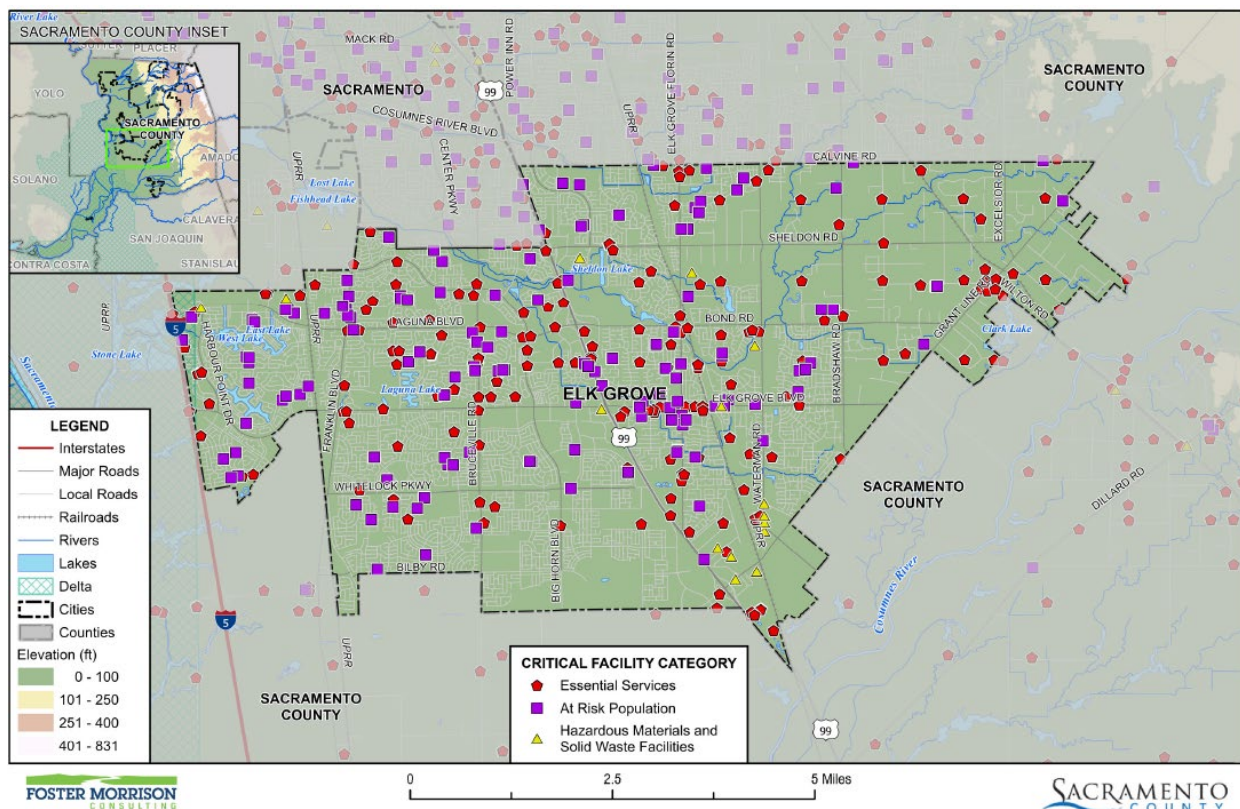
A critical facility is classified by the following categories: (1) Essential Services Facilities, (2) At-risk Populations Facilities, (3) Hazardous Materials Facilities.

- Essential Services Facilities include, without limitation, public safety, emergency response, emergency medical, designated emergency shelters, communications, public utility plant facilities and equipment, and government operations facilities.
- At Risk Population Facilities include, without limitation, pre-schools, public and private primary and secondary schools, before and after school care centers with 12 or more students, daycare centers with 12 or more children, group homes, and assisted living residential or congregate care facilities with 12 or more residents.

- Hazardous Materials and Solid Waste Facilities include, without limitation, any facility that could, if adversely impacted, release of hazardous materials or waste in sufficient amounts during a hazard event that would create harm to people, the environment and property.

An inventory of critical facilities in the City of Elk Grove from Sacramento County GIS is shown on Figure B-10. Table B-8 gives summary information about the critical facilities in the City. Table B-9 details the facility categories and breaks them down by facility type.

*Figure B-10 City of Elk Grove – Critical Facilities*



Data Source: Sacramento County, Cal-Atlas; Map Date: 4/20/2026.

Source: Sacramento County GIS

*Table B-8 City of Elk Grove – Critical Facilities by Category*

| Critical Facility Category                     | Facility Count |
|------------------------------------------------|----------------|
| Essential Services Facilities                  | 318            |
| At Risk Population Facilities                  | 172            |
| Hazardous Materials and Solid Waste Facilities | 18             |
| <b>Elk Grove Total</b>                         | <b>508</b>     |

Source: Sacramento County GIS

*Table B-9 City of Elk Grove – Critical Facilities by Category and Type\**

| Critical Facility Category                     | Critical Facility Type         | Facility Count |
|------------------------------------------------|--------------------------------|----------------|
| Essential Services Facilities                  | Cellular Tower                 | 2              |
|                                                | Emergency Evacuation Center    | 8              |
|                                                | EMS Stations                   | 7              |
|                                                | FDIC Insured Banks             | 26             |
|                                                | Fire Station                   | 6              |
|                                                | Hospital or Urgent Care        | 1              |
|                                                | Law Enforcement                | 2              |
|                                                | Microwave Service Towers       | 107            |
|                                                | Sewage Treatment Plant         | 1              |
|                                                | Water Well                     | 158            |
|                                                | <b>Total</b>                   | <b>318</b>     |
| At Risk Population Facilities                  | Day Care Center                | 36             |
|                                                | Mobile Home Parks              | 1              |
|                                                | Places of Worship              | 90             |
|                                                | School                         | 45             |
|                                                | <b>Total</b>                   | <b>172</b>     |
| Hazardous Materials and Solid Waste Facilities | EPA ER TRI Facility            | 6              |
|                                                | EPA ER TSCA Facility           | 3              |
|                                                | Leaky Underground Storage Tank | 4              |
|                                                | Solid Waste Facility           | 4              |
|                                                | Waste Transfer Station         | 1              |
|                                                | <b>Total</b>                   | <b>18</b>      |
| <b>Elk Grove Total</b>                         |                                | <b>508</b>     |

Source: Sacramento County GIS

\*Critical facility numbers, categories, and locations are subject to change based on an updated critical facility layer developed in accordance with a Sacramento County Mitigation Action in Section 5.4 of the Base Plan to update the Critical Facility Database.

## Community Lifelines

Assessing the vulnerability of the City of Elk Grove to natural hazards and disasters also involves reviewing and inventorying the community lifelines in place that could be affected. It is important to include these items in hazard discussions as the continuous operation of critical government and business functions is essential to human health and safety, property protection, and economic security. The importance of community lifelines is discussed below:

- Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function.
- FEMA has developed a method for objectives-based response that prioritizes the rapid stabilization of Community Lifelines after a disaster.

- The integrated network of assets, services, and capabilities that provide lifeline services are used day-to-day to support the recurring needs of the community and enable all other aspects of society to function.
- When disrupted, decisive intervention (e.g., rapid re-establishment or employment of contingency response solutions) is required to stabilize the incident.

Community lifelines, as defined by FEMA, include the following:

- **Safety and Security** – Law Enforcement/Security, Fire Service, Search and Rescue, Government Service, Community Safety
- **Food, Hydration, Shelter** – Food, Water, Shelter, Agriculture
- **Health and Medical** – Medical Care, Public Health, Patient Movement, Medical Supply Chain, Fatality Management
- **Energy** – Power Grid, Fuel
- **Communications** – Infrastructure, Responder Communications, Alerts Warnings and Messages, Finance, 911 and Dispatch
- **Transportation** – Highway/Roadway/Motor Vehicle, Mass Transit, Railway, Aviation, Maritime
- **Hazardous Material** – Facilities, HAZMAT, Pollutants, Contaminants
- **Water Systems** – Potable Water Infrastructure, Wastewater Management

It should be noted that these community lifelines are all in place and functional as part of regular government operations in the Sacramento County Planning Area serving as a partnership between the cities, local special districts and agencies, and Sacramento County. Most all of the City’s community lifelines overlap with the Planning Area’s, and include many of the critical facilities and infrastructure assets inventoried for this LHMP. As such, specific information on these community lifelines in the City and how they may be affected by a hazard event or disaster are discussed collectively for all jurisdictions in the Base Plan.

## Natural, Historic, and Cultural Resources

Assessing the vulnerability of the City of Elk Grove to natural hazards and disasters also involves inventorying the natural, historic, and cultural assets of the area. This step is important for the following reasons:

- Environmental and natural resources add to a community’s identity and quality of life. They also help the local economy through agriculture, tourism, and recreation. They support ecosystem services, such as clean air and water.
- Conserving the environment may help people mitigate risk. It can also protect sensitive habitats, develop parks and trails, and build the economy.
- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- If these resources are impacted by a disaster, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.

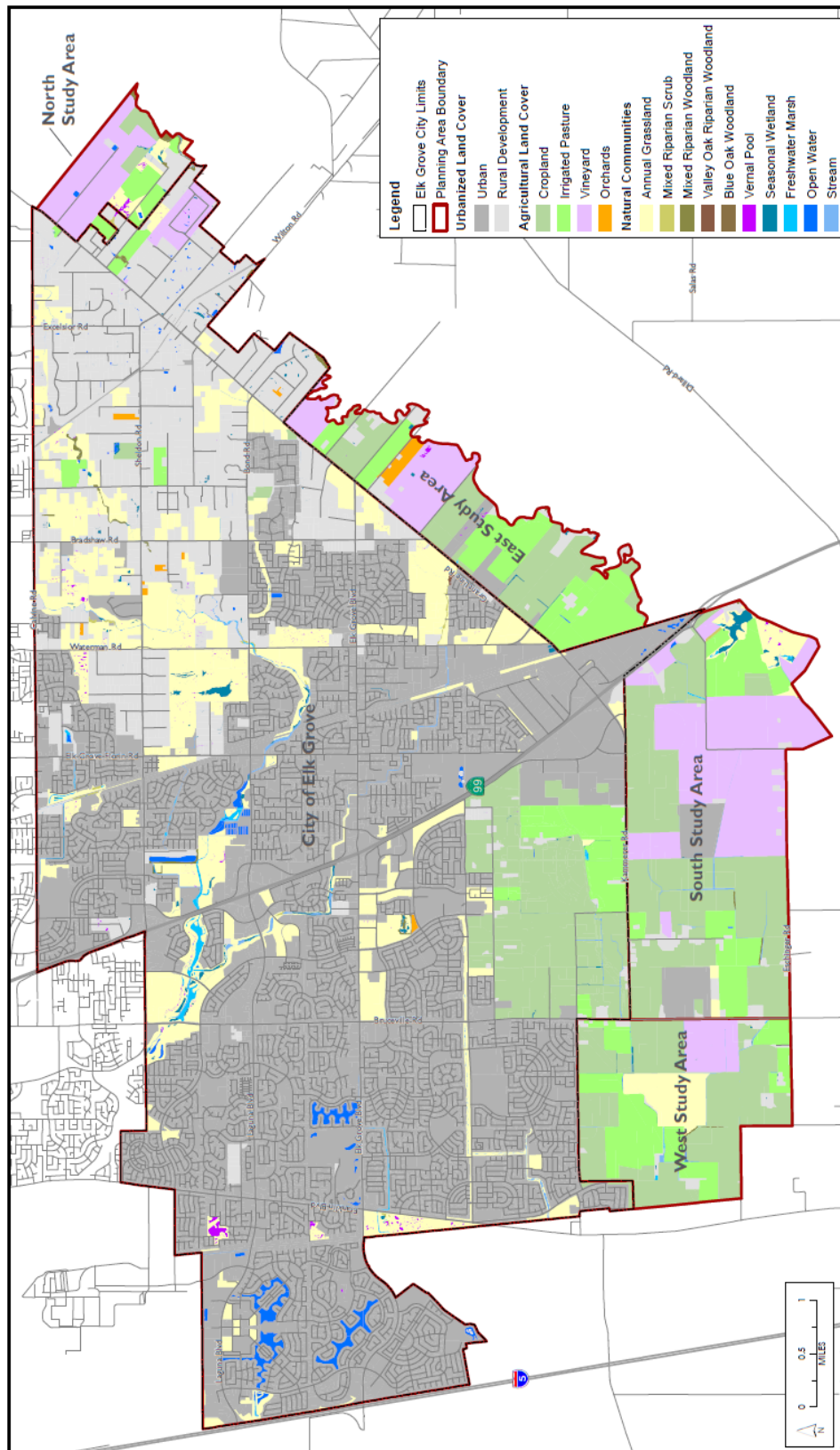
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, such as wetlands and riparian habitat, which help absorb and attenuate floodwaters.

## Natural Resources

The City contains a variety of natural resources. Natural resources are unique to each area, often provide an important function, and are difficult to replace. Should a natural disaster occur, these species, resources, and locations are at risk.

The City consists of a mix of urban, agricultural, and natural land cover types. Agricultural lands are divided into subcategories including cropland, irrigated pasture, vineyard, and orchard. Natural land covers include annual grasslands, mixed riparian scrub, mixed riparian woodland, valley oak riparian woodland, blue oak woodland, seasonal wetlands, vernal pools, freshwater marshes, open water, and streams. Land cover type and land uses in the City are shown in Figure B-11.

Figure B-11 City of Elk Grove – Vegetative Communities and Land Uses



Source: City of Elk Grove General Plan 2018 Environmental Impact Report

### Special Status Species

The following special-status species are known to occur within the natural habitats most likely to be present within the City boundaries. These and other species potentially occurring in the City can be found in Table B-10. Figure B-12 shows the locations of sensitive elements within the City.

*Table B-10 Special-Status Species Potentially Occurring in the City of Elk Grove*

| Common Name                              | Scientific Name                                | Regulatory Status                    |
|------------------------------------------|------------------------------------------------|--------------------------------------|
| Ahart's Dwarf Rush                       | <i>Juncus leiospermus</i> var. <i>ahartii</i>  | SC; --; 1 B                          |
| Boggs Lake Hedge- hyssop                 | <i>Gratiola heterosepala</i>                   | --; CE; 1 B                          |
| Delta Tule-pea                           | <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>  | SC; --; 1 B                          |
| Dwarf Downingia                          | <i>Downingia pusilla</i>                       | --; --; 2                            |
| Legenere                                 | <i>Legenere limosa</i>                         | SC; --; 1 B                          |
| Mason's Lilaeopsis                       | <i>Lilaeopsis masonii</i>                      | SC; CR; 1 B                          |
| Northern California Black Walnut         | <i>Juglans californica</i> var. <i>hindsii</i> | SC; --; 1 B                          |
| Pincushion navarettia                    | <i>Naverretia myersii</i> spp. <i>Myersii</i>  | SC; --; 1 B                          |
| Rose Mallow                              | <i>Hibiscus lasiocarpus</i>                    | SC; --; 1 B                          |
| Sacramento Orcutt Grass                  | <i>Orcuttia viscida</i>                        | FE; CE; 1 B                          |
| Sacramento Orcutt Grass Critical Habitat | <i>Orcuttia viscida</i> Critical Habitat       | --                                   |
| San Joaquin Saltbrush                    | <i>Atriplex joaquiniana</i>                    | SC; --; 1 B                          |
| Sanford's Arrowhead                      | <i>Sagittaria sanfordii</i>                    | SC; --; 1 B                          |
| Slender Orcutt Grass                     | <i>Orcuttia tenuis</i>                         | FT; CE; 1 B                          |
| Slender Orcutt Grass Critical Habitat    | <i>Orcuttia tenuis</i> Critical Habitat        | --                                   |
| California linderiella                   | <i>Linderiella occidentalis</i>                | SC; --; --                           |
| Conservancy fairy shrimp                 | <i>Branchinecta conservation</i>               | FE; --; --                           |
| Midvalley Fairy Shrimp                   | <i>Branchinecta mesovallensis</i>              | SC; --; --                           |
| Valley Elderberry Longhorn beetle        | <i>Desmocerus californicus dimorphus</i>       | FT (PX); --; --                      |
| Vernal Pool Fairy Shrimp                 | <i>Branchinecta lynchi</i>                     | FT; --; --                           |
| Vernal Pool Tadpole Shrimp               | <i>Lepidurus packardii</i>                     | FE; --; --                           |
| California Horned Lizard                 | <i>Phrynosoma coronatum frontale</i>           | SC; CSC (protected full species); -- |
| California Tiger Salamander              | <i>Ambystoma californiense</i>                 | C; CSC (protected); --               |
| Giant Garter Snake                       | <i>Thamnophis gigas</i>                        | FT; CT (protected); --               |
| Northwestern Pond Turtle                 | <i>Clemmys marmorata marmorata</i>             | SC; CSC; --                          |
| Silvery Legless Lizard                   | <i>Anniella pulchra pulchra</i>                | SC; CSC; --                          |
| Western Spadefoot Toad                   | <i>Scaphiopus hammondi</i>                     | SC; CSC (protected); --              |

| Common Name                                                           | Scientific Name                            | Regulatory Status                      |
|-----------------------------------------------------------------------|--------------------------------------------|----------------------------------------|
| Central Valley Fall/Late Fall-run Chinook Salmon and Critical Habitat | <i>Oncorhynchus tshawytscha</i>            | C; CSC; --                             |
| Central Valley Spring-run Chinook Salmon                              | <i>Oncorhynchus tshawytscha</i>            | FT; CT; --                             |
| Central Valley Winter – run Chinook Salmon and Critical Habitat       | <i>Oncorhynchus tshawytscha</i>            | FE; CE; --                             |
| Central Valley Steelhead                                              | <i>Oncorhynchus mykiss</i>                 | FT; --; --                             |
| Delta Smelt                                                           | <i>Hypomesus transpacificus</i>            | FT; CT; --                             |
| Green Sturgeon                                                        | <i>Acipenser medirostris</i>               | SC; CSC; --                            |
| Pacific Lamprey                                                       | <i>Lam petra trident ata</i>               | SC; --; --                             |
| River Lamprey                                                         | <i>Lam petra ayresi</i>                    | SC; CSC; --                            |
| Sacramento Splittail                                                  | <i>Pogonichthys macrolepidotus</i>         | FT; CSC; --                            |
| Aleutian Canada Goose                                                 | <i>Branta Canadensis leucopareia</i>       | FD; --; -- (Wintering)                 |
| American Bittern                                                      | <i>Botaurus lentiginosus</i>               | SC; --; --                             |
| Bank Swallow                                                          | <i>Riparia riparia</i>                     | --; CT; -- (nesting)                   |
| Black Rail                                                            | <i>Laterallus jamaicensis coturniculus</i> | SC; CT (fully protected); --           |
| Black Tern                                                            | <i>Chlidonias niger</i>                    | SC; CSC; -- (nesting colony)           |
| Cooper's Hawk                                                         | <i>Accipiter cooperi</i>                   | --; CSC; -- (nesting)                  |
| Grasshopper Sparrow                                                   | <i>Ammodramus savannarum</i>               | SC; --; -- (nesting)                   |
| Great Blue Heron                                                      | <i>Ardea herodias</i>                      | --; CDF (sensitive); -- (rookery)      |
| Great Egret                                                           | <i>Ardea alba</i>                          | --; CDF (sensitive); -- (rookery)      |
| Greater Sandhill Crane                                                | <i>Grus canadensis tabida</i>              | --; CT (fully protected); --           |
| Lesser Sandhill Crane                                                 | <i>Grus canadensis canadensis</i>          | --;CSC;--                              |
| Loggerhead Shrike                                                     | <i>Lanius ludovicianus</i>                 | SC; CSC; -- (nesting)                  |
| Mountain Plover                                                       | <i>Charadrius montanus</i>                 | FPT; CSC; -- (wintering)               |
| Northern Harrier                                                      | <i>Circus cyaneus</i>                      | --;CSC;--                              |
| Nuttall's Woodpecker                                                  | <i>Picoides nuttallii</i>                  | SLC; --; --                            |
| Oak Titmouse                                                          | <i>Baeolophus inornatus</i>                | SLC; --; --                            |
| Snowy Egret                                                           | <i>Egretta thula</i>                       | SC; --; -- (rookery)                   |
| Song Sparrow (Modesto Population)                                     | <i>Melospiza melodia</i>                   | --;CSC;--                              |
| Swainson's Hawk                                                       | <i>Buteo swainsoni</i>                     | --; CT; --                             |
| Tricolored Blackbird                                                  | <i>Agelaius tricolor</i>                   | SC; CSC; -- (nesting colony)           |
| Vaux's Swift                                                          | <i>Chaetura vauxi</i>                      | --;CSC;--                              |
| Western Burrowing Owl                                                 | <i>Athene cunicularia hypugae</i>          | SC; CSC; -- (burrowing sites)          |
| Western Yellow-billed Cuckoo                                          | <i>Coccyzus americanus occidentalis</i>    | SC; CE (fully protected); -- (nesting) |
| White-tailed Kite                                                     | <i>Elanus caeruleus</i>                    | SC; (fully protected); - - (nesting)   |

| Common Name                    | Scientific Name                           | Regulatory Status          |
|--------------------------------|-------------------------------------------|----------------------------|
| Yellow-breasted chat           | <i>Icteria virens</i>                     | --;CSC;--                  |
| Yellow-headed blackbird        | <i>Xanthocephalus xanthocephalus</i>      | --;CSC;--                  |
| Yellow Warbler                 | <i>Setophaga petechia</i>                 | --;CSC;--                  |
| Fringed Myotis                 | <i>Myotis thysanodes</i>                  | SC; --; --                 |
| Greater Western Mastiff bat    | <i>Eumops perotis californicus</i>        | SC; CSC; --                |
| Long-eared Myotis              | <i>Myotis evotis</i>                      | SC; --; --                 |
| Long-legged Myotis             | <i>Myotis volans</i>                      | SC; --; --                 |
| Pacific Western Big- eared bat | <i>Corynorhinus townsendii townsendii</i> | SC; CSC (full species); -- |
| Pale Townsend's Big- eared bat | <i>Corynorhinus townsendii pallescens</i> | SC; CSC (full species); -- |
| San Joaquin Pocket Mouse       | <i>Perognathus inornatus</i>              | SC; --; --                 |
| San Joaquin Woodrat            | <i>Neotoma fuscipes riparia</i>           | FE; CSC; --                |
| Small-footed Myotis            | <i>Myotis ciulabrum</i>                   | SC; --; --                 |
| Yuma Myotis                    | <i>Myotis yumanensis</i>                  | SC; --; --                 |

Source: Foothill Associates, 2002 and updated by Michael Baker International May 2016.

FE = federally endangered FT = federally threatened

SC = federal species of concern

C = candidate

CDF- California Department of Fish and Game (sensitive)

FPT = federal proposed threatened

FPE = federal proposed endangered

CE = State endangered

CT = State threatened

CR = State rare

CSC = California species of special concern

C = candidate for listing

1 B = CNPS (California Native Plant Society) list plants rare, threatened, or endangered in California or elsewhere

2 = CNPS list plants rare, threatened, or endangered in California, but more numerous elsewhere \* = not enough information available on this species

3 = CNPS list plants about which CNPS needs more information

4 = CNPS list plants of limited distribution – a watch list

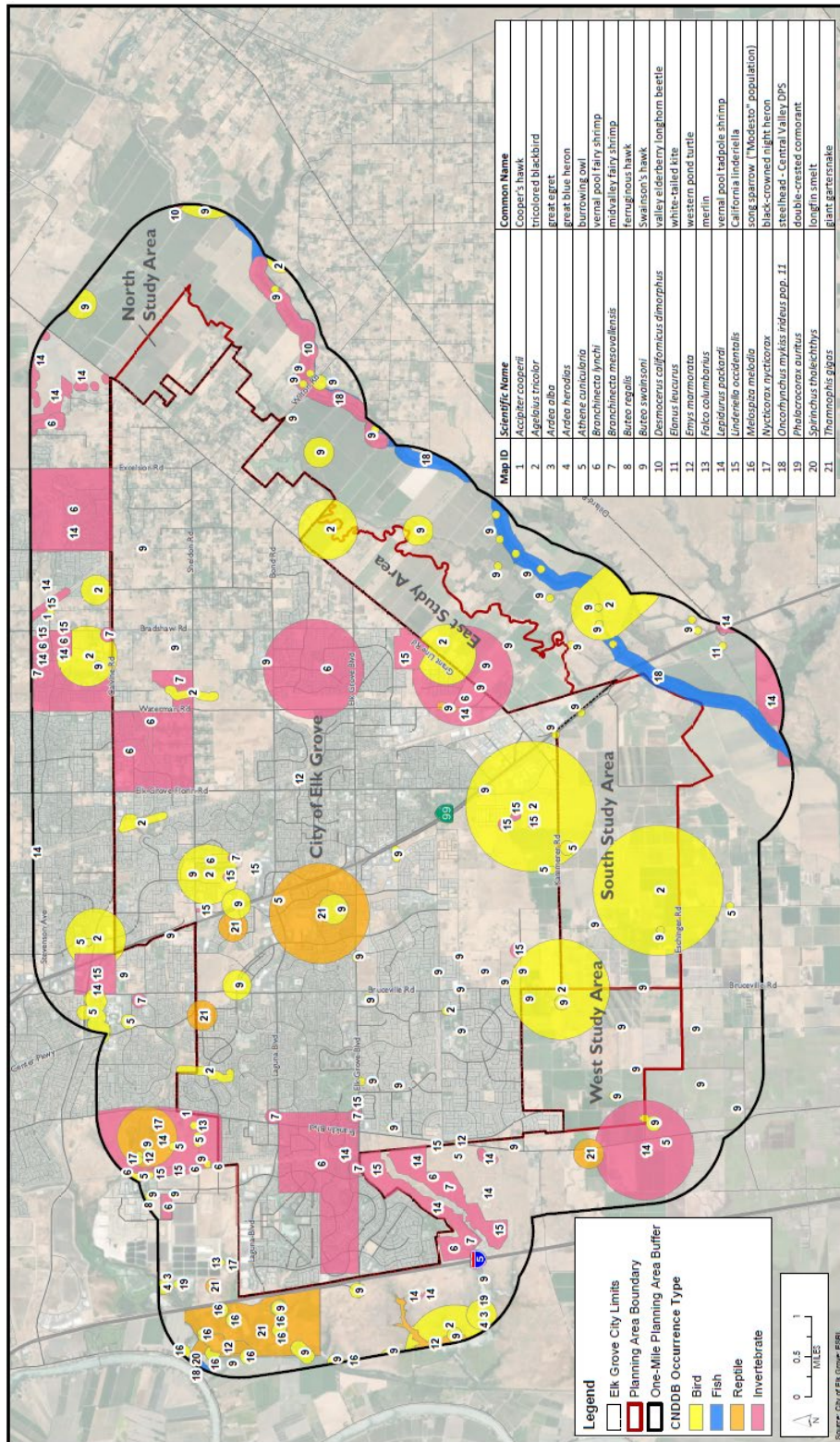
D = Delisted

MNBMC = Migratory Non-Game Bird of Management Concern

PX = Proposed Critical Habitat

SLC = Species of Local Concern

Figure B-12 City of Elk Grove Habitat Conditions and Known Occurrences of Special-Status Species



Source: City of Elk Grove General Plan Background Report 2018 Environmental Impact Report,

## *Trees*

Although native trees such as oaks (*Quercus sp.*) and California black walnuts (*Juglans californica var. jepsonii*) are not afforded special protection under State or federal law, loss of these species is of concern to the California Department of Fish and Wildlife and California Native Plant Society because of their continued depletion throughout California. In addition, the City regulates all projects with the potential to affect “Trees of Local Importance” as defined in Chapter 19.12 of the City’s Municipal Code, which is the City’s Tree Preservation and Protection Title. Trees of Local Importance include Coast live oak, Valley oak, Blue oak, Interior live oak, Oracle oak, California sycamore, and California black walnut with a diameter at breast height of six inches or greater; or multi-trunked trees with a combined diameter at breast height of six inches or greater.

In November 2005, the City Council formally adopted the Sacramento Tree Foundation’s regional Greenprint Program in order to achieve the sustainability and livability goals in the Sacramento region by expanding urban forests and optimizing the benefits of tree canopies. Since inception, the City has worked with the Sacramento Tree Foundation to plant over 3,500 trees throughout the City.

Each planting effort has been very successful in providing additional aesthetic and biological value to the community. The planting areas were strategically selected to benefit the public at large, while providing an environment for a high survival rate for the trees. All planting areas are located on City properties and Cosumnes Community Services District (CCSD) properties. Such planting areas include along creeks/channels, open spaces, parks, interchanges, and various streetscapes.

## *Wetlands and their Natural and Beneficial Functions*

Wetlands are habitats in which soils are intermittently or permanently saturated or inundated. Wetland habitats vary from rivers to seasonal ponding of alkaline flats and include swamps, bogs, marshes, vernal pools, and riparian woodlands. Wetlands are considered to be waters of the United States and are subject to the jurisdiction of the U.S. Army Corps of Engineers as well as the California Department of Fish and Wildlife (CDFW). Where the waters provide habitat for federally endangered species, the U.S. Fish and Wildlife Service may also have authority.

Wetlands are a valuable natural resource for communities providing beneficial impact to water quality, wildlife protection, recreation, and education, and play an important role in hazard mitigation. Wetlands provide drought relief in water-scarce areas where the relationship between water storage and streamflow regulation is vital and reduce flood peaks and slowly release floodwaters to downstream areas. When surface runoff is dampened, the erosive powers of the water are greatly diminished. Furthermore, the reduction in the velocity of inflowing water as it passes through a wetland helps remove sediment being transported by the water.

Wetlands are often found in floodplains and depressional areas of a watershed. Many wetlands receive and store floodwaters, thus slowing and reducing downstream flow. Wetlands perform a variety of ecosystem functions including food web support, habitat for insects and other invertebrates, fish and wildlife habitat, filtering of waterborne and dry-deposited anthropogenic pollutants, carbon storage, water flow regulation (e.g., flood abatement), groundwater recharge, and other human and economic benefits.

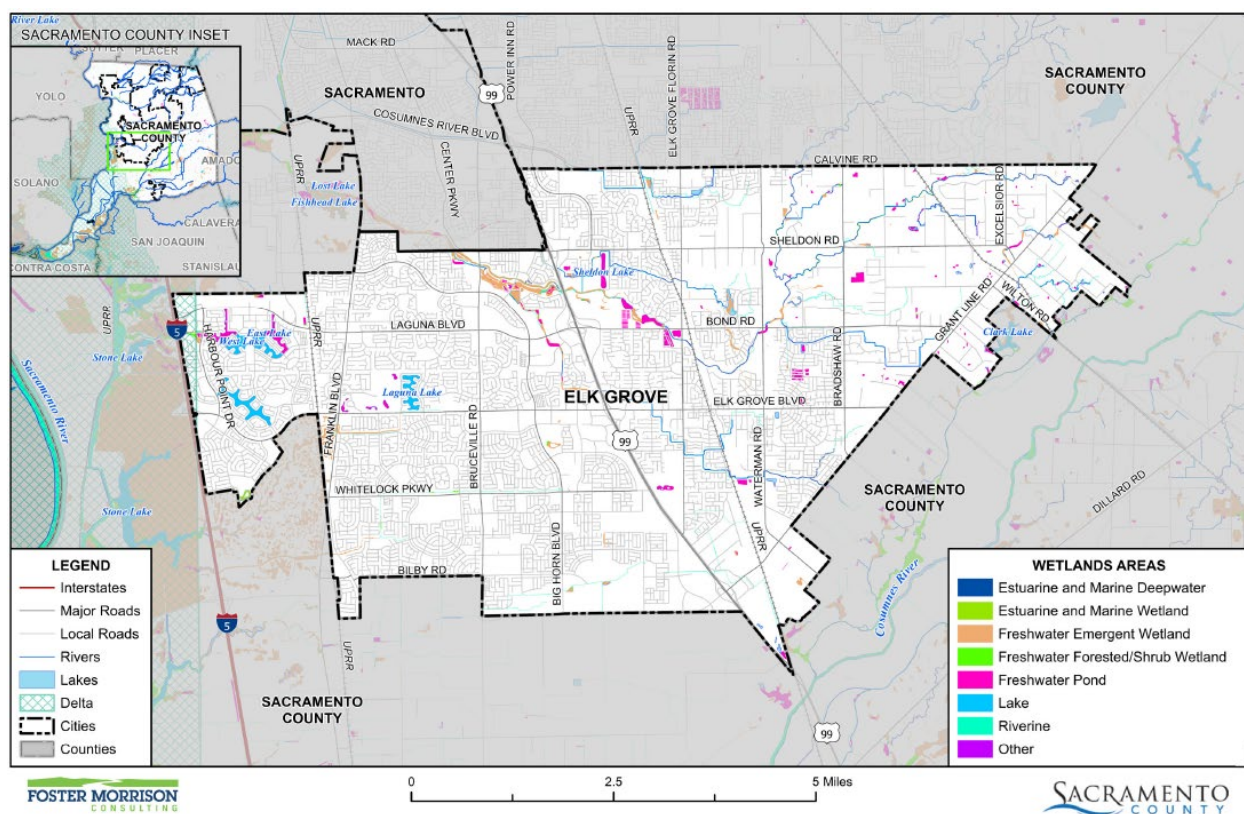
Wetlands, and other riparian and sensitive areas, provide habitat for insects and other invertebrates that are critical food sources to a variety of wildlife species, particularly birds. There are species that depend on these areas during all parts of their lifecycle for food, overwintering, and reproductive habitat. Other species use wetlands and riparian areas for one or two specific functions or parts of the lifecycle, most commonly for food resources. In addition, these areas produce substantial plant growth that serves as a food source to herbivores (wild and domesticated) and a secondary food source to carnivores.

Wetlands slow the flow of water through the vegetation and soil, and pollutants are often held in the soil. In addition, because the water is slowed, sediments tend to fall out, thus improving water quality and reducing turbidity downstream.

These natural floodplain functions associated with the natural or relatively undisturbed floodplain that moderates flooding, such as wetland areas, are critical for maintaining water quality, recharging groundwater, reducing erosion, redistributing sand and sediment, and providing fish and wildlife habitat. Preserving and protecting these areas and associated functions are a vital component of sound floodplain management practices for the City.

Wetlands in the City are shown in Figure B-13 and detailed in Table B-11.

*Figure B-13 City of Elk Grove – Wetlands Areas*



Data Source: U.S. Fish and Wildlife Service National Wetlands Inventory 10/2024 (downloaded 01/2025),  
Sacramento County, Cal-Atlas; Map Date: 1/30/2026.

*Table B-11 City of Elk Grove – Wetland Types and Acreages*

| Jurisdiction / Wetlands Area Type | Wetlands Count | Wetlands Area (in Acres) | % of Total Acres of the Planning Area* | % of Total Acres of the Jurisdiction** |
|-----------------------------------|----------------|--------------------------|----------------------------------------|----------------------------------------|
| Freshwater Emergent Wetland       | 653            | 234                      | 0.5%                                   | 38%                                    |
| Freshwater Forested/Shrub Wetland | 66             | 14                       | 0.03%                                  | 2%                                     |
| Freshwater Pond                   | 684            | 182                      | 0.4%                                   | 29%                                    |
| Lake                              | 423            | 100                      | 0.2%                                   | 16%                                    |
| Riverine                          | 870            | 92                       | 0.2%                                   | 15%                                    |
| <b>Elk Grove Total</b>            | <b>2,696</b>   | <b>621</b>               | <b>1.4%</b>                            | <b>100%</b>                            |

Source: US Fish and Wildlife Service, 2025.

## Historic and Cultural Resources

The City of Elk Grove has a stock of historically significant homes, public and private buildings, and landmarks, specifically 49 resources within the Historic District along Elk Grove Boulevard. In addition, the City designated 54 historical resources on the Elk Grove Register of Historic Resources. This includes the sites in the Historic District already listed on the National Register of Historical Places. Should a natural disaster occur, these properties and location can be at risk. The California Department of Parks and Recreation Office of Historic Preservation (OHP) was the primary source of information. 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. The City also adopted an ordinance for Historic Preservation (Elk Grove Municipal Code Chapter 7) to provide additional information on preservation of historic and cultural resources. These requirements are detailed in Section 4.2.1 of the Base Plan.

Additionally, as defined by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered, or has been altered, as the result of a major federal action, the property must be evaluated under the guidelines set forth by CEQA and NEPA. Structural mitigation projects are considered alterations for the purpose of this regulation.

## Economic Assets and Community Activities of Value

Assessing the vulnerability of the City of Elk Grove to natural hazards and disasters also involves inventorying the economic assets and community activities of value in the City.

### Economic Assets

After a disaster, economic resiliency is one of the major drivers of a speedy recovery. Each community has specific economic drivers. These include:

- Primary Economic Sectors
- Major employers
- Commercial Centers

Elk Grove's major commercial areas include Main Street (containing Historic Main Street and West Main Street), 99 Central (containing Bruceville Corners and Elevate), 99 North (containing Marketplace 99, Laguna Gateway, and Laguna Crossroads), the Elk Grove Auto Mall/Auto Center, the Grant Line Industrial area (including the Grant Line Business Park near Grant Line Road and Waterman Road) (all of the aforementioned being located in central Elk Grove), the Laguna North and Laguna West commercial districts in west Elk Grove, and the Sheldon Rural district in east Elk Grove. New commercial areas expected to come online include the Village and Project Elevate within 99 Central, which are planned to enhance retail, dining, and entertainment offerings within the City and serve as significant economic hubs, and the buildout of Grant Line Business Park as an industrial hub.

Elk Grove does not rely on a single dominant economic sector; instead, the community benefits from a diversified economic base with the majority of businesses qualifying as small business especially in areas like Main Street. Industrial growth is expected to continue in the Grant Line Industrial area, particularly within the Grant Line Business Park. Recent growth in this area includes Kubota. Activity at Sky River Casino, owned by the Wilton Rancheria Tribe, while independent from the City, remains important to the City's economy and is expanding to include a hotel and convention center.

The City's major employers and businesses also contribute heavily to Elk Grove's economic stability. Below is a list of the top 50 businesses in Elk Grove, based on a combination of factors including employee count, occupied space, and tax contributions (sales tax and/or hotel tax). Some data includes estimates based on available information but represents a solid picture of major employers within the community.

| Businesses 1-17                                       | Businesses 18-35                  | Businesses 36-50                         |
|-------------------------------------------------------|-----------------------------------|------------------------------------------|
| Apple, Inc                                            | Elk Grove Buick GMC               | Kaiser Foundation Hospitals              |
| Elk Grove Unified School District                     | Slakey Brothers                   | Sutter Medical Foundation                |
| Hilton Garden Inn                                     | Niello BMW Elk Grove              | Suburban Propane                         |
| Holiday Inn Express (Hwy 99)                          | Kohl's Corporation                | Ross                                     |
| Costco                                                | Maita Chevrolet                   | Winco Foods                              |
| Elk Grove Chrysler Dodge Jeep Ram (Knight Auto Group) | Trojan Storage of Elk Grove       | McDonalds                                |
| Hampton Inn & Suites                                  | GNB KL Group                      | Western Buyers Distribution Center       |
| TownePlace Suites by Marriot                          | City of Elk Grove                 | Safeway                                  |
| Elk Grove Toyota                                      | Cardinal Healthcare               | Elk Grove Kia                            |
| Walmart                                               | Elk Grove Subaru (Lithia Motors)  | Autozone, Inc. (Alldata)                 |
| Holiday Inn Express (I-5)                             | Bel Air Market                    | Elk Grove Volkswagen (Knight Auto Group) |
| Kubota (Western Division)                             | Elk Grove Honda (F Radich Motors) | Elk Grove Acura(Knight Auto Group)       |
| Elk Grove Ford (Lithia Motors Inc.)                   | Amazon                            | Caliber Collision Centers                |

|                                                           |                   |                         |
|-----------------------------------------------------------|-------------------|-------------------------|
| Nissan/Mazda of Elk Grove (Drive Family First Auto Group) | Mi Rancho         | Burlington Coat Factory |
| Home Depot                                                | Fairfield Inn     | Walgreens               |
| Extended Stay America                                     | Elk Grove Hyundai | Sky River Casino        |
| Target                                                    | Best Buy          |                         |

**Note:** This inventory of economic assets is only included in this overall asset inventory for the City. To limit redundancy, it is not discussed further in the hazard profiles and vulnerability assessments in Section B.4.3 below. However, depending on the type, location, magnitude and extent of future hazard events and disasters, these City economic assets may be vulnerable.

### Community Activities of Value

Inventorying economic assets in the City and their vulnerability to natural hazards and disasters also involves inventorying activities that have value to the community. This includes activities that are important to a community, like long-standing traditions such as a festival or fair. Some areas rely on seasonal industries to sustain them throughout the year. Many of these activities also provide economic benefits to the City. A hazard event that cancels or shortens these can affect a community's livelihood and can make disaster recovery more difficult or prolonged. This includes activities such as:

- Festivals and Fairs
- Sporting Events
- Tourism
- Local Pools

The City noted the following community activities of value:

Large Events including The Illumination Holiday Festival (2025: ~11,000 people), 4th of July (2025: ~33,000 people), the Giant Pumpkin Festival (2025: ~55,000 people), Strauss Festival (2025: ~12,045 people), Dickens Faire (~4,000), Culturefest (~4,500 people), Global Feast Fest (~4,000), Elk Grove Brewfest (~3,000), Dia de la Concha (~5,073), Big Truck Day (~3,000), Hallo-Palooza (~4,000), Franklin Band Invitation (~3,600) as well as others that can draw large crowds. There are also other smaller events throughout the year.

Non-city events including youth sporting events at the Aquatics Center, golf tournaments, and soccer tournaments hosted on CSD facility fields remain important draws to the City for hotel bookings. Runs include Running of the Elk, Run for Hunger, Dia de los Miles, and Gobble Wobble. Events at the casino remain important to City growth and tourism. Parades include Spring Palooza, Veterans Day, and Holiday of Lights.

**Note:** This inventory of community activities of value only occurs in this overall asset inventory for the City. To limit redundancy, it is not discussed further in the hazard profiles and vulnerability assessments in Section B.4.3 below. However, depending on the type, location, magnitude and extent of future hazard events and disasters, the City's community activities of value may be vulnerable.

## *Growth and Development Trends*

As part of the planning process, the City looked at changes in growth and development, both current and future, and examined these changes in the context of hazard-prone areas, and how the changes in growth and development affect loss estimates and vulnerability over time.

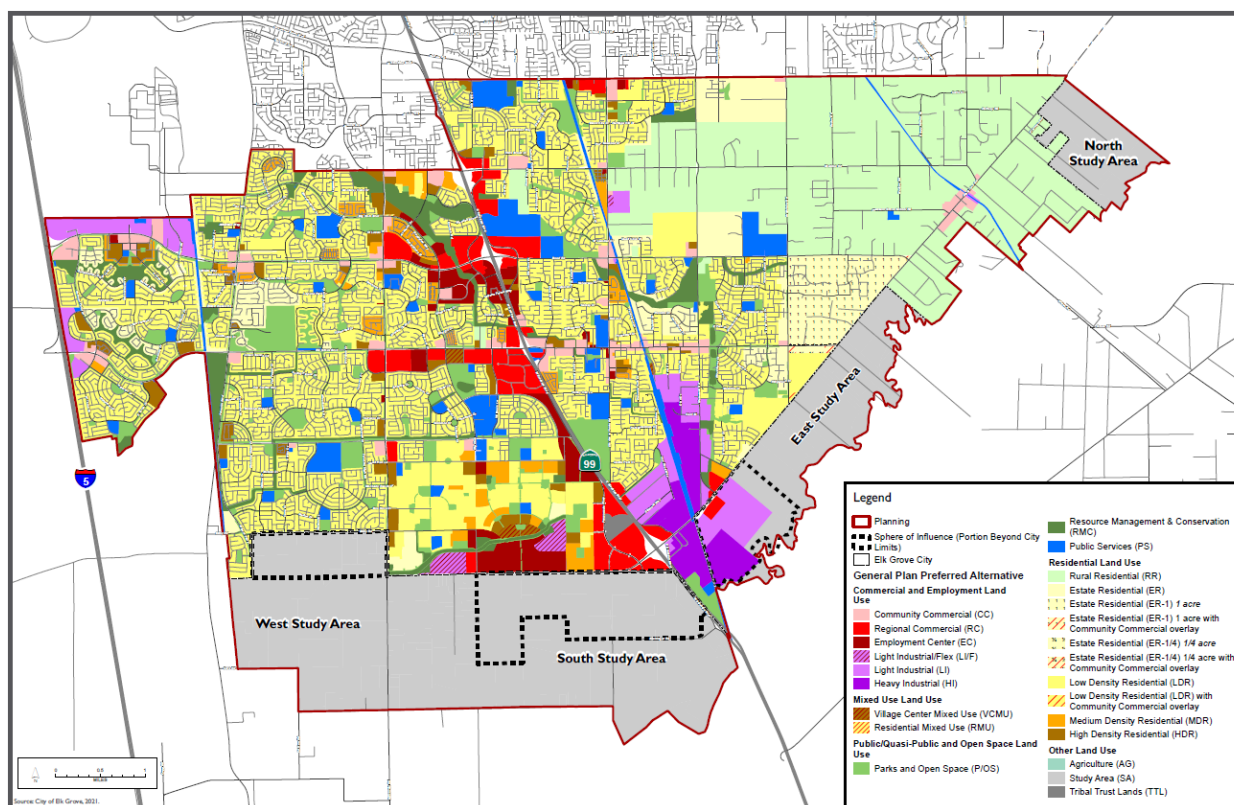
### **Land Use**

State planning law requires that a land use element of a general plan include a statement of the standard population density, building intensity, and allowed uses for the various land use designations in the plan (Government Code Section 65302(a)). The City's land use designations are generally described below and mapped on the Land Use Diagram (Figure B-14). The City of Elk Grove Municipal Code provides detailed land use and development standards for development.

The Municipal Code works hand in hand with the City's General Plan Land Use Element. The purpose of the Land Use Element is to provide goals, policies, actions diagrams and standards to guide future land use decisions in the City of Elk Grove. While all elements of the General Plan have equal weight under California law, in some respects this Element is the most far-reaching. It informs all other elements of the General Plan, shaping the future transportation network and the location of future housing sites, and influencing public facility requirements and park and recreation needs. It defines the City's future open space system and responds to natural resource conservation issues and safety hazards. It establishes the basic pattern of development in the City for the next 20-25 years, including land uses and densities, and presents the policies and actions to ensure that future development will enhance the quality of life for all City of Elk Grove residents.

Future land use for the City of Elk Grove from the 2019 City of Elk Grove General Plan Land Use Element (and last amended on December 13, 2023) is shown on Figure B-14.

Figure B-14 City of Elk Grove – Land Use Diagram



Source: City of Elk Grove. Retrieved 7/9/2026.

## Population Trends and Projections

The Sacramento Council on Governments (SACOG) modeled population projections for the City of Elk Grove and other areas of the region in 2025 for a Metropolitan Transportation Plan/Sustainable Communities Strategy report. SACOG shows 106,010 housing units for 2050. With average people per household of 3.2 from the US Census Bureau Average Household size, SACOG estimates 2050 would be 339,232.

Table B-13, from the City of Elk Grove General Plan, most recently amended in 2026, identifies the development capacity associated with the planned distribution of land uses described in the Land Use Plan. As the density and intensity standards for each land use designation are implemented by future development projects and land use decisions, the activities occurring on properties will (consistent with the General Plan) transition from one activity to another, and land uses and intensities will shift to align with the intent of this Plan. The General Plan does not directly specify a maximum population for Elk Grove. The maximum possible number of residential units is determined by the different maximum densities allowed for each land use designation and the amount of land area within that designation. However, this maximum number of units is unlikely to be reached because every lot in Elk Grove would need to be developed to its maximum potential. Because much of the Planning Area is built out and existing buildings are generally in good condition, these changes will primarily occur on underutilized or vacant properties in the City and the Study Areas. Forecasting assumptions using reasonable inferences to determine the realistic expected

development that could occur in Elk Grove after development or redevelopment of all properties that are expected to be developed, or redeveloped, are reflected in the development capacity.

*Table B-12 City of Elk Grove – General Plan Development Capacity*

|                                            | ACRES        | DWELLING<br>UNITS | POPULATION <sup>1</sup> | EMPLOYMENT<br>(JOBS) | JOBS/<br>HOUSING<br>RATIO |
|--------------------------------------------|--------------|-------------------|-------------------------|----------------------|---------------------------|
| EXISTING<br>DEVELOPMENT TOTAL <sup>2</sup> | 31,449       | 53,829            | 171,059                 | 45,463               | 0.84                      |
| GENERAL PLAN TOTAL                         | 34,956       | 102,865           | 332,254                 | 122,155              | 1.21                      |
| CITY LIMITS SUBTOTAL                       | 26,946       | 72,262            | 233,406                 | 81,784               |                           |
| STUDY AREAS SUBTOTAL                       | 8,008        | 30,603            | 98,848                  | 40,371               |                           |
| <i>North Study Area</i>                    | <i>646</i>   | <i>323</i>        | <i>1,043</i>            | <i>0</i>             |                           |
| <i>East Study Area</i>                     | <i>1,772</i> | <i>4,806</i>      | <i>15,523</i>           | <i>3,875</i>         |                           |
| <i>South Study Area</i>                    | <i>3,675</i> | <i>16,250</i>     | <i>52,488</i>           | <i>30,367</i>        |                           |
| <i>West Study Area</i>                     | <i>1,915</i> | <i>9,224</i>      | <i>29,794</i>           | <i>6,129</i>         |                           |

*Table Notes: Numbers may not sum due to rounding.*

1. Based on 3.23 persons per household, average.

2. Existing development represents 2017 population and dwelling information and derived from 2013 jobs data (the most current year available at time of writing the General Plan).

Source: City of Elk Grove General Plan, amended June 2026

## Development since 2021 Plan

Development has occurred in the City since the last plan. Some of this has occurred in hazard prone areas. The City Community Development Department tracked total building permits issued since 2021 for the City. These are tracked by total development, property use type, and hazard risk area. These are shown in Table B-14 and Table B-15.

*Table B-13 City of Elk Grove – Total Development Since 2021*

| Property Use | 2021       | 2022       | 2023        | 2024         | 2025         | 2026       |
|--------------|------------|------------|-------------|--------------|--------------|------------|
| Residential  | 687        | 961        | 1231        | 1249         | 1581         | 569        |
| Commercial   | 9          | 4          | 8           | 14           | 6            | 12         |
| Industrial   | 2          | 3          | 6           | 1            | 10           | 2          |
| <b>Total</b> | <b>698</b> | <b>968</b> | <b>1245</b> | <b>1,264</b> | <b>1,597</b> | <b>583</b> |

Source: City of Elk Grove Planning Department

*Table B-14 City of Elk Grove – Development in Hazard Areas since 2021*

| Property Use | 1% Annual Chance<br>Flood | Levee Protected<br>Area | Wildfire Risk Area <sup>1</sup> | Other |
|--------------|---------------------------|-------------------------|---------------------------------|-------|
| Residential  | 7                         | 298                     | 0                               | 0     |
| Commercial   | 0                         | 13                      | 0                               | 0     |

| Property Use | 1% Annual Chance Flood | Levee Protected Area | Wildfire Risk Area <sup>1</sup> | Other    |
|--------------|------------------------|----------------------|---------------------------------|----------|
| Industrial   | 0                      | 10                   | 0                               | 0        |
| <b>Total</b> | <b>7<sup>1</sup></b>   | <b>321</b>           | <b>0</b>                        | <b>0</b> |

Source: City of Elk Grove Planning Department

<sup>1</sup>Moderate or higher wildfire risk area

Recent development since the 2021 LHMP has been primarily occurring outside of identified hazard areas. All development was completed in accordance with current and applicable development codes, including floodplain ordinances, and other applicable standards and should be adequately protected. Thus, with the exception of more people living in the area potentially exposed to natural hazards, this growth should not cause a significant change in vulnerability of the City to identified priority hazards.

### Future Development Areas

It is important to review future development plans for the City. Future development should be sited in areas that are away from known hazard risks. If this is not possible, mitigation should be done to ensure that future development is protected against future hazards.

Growth and development in Elk Grove continue to be focused in the south and central areas of the City, particularly in those areas south of Elk Grove Boulevard, west of State Route 99, and east of Bruceville Road. While a majority of new development in Elk Grove is within this area, there are some larger scale developments east of State Route 99 that are under construction or in plan review. There are no hazard concerns related to the current growth and development areas.

### Growth/Development Areas

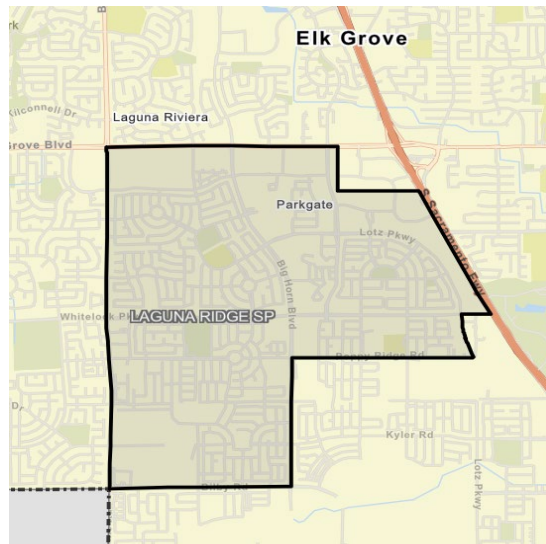
#### *Laguna Ridge Specific Plan Area*

The Laguna Ridge Specific Plan (LRSP) was approved by the City Council in June 2004 and encompasses approximately 1,900 acres and is located in the southwestern portion of the City of Elk Grove. The LRSP (as shown in Figure B-15) lies west of Highway 99, south of Elk Grove Boulevard, east of Bruceville Road and the East Franklin Specific Plan area, and north of Bilby Road. Planned land uses within the LRSP include single and multi-family residential, commercial, office, and a civic center, interconnected by paseos, pedestrian corridors, and parks.

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<sup>1</sup> Permits issued for new single unit custom homes and ADUs on parcels with an AE flood zone designation. Plans reviewed for compliance with NFIP standards for new construction verifying elevation at 1-foot above BFE.

*Figure B-15 Laguna Ridge Specific Plan Area*



Source: City of Elk Grove Planning

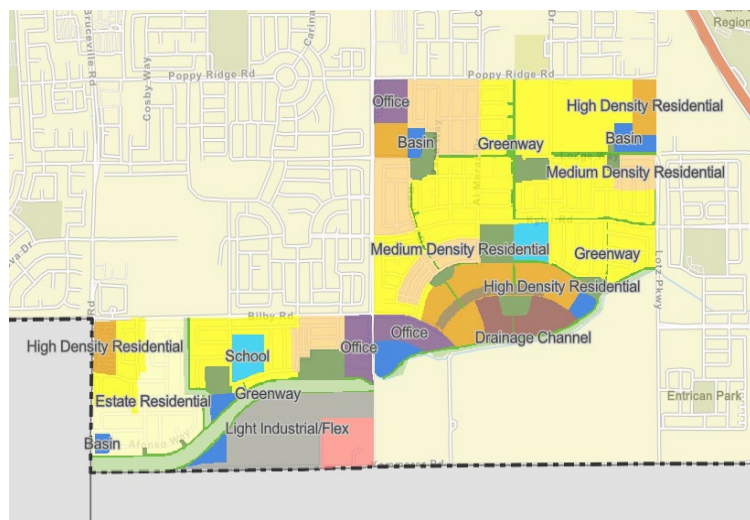
A majority of the LRSP has been built-out; however, commercial development continues at the north end of the LRSP with The Village Shopping Center, a new ±110,650 sq. ft. commercial development, under construction at the southwest corner of Elk Grove and Big Horn Boulevards and another large-scale commercial development planned for the vacant parcels at the southeast corner of the same intersection. Smaller-scale commercial development is expected to fill in the northern commercial areas of the LRSP over the next five years.

The southern end of the LRSP is comprised mostly of residential development. The Arbor Ranch, Tuscan Ridge South, and Treasure Homes residential subdivisions are all expected to complete construction within the next five years.

### *Southeast Policy Area Special Planning Area*

The Southeast Policy Area Special Planning Area (SEPA) is located in the southern portion of the City south of Poppy Ridge Road, west of Lotz Parkway, and north of Kammerer Road as shown on Figure B-16.

*Figure B-16 Southeast Policy Area Special Planning Area*



Source: City of Elk Grove Planning

The primary objective for SEPA is to provide a transition in density and intensity of development from the traditional suburban residential neighborhoods to the north (e.g., Laguna Ridge) to the Livable Employment Area to the south and east. SEPA includes a range of residential and commercial land use designations and integrates with surrounding land uses through the incorporation of parks and open space, trails, and landscape buffers. A complete transportation network made up of roadways, sidewalks, trails, and transit (including future light rail and/or bus rapid transit) will allow for the safe and effective movement of people and goods within the Plan Area and connect them with other parts of the City and the region.

Residential construction within SEPA began in 2020 in the southwest portion of the plan area and residential construction is currently active in the northern area of the plan area with senior residential, multi-family residential, and single-unit residential all under construction. Residential construction within SEPA is expected to continue to occur through the next five years.

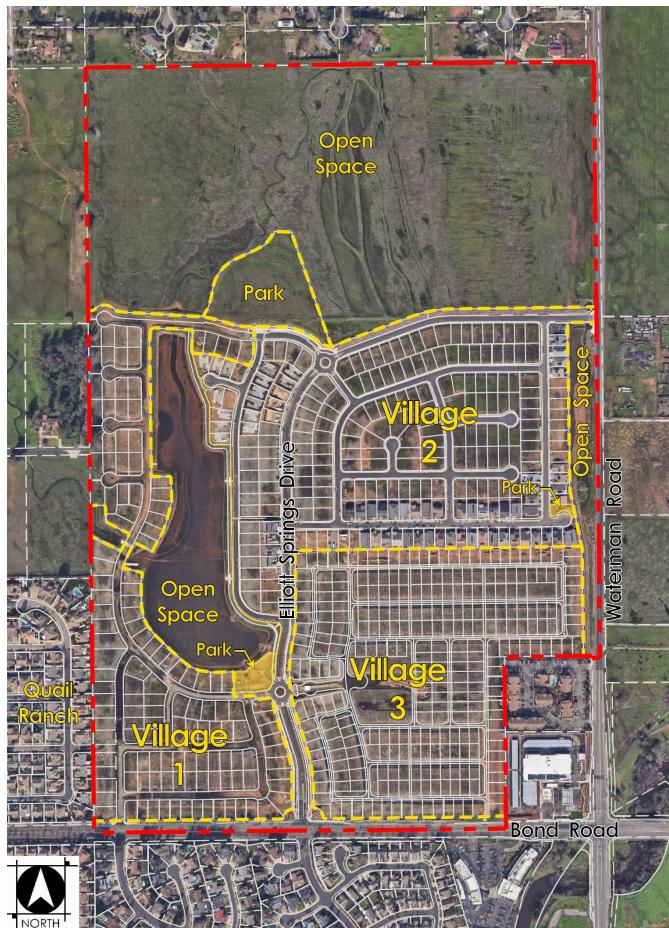
There has been minimal non-residential development within SEPA. A private charter school was established at the southwest corner of Big Horn Boulevard and Bilby Road and remains in operation today. There are other commercially designated areas within SEPA that remain undeveloped.

### *Elliott Springs Special Planning Area*

The Elliott Springs Special Planning Area (SPA) is the main growth/development area in Elk Grove east of State Route 99. The Elliott Springs SPA is an approximately 230-acre residential community located north of Bond Road and west of Waterman Road comprised of three residential villages (as shown on Figure B-17). Two of those villages (Villages 1 and 2) are single-unit villages that will allow the construction of up to 393 new residential homes. Village 3 of the SPA allows for the development of up to 282 active-adult residences and common amenities for those residences including a clubhouse and on-site trails.

Residential construction within Villages 1 and 2 of the Elliott Springs SPA began in 2022. Construction within Village 3 has not yet commenced but is expected to begin within the next 12 months. The construction of residential homes is expected to occur throughout the next five years.

*Figure B-17 Elliott Springs Special Planning Area*

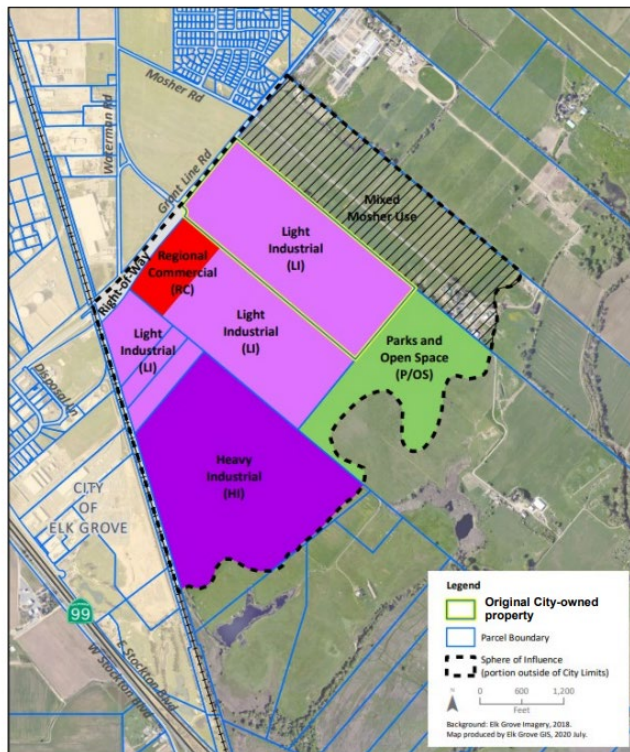


Source: City of Elk Grove Planning

### *Southeast Industrial Area Specific Plan*

The Southeast Industrial Area Specific Plan encompasses approximately 571 acres on the south side of Grant Line Road approximately ½ mile east of State Route 99 (as shown on Figure B-18). The Specific Plan's land use plan provides a mix of employment activities (focused on industrial, office, and regional retail) in the southwestern portion of the East Study Area, and that provides opportunities for development of a multi-sports park complex. Industrial uses will be focused along the western site of the Project, adjoining the existing railroad tracks. Opportunities for regional retail will be located adjoining Grant Line Road. Of the total 571 acres, approximately 382 acres have been annexed into the City, the remaining acreage is outside of the City but within the General Plan's East Study area. In December of 2023, the Kubota Tractor Corporation opened its 650,000 square-foot western distribution facility in this Specific Plan Area. The City has reviewed several other industrial development proposals within the plan area and expects that additional development within this plan area will occur within the next five years.

*Figure B-18 Southeast Industrial Area Specific Plan*



Source: City of Elk Grove Planning

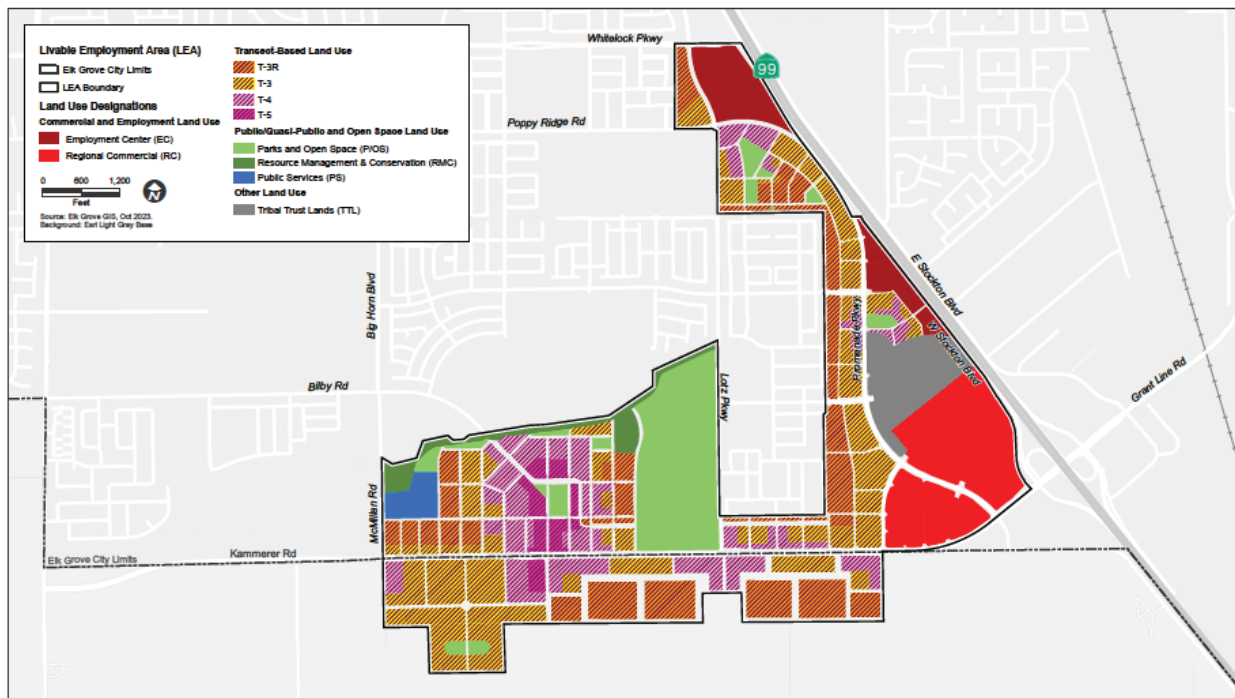
## Future Growth/Annexations

### *Livable Employment Area Community Plan*

In the Summer of 2023, the Livable Employment Area Community Plan was adopted as part through an update to the City's General Plan. The Livable Employment Area encompasses approximately 1,150 Acres and includes areas within the City and areas currently outside of the City, but within the City's South Study Area. The primary objective for the Livable Employment Area is to create a physical environment that supports the growth of 21st century employment opportunities by promoting a walkable, exciting, vibrant community with great quality-of-life amenities that will attract and retain the best and the brightest in their respective disciplines. The vision and policies of the Livable Employment Area Community Plan are implemented by the Livable Employment Area Special Planning Area which was established in 2025.

A majority of the Livable Employment Community Plan area remains undeveloped. There have been no development requests for those portions of the Community Plan that are within the City. As further described in the Annexation Descriptions below, there are current development requests that will be incorporated into the Livable Employment Area Special Planning Area when annexations are complete.

*Figure B-19 Livable Employment Area Community Plan*



Source: City of Elk Grove Planning

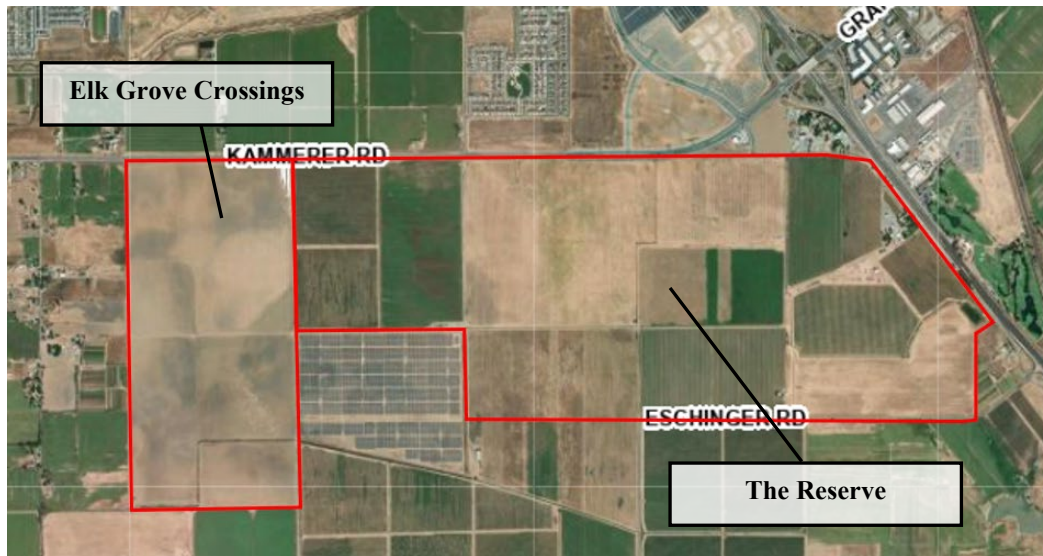
### *The Reserve Annexation*

The Reserve is a proposed project that would allow urban development of approximately 850 acres within the City's South Study Area. The annexation would ultimately adopt a Specific Plan that would facilitate implementation of the Livable Employment Area Special Planning Area with higher intensity development along the Kammerer Road Corridor and create a development plan with a mix of land uses that results in a balance of jobs and housing by accommodating approximately 3,500 residential units and about 2.4-million square feet of non-residential, employment generating uses, all supported by neighborhood parks, open space areas, and public/quasi-public uses.

### *Elk Grove Crossings Annexation*

The Elk Grove Crossings Annexation encompasses approximately 319 acres on the south side of Kammerer Road 1.5 miles west of the Kammerer Road State Route 99 interchange (as shown on Figure B-20). The project proposes the adoption of a Specific Plan that would allow a mix of land uses—retail, commercial services, offices, lodging, a mix of residential densities and housing types, an elementary school, and parks and open space. The Elk Grove Crossings Specific Plan would also facilitate implementation of the Livable Employment Area Special Planning Area with allowances for higher intensity development along the Kammerer Road Corridor.

*Figure B-20 The Reserve/Elk Grove Crossings Annexations*

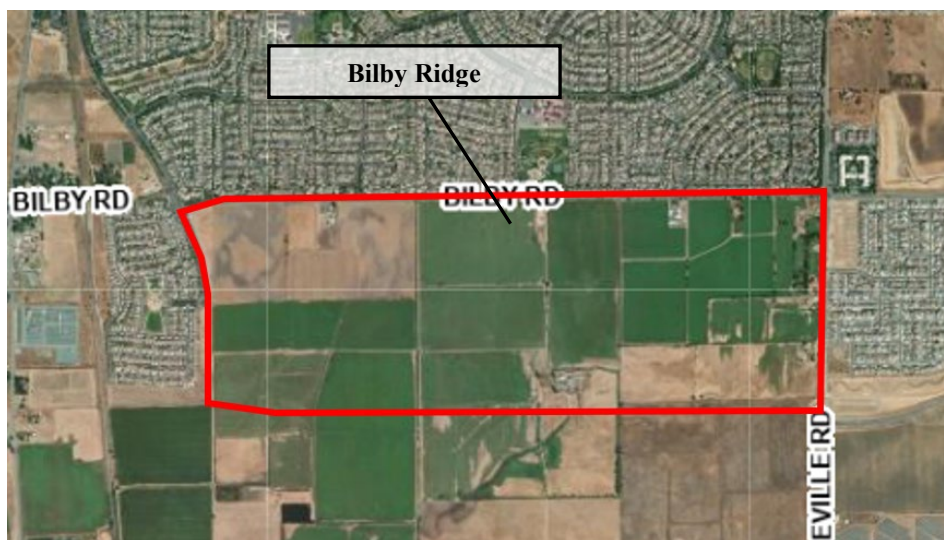


Source: City of Elk Grove Planning

### *Bilby Ridge Annexation*

The Bilby Ridge Annexation area encompasses approximately 490 acres bounded by Bruceville Road on the east, Willard Parkway on the west, Bilby Road on the north, and the future Kammerer Road extension on the south and is located within the General Plan's West Study Area (as shown on Figure B-21). The Bilby Ridge Annexation will ultimately result in parks and open space, commercial uses, a mix of residential densities, a proposed 10-acre elementary school site, a fire station, and flood control and water quality facilities. Overall, the Specific Plan proposes a total of 2,844 residential units and 27.7 acres of commercial and employment-generating development, along with public facilities and open space.

*Figure B-21 Bilby Ridge Annexation*



Source: City of Elk Grove Planning

These Annexation projects are all applications that are currently in progress. The extent to which hazards may affect each of these areas will be analyzed and disclosed through the CEQA process. While annexations and initial phases of construction within these areas may occur within the next five years, the City expects that these will all be long-term buildout projects.

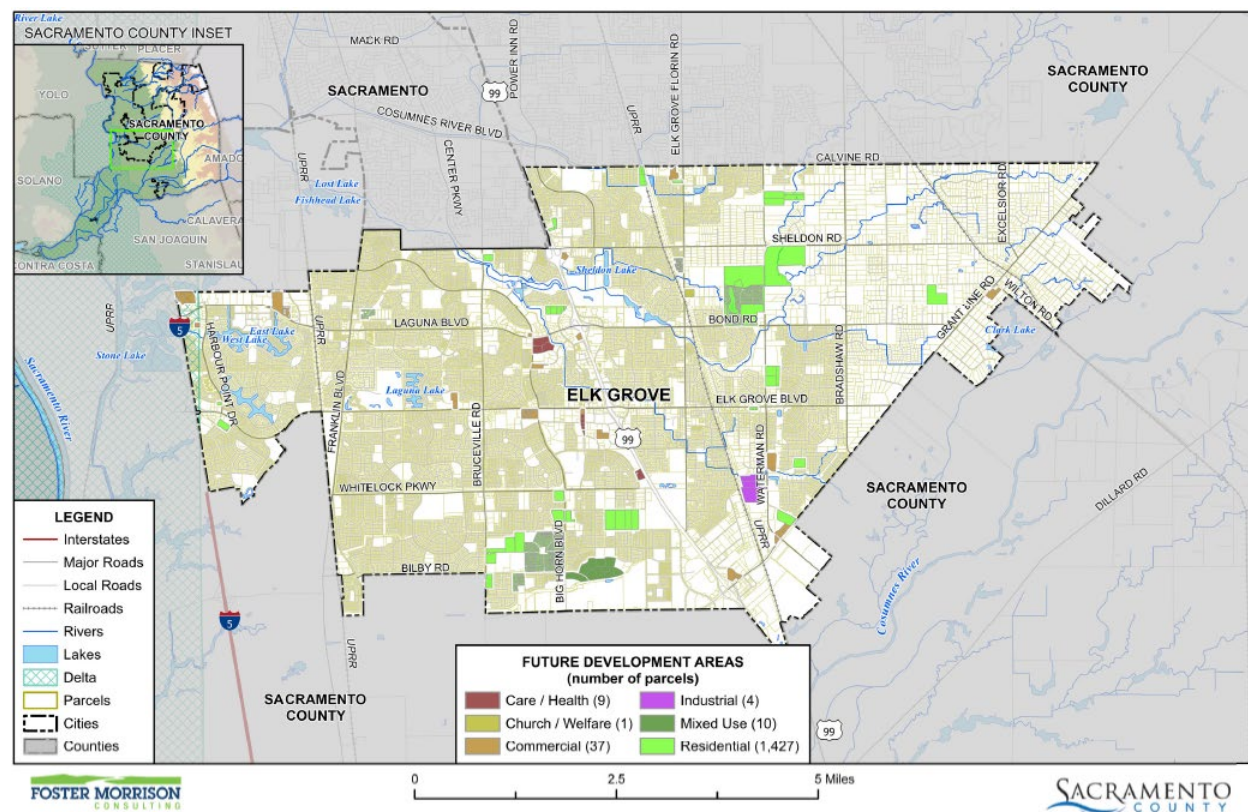
### *Development Applications In Progress*

In addition to the general trends and projections described above. There are a number of development projects within the City at various stages of review ranging from plan review to projects under construction. These future development projects are described in the City of Elk Grove Active Development Project table and associated figure as detailed below in the GIS Analysis section.

### GIS Analysis

The City of Elk Grove provided 51 future development areas which were used as the basis for the inventory of future development for the City. These were mapped in GIS. Figure B-22 show the locations of the future development areas. Table B-16 shows the details of the future development areas, organized by future development type (property use) and status, and by map identification area, parcel counts, and acreage.

*Figure B-22 City of Elk Grove – Future Development Areas*



Data Source: Sacramento County, Cal-Atlas; Map Date: 9/24/2026.

*Table B-15 City of Elk Grove – Future Development Areas by Type and Status with Parcels and Acres*

| Future Development Type and Status | Site/Location Name                                  | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|------------------------------------|-----------------------------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>Commercial</b>                  |                                                     |                    |                       |                         |             |                      |                        |
| Approved                           | Calvine Pointe Major 3 Mixed Use Retail and Storage | 1                  | 1                     | 0                       | 7.1         | 7.1                  | 0.0                    |
|                                    | Elk Grove Sports Center Retail & Tech Building      | 1                  | 1                     | 0                       | 19.4        | 19.4                 | 0.0                    |
|                                    | Elk Grove Subaru                                    | 2                  | 0                     | 2                       | 8.6         | 0.0                  | 8.6                    |
|                                    | Home 2 Suites                                       | 1                  | 0                     | 1                       | 2.8         | 0.0                  | 2.8                    |
|                                    | Hotel at Sheldon Place                              | 2                  | 0                     | 2                       | 3.6         | 0.0                  | 3.6                    |
|                                    | LaZboy Design Review and Map                        | 1                  | 0                     | 1                       | 2.0         | 0.0                  | 2.0                    |
|                                    | Maverik Fueling Station                             | 3                  | 1                     | 2                       | 10.7        | 1.9                  | 8.8                    |
|                                    | Triangle Point North Commercial Center              | 2                  | 0                     | 2                       | 5.6         | 0.0                  | 5.6                    |
|                                    | <b>Approved Total</b>                               | <b>13</b>          | <b>3</b>              | <b>10</b>               | <b>59.8</b> | <b>28.4</b>          | <b>33.4</b>            |
| In Planning Review                 | F&M Bank and Starbucks                              | 1                  | 0                     | 1                       | 0.9         | 0.0                  | 0.9                    |
|                                    | Grant Line Commercial Center                        | 2                  | 0                     | 2                       | 7.8         | 0.0                  | 7.8                    |
|                                    | Laguna Contractors Garage & Self Storage            | 1                  | 0                     | 1                       | 4.6         | 0.0                  | 4.6                    |
|                                    | Laguna Springs Corporate Center - Building A        | 1                  | 0                     | 1                       | 4.9         | 0.0                  | 4.9                    |
|                                    | Slakey Brother Expansion                            | 4                  | 1                     | 3                       | 19.7        | 11.4                 | 8.3                    |

| Future Development Type and Status | Site/Location Name                     | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres  | Total Improved Acres | Total Unimproved Acres |
|------------------------------------|----------------------------------------|--------------------|-----------------------|-------------------------|--------------|----------------------|------------------------|
|                                    | Tractor Supply Company                 | 1                  | 0                     | 1                       | 3.4          | 0.0                  | 3.4                    |
|                                    | Triangle Point South Commercial Center | 1                  | 0                     | 1                       | 2.5          | 0.0                  | 2.5                    |
|                                    | <b>In Planning Review Total</b>        | <b>12</b>          | <b>2</b>              | <b>10</b>               | <b>50.9</b>  | <b>18.5</b>          | <b>32.3</b>            |
| Under Construction                 | M2 Waterman RV Storage                 | 1                  | 1                     | 0                       | 14.1         | 14.1                 | 0.0                    |
|                                    | Stathos Self Storage                   | 2                  | 0                     | 2                       | 8.0          | 0.0                  | 8.0                    |
|                                    | The Village at Elk Grove               | 10                 | 0                     | 10                      | 15.0         | 0.0                  | 15.0                   |
|                                    | <b>Under Construction Total</b>        | <b>13</b>          | <b>1</b>              | <b>12</b>               | <b>37.1</b>  | <b>14.1</b>          | <b>23.0</b>            |
| <b>Commercial Total</b>            |                                        | <b>38</b>          | <b>5</b>              | <b>33</b>               | <b>142.4</b> | <b>54.0</b>          | <b>88.4</b>            |
| <b>Residential</b>                 |                                        |                    |                       |                         |              |                      |                        |
| Approved                           | Bow Stockton Apartments                | 2                  | 1                     | 1                       | 5.6          | 4.1                  | 1.5                    |
|                                    | Elk Grove Apartments                   | 1                  | 0                     | 1                       | 1.3          | 0.0                  | 1.3                    |
|                                    | Guardian Madeira Apartments            | 1                  | 0                     | 1                       | 13.3         | 0.0                  | 13.3                   |
|                                    | Mesa at Laguna Ridge Phase 2           | 1                  | 1                     | 0                       | 9.8          | 9.8                  | 0.0                    |
|                                    | Sheldon Farms North Apartments         | 1                  | 0                     | 1                       | 6.1          | 0.0                  | 6.1                    |
|                                    | Tuscan Ridge South MHP                 | 3                  | 0                     | 3                       | 39.0         | 0.0                  | 39.0                   |
|                                    | Wellington Crossing Amendment          | 1                  | 0                     | 1                       | 7.5          | 0.0                  | 7.5                    |
|                                    | <b>Approved Total</b>                  | <b>13</b>          | <b>2</b>              | <b>8</b>                | <b>82.6</b>  | <b>13.9</b>          | <b>68.7</b>            |
| In Planning Review                 | Jordan Ranch Rezone & Map              | 4                  | 3                     | 1                       | 42.0         | 32.0                 | 10.0                   |
|                                    | Old Town Senior Housing Site           | 4                  | 0                     | 4                       | 2.1          | 0.0                  | 2.1                    |

| Future Development Type and Status | Site/Location Name                                | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres  | Total Improved Acres | Total Unimproved Acres |
|------------------------------------|---------------------------------------------------|--------------------|-----------------------|-------------------------|--------------|----------------------|------------------------|
|                                    | Summer Flats                                      | 3                  | 0                     | 3                       | 26.9         | 0.0                  | 26.9                   |
|                                    | Summer Villas at Sheldon Road                     | 1                  | 0                     | 1                       | 113.5        | 0.0                  | 113.5                  |
|                                    | Triangle Point 75 MHP                             | 1                  | 0                     | 1                       | 16.3         | 0.0                  | 16.3                   |
|                                    | <b>In Planning Review Total</b>                   | <b>13</b>          | <b>3</b>              | <b>10</b>               | <b>200.8</b> | <b>32.0</b>          | <b>168.7</b>           |
| Under Construction                 | Arbor Ranch Subdivision                           | 810                | 64                    | 746                     | 104.6        | 9.3                  | 95.4                   |
|                                    | Birchway Apartments                               | 1                  | 0                     | 1                       | 9.5          | 0.0                  | 9.5                    |
|                                    | Bruceville Meadows Townhomes                      | 1                  | 0                     | 1                       | 8.1          | 0.0                  | 8.1                    |
|                                    | Coral Blossom Apartments                          | 1                  | 0                     | 1                       | 2.4          | 0.0                  | 2.4                    |
|                                    | Dunisch GPA, Rezone, and Map                      | 7                  | 0                     | 7                       | 13.3         | 0.0                  | 13.3                   |
|                                    | Elliott Springs                                   | 366                | 145                   | 221                     | 205.8        | 21.7                 | 184.1                  |
|                                    | Hamilton Park at Elk Grove Landing                | 85                 | 6                     | 79                      | 6.5          | 0.4                  | 6.1                    |
|                                    | Madeira Greens                                    | 85                 | 2                     | 83                      | 12.2         | 0.3                  | 11.9                   |
|                                    | Milestone II GPA, Rezone, and Map                 | 1                  | 0                     | 1                       | 9.9          | 0.0                  | 9.9                    |
|                                    | Pardes Apartment                                  | 1                  | 0                     | 1                       | 7.2          | 0.0                  | 7.2                    |
|                                    | Pleasant Grove Estates Rezone and Subdivision Map | 1                  | 1                     | 0                       | 30.3         | 30.3                 | 0.0                    |
|                                    | Poppy Keys Southeast (Esplanade West)             | 4                  | 0                     | 4                       | 65.5         | 0.0                  | 65.5                   |
|                                    | Sage Glen Map                                     | 2                  | 2                     | 0                       | 9.9          | 9.9                  | 0.0                    |
|                                    | Tegan Estates                                     | 39                 | 4                     | 35                      | 6.4          | 0.5                  | 5.9                    |

| Future Development Type and Status | Site/Location Name                                                  | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres  | Total Improved Acres | Total Unimproved Acres |
|------------------------------------|---------------------------------------------------------------------|--------------------|-----------------------|-------------------------|--------------|----------------------|------------------------|
|                                    | <b>Under Construction Total</b>                                     | <b>1,404</b>       | <b>224</b>            | <b>1,180</b>            | <b>491.6</b> | <b>72.4</b>          | <b>419.3</b>           |
| <b>Residential Total</b>           |                                                                     | <b>1,427</b>       | <b>229</b>            | <b>1,198</b>            | <b>774.8</b> | <b>118.2</b>         | <b>656.6</b>           |
| <b>Care / Health</b>               |                                                                     |                    |                       |                         |              |                      |                        |
| Approved                           | Allen Ranch Medical Buildings                                       | 5                  | 0                     | 5                       | 5.7          | 0.0                  | 5.7                    |
|                                    | <b>Approved Total</b>                                               | <b>5</b>           | <b>0</b>              | <b>5</b>                | <b>5.7</b>   | <b>0.0</b>           | <b>5.7</b>             |
| Under Construction                 | New Faze Skilled Nursing Amendment                                  | 1                  | 0                     | 1                       | 6.0          | 0.0                  | 6.0                    |
|                                    | Sutter Campus Expansion                                             | 3                  | 1                     | 2                       | 26.1         | 11.1                 | 15.0                   |
|                                    | <b>Under Construction Total</b>                                     | <b>4</b>           | <b>1</b>              | <b>3</b>                | <b>32.1</b>  | <b>11.1</b>          | <b>21.0</b>            |
| <b>Care / Health Total</b>         |                                                                     | <b>9</b>           | <b>1</b>              | <b>8</b>                | <b>37.8</b>  | <b>11.1</b>          | <b>26.7</b>            |
| <b>Church / Welfare</b>            |                                                                     |                    |                       |                         |              |                      |                        |
| Under Construction                 | Elk Grove Muslim Center                                             | 2                  | 2                     | 0                       | 6.8          | 6.8                  | 0.0                    |
|                                    | <b>Under Construction Total</b>                                     | <b>2</b>           | <b>2</b>              | <b>0</b>                | <b>6.8</b>   | <b>6.8</b>           | <b>0.0</b>             |
| <b>Church / Welfare Total</b>      |                                                                     | <b>2</b>           | <b>2</b>              | <b>0</b>                | <b>6.8</b>   | <b>6.8</b>           | <b>0.0</b>             |
| <b>Industrial</b>                  |                                                                     |                    |                       |                         |              |                      |                        |
| Approved                           | Grant Line Construction Aggregate Production and Recycling Facility | 1                  | 0                     | 1                       | 24.8         | 0.0                  | 24.8                   |
|                                    | <b>Approved Total</b>                                               | <b>1</b>           | <b>0</b>              | <b>1</b>                | <b>24.8</b>  | <b>0.0</b>           | <b>24.8</b>            |
| Under Construction                 | Waterman Brinkman Logistics Center                                  | 3                  | 1                     | 2                       | 21.6         | 2.0                  | 19.5                   |
|                                    | <b>Under Construction Total</b>                                     | <b>3</b>           | <b>1</b>              | <b>2</b>                | <b>21.6</b>  | <b>2.0</b>           | <b>19.5</b>            |

| Future Development Type and Status | Site/Location Name                | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres    | Total Improved Acres | Total Unimproved Acres |
|------------------------------------|-----------------------------------|--------------------|-----------------------|-------------------------|----------------|----------------------|------------------------|
| <b>Industrial Total</b>            |                                   | <b>4</b>           | <b>1</b>              | <b>3</b>                | <b>46.4</b>    | <b>2.0</b>           | <b>44.4</b>            |
| <b>Mixed Use</b>                   |                                   |                    |                       |                         |                |                      |                        |
| In Planning Review                 | Souza Dairy Village Center Rezone | 10                 | 0                     | 10                      | 80.5           | 0.0                  | 80.5                   |
|                                    | <b>In Planning Review Total</b>   | <b>10</b>          | <b>0</b>              | <b>10</b>               | <b>80.5</b>    | <b>0.0</b>           | <b>80.5</b>            |
| <b>Mixed Use Total</b>             |                                   | <b>10</b>          | <b>0</b>              | <b>10</b>               | <b>80.5</b>    | <b>0.0</b>           | <b>80.5</b>            |
|                                    |                                   |                    |                       |                         |                |                      |                        |
| <b>Grand Total</b>                 |                                   | <b>1,490</b>       | <b>238</b>            | <b>1,252</b>            | <b>1,088.7</b> | <b>192.2</b>         | <b>896.5</b>           |

Source: City of Elk Grove

## B.4.2. Hazard Identification

The City of Elk Grove identified the hazards that affect the City and summarized their location, extent, likelihood of future occurrence, potential magnitude, and significance specific to the City (see Table B-17). Those hazards identified as a high or medium significance in Table B-17 are considered City of Elk Grove priority hazards for mitigation planning. Those hazards that occur infrequently or have little or no impact in the City were determined to be of low significance and not considered a priority hazard. Significance was determined based on the hazard data and profile, focusing on key criteria such as frequency, extent, and resulting damage, including deaths/injuries and property, natural and cultural resources, and economic damage. The ability of a jurisdiction to reduce losses through implementation of existing and new mitigation measures was also considered as to the significance of a hazard. This assessment was used to prioritize those hazards of greatest significance, enabling the City to focus resources where they are most needed.

*Table B-16 City of Elk Grove—Hazard Identification Assessment*

| Hazard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Geographic Extent | Likelihood of Future Occurrences | Magnitude/Severity | Significance | Climate Change Influence |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------|--------------------|--------------|--------------------------|
| Aquatic Nuisance Species (plant/animal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Limited           | Unlikely                         | Negligible         | Low          | Low                      |
| Climate Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Extensive         | Highly Likely                    | Limited            | Medium       | –                        |
| Dam Failure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Limited           | Unlikely                         | Limited            | High         | Medium                   |
| Drought & Water Shortage (w/tree mortality)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Extensive         | Likely                           | Limited            | Medium       | High                     |
| Earthquake (w/subhazards)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Significant       | Occasional                       | Limited            | Medium       | Low                      |
| Flood: 1%/0.5%/0.2% annual chance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Significant       | Occasional/Unlikely              | Critical           | High         | Medium                   |
| Flood: Localized Stormwater                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Significant       | Likely                           | Limited            | Medium       | Medium                   |
| Landslides, Mudslides, and Debris Flow                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Limited           | Unlikely                         | Negligible         | Low          | Medium                   |
| Levee Failure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Significant       | Occasional                       | Critical           | High         | Medium                   |
| Sea Level Rise                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Limited           | Unlikely                         | Negligible         | Low          | High                     |
| Severe Weather: Extreme Cold and Freeze                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Extensive         | Likely                           | Limited            | Medium       | Medium                   |
| Severe Weather: Extreme Heat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Extensive         | Highly Likely                    | Limited            | Medium       | High                     |
| Severe Weather: Heavy Rains and Storms (Hail, Lightning, Wind)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Extensive         | Highly Likely                    | Limited            | Medium       | Medium                   |
| Severe Weather: High Winds and Tornadoes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Limited           | Occasional                       | Negligible         | Low          | Low                      |
| Subsidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Limited           | Unlikely                         | Negligible         | Low          | Medium                   |
| Wildfire (with smoke and air quality)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Significant       | Highly Likely                    | Limited            | High         | High                     |
| <p><b>Geographic Extent</b><br/> <b>Limited:</b> Less than 10% of planning area<br/> <b>Significant:</b> 10-50% of planning area<br/> <b>Extensive:</b> 50-100% of planning area<br/> <b>Likelihood of Future Occurrences</b><br/> <b>Highly Likely:</b> Near 100% chance of occurrence in next year, or happens every year.<br/> <b>Likely:</b> Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.<br/> <b>Occasional:</b> Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.<br/> <b>Unlikely:</b> Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.</p> <p><b>Magnitude/Severity</b><br/> <b>Catastrophic</b>—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths<br/> <b>Critical</b>—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<br/> <b>Limited</b>—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<br/> <b>Negligible</b>—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<br/> <b>Significance</b><br/> <b>Low:</b> minimal potential impact<br/> <b>Medium:</b> moderate potential impact<br/> <b>High:</b> widespread potential impact<br/> <b>Climate Change Influence</b><br/> <b>Low:</b> minimal potential impact<br/> <b>Medium:</b> moderate potential impact<br/> <b>High:</b> widespread potential impact</p> |                   |                                  |                    |              |                          |

### B.4.3. Hazard Profiles and Vulnerability to Specific Hazards

This section includes the hazard profiles and vulnerability assessment for hazards ranked of medium or high significance specific to the City of Elk Grove (as identified in the Significance column of Table B-17) and also includes a hazard profile for the four primary hazards to the State of California: dam failure, earthquake, flood, and wildfire, regardless of the significance ranking by the City. Chapter 4 of the Base Plan provides more detailed information about these hazards and their impacts on the Sacramento County Planning Area. Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.2 of the Base Plan.

#### *Hazard Profiles and Vulnerability Assessment*

Each hazard is profiled in the following format:

- **Hazard Profile** – A hazard profile is included for each hazard. This includes information on:
  - ✓ **Hazard Overview** – A general discussion of the hazard and related issues is detailed here.
  - ✓ **Location and Extent** – Location is the geographic area within the City that is affected by the hazard. Extent is the expected range of intensity for each hazard. These are discussed in specific detail for mapped hazards, and in more general detail for those hazards that do not have discrete mapped hazard areas.
  - ✓ **Past Occurrences** – Past occurrences are discussed for each hazard. A discussion of disaster declarations is included in each hazard section. NCDC events are also discussed. Other past occurrences data specific to the City follow the disaster declarations and NCDC events for each hazard.
  - ✓ **Climate Change** – This section contains the effects of climate change (as applicable). The possible influence of climate change on the hazard is discussed.

After the hazard profile, a vulnerability assessment is presented. As part of the vulnerability assessment, 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. 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.

After this classification, a general discussion of hazard vulnerabilities occurs. This is done in the following format:

- **General Vulnerability Discussion** – A general discussion of the hazard and its vulnerability on the City is provided.
- **Local Concerns** – This includes City provided information on how the City is uniquely affected by or vulnerable to each hazard.
- **Assets at Risk** – A discussion of the assets at risk follows, presented in the same order as in Section B.4.1 above, with a few exceptions. This includes sections on: People and Populations; Structures; Critical Facilities and Infrastructure, and Natural, Historic, and Cultural Resources. These are discussed in specific terms for mapped hazards, and in more general terms for those hazards that are unmapped. Sections on Community Lifelines and Economic Assets and Community Activities of Value are not included in the Sections below, as they are fully covered in Section B.4.1 above and in Chapter 4 of the Base Plan.
- **Impacts** – A discussion on hazard impacts follows. Impacts describe how each hazard can affect the City and its assets. The type and severity of impacts reflect both the potential magnitude of the hazard and the vulnerability of the asset.
- **Future Conditions/Future Development** – A discussion of how future conditions and future development may affect the hazard is also included. This is addressed specifically for mapped hazards, and in more general terms for those hazards that are unmapped.

### **Power Interruption/Power Failure: A Common Vulnerability of all Hazards**

An impact or vulnerability of almost all hazards evaluated as part of this LHMP Update relates to power shortage and/or power failures. There are two major power providers in the Sacramento County Planning Area and the City - Sacramento Municipal Utility District (SMUD) and Pacific Gas and Electric (PG&E). The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the U.S. Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power disruptions can be found in Section 4.3 of the Base Plan.

### **Public Safety Power Shutoff (PSPS)**

An intentional disruption type of power shortage/failure event has been implemented in California as a result of wildfires starting due to downed power lines or electrical equipment. This was the case for the Camp Fire in 2018. As a result, California's three largest energy companies (including PG&E), at the direction of the California Public Utilities Commission (CPUC), are preparing all Californians for the threat of wildfires and power outages during times of extreme (fire) weather. To help protect customers and communities during extreme fire weather events, electric power may be shut off for public safety in an effort to proactively prevent wildfire. This is called a PSPS. More information on PSPS criteria can be

found in Section 4.3 of the Base Plan. SMUD noted that it has had no PSPS events for its service territories. PG&E noted it has had no PSPS events since the 2021 LHMP.

## Local Concerns

The City has not been affected by PSPS events, however; severe weather has caused numerous power outages impacting residents and public infrastructure (such as traffic signals, street lights and other safety devices). Power outages have occurred in the City during high winds, and severe storm events. Some critical City facilities do not have on-site backup generator power during outages, which disrupts services and staff ability to quickly respond during emergencies. Additionally, with an increase in climate change related issues (e.g., extreme heat conditions, atmospheric river storms) occurring in the Sacramento County Planning Area, the potential for future hazard related power outages remain a concern for Elk Grove.

## *Hazard Profiles and Vulnerability Assessment by Hazards*

The following sections provide the hazard profile and vulnerability assessments for each of the hazards identified in Section B.4.2 Hazard Identification.

### *Climate Change*

**Likelihood of Future Occurrence**—Highly Likely

**Vulnerability**—Medium

### **Hazard Profile**

Climate change adaptation is a key priority of the State of California. The 2023 State of California Multi-Hazard Mitigation Plan noted that climate change is affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the State’s infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing.

California’s Adaptation Planning Guide: Understanding Regional Characteristics (from 2017) has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. The City falls in the North Central Valley Region. A map and climate projections for this region are shown in Section 4.3.7 of the Base Plan and include an increase in temperatures, moderate changes in rainfall, and increased risk to wildfire.

## Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the City of Elk Grove, the Sacramento County Planning Area, surrounding counties, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow (though the City

feels it has been accelerating). The duration of climate change is not yet known but is feared to be tens to hundreds of years.

## Past Occurrences

### *Disaster Declaration History*

Climate change has never been directly linked to any declared disasters.

### *NCDC Events*

NCDC does not track climate change events.

### *City of Elk Grove Events*

Climate change impacts in Elk Grove can be seen in increasing average temperatures, increasing numbers of extreme heat days and heat wave events, and shorter, more intense rainfall events that can lead to flooding. New record daily high temperatures were set for the weather station nearest to the City, at the Sacramento Executive Airport, in September 2022, with temperatures reaching 114 degrees and eight of the first nine days of that month reached over 103 degrees. Record rainfall was also experienced in October 2021, with over 5 inches received in one day. Increases in extreme heat and in annual precipitation are expected to continue.

## Vulnerability to Climate Change

The whole of the City is at some measure of vulnerability to climate change. The City Planning Team has concerns that the vulnerability of the City to climate change will continue to increase in the future. An assessment of a community's vulnerability to climate change begins with an understanding of local exposure to climate change. This is included in the Local Concerns section below followed by a discussion of the City's assets at risk and impacts to this hazard.

## Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

According to the City Planning Team and the City of Elk Grove Climate Compass, one of the most significant concerns is the growing frequency and intensity of extreme weather events. The region has seen more severe flooding incidents during the winter and rainy season, which can overwhelm stormwater infrastructure, damage property, and disrupt daily life. Elk Grove has also experienced more frequent and prolonged heatwaves during the summer and dry seasons. These extreme heat events can pose serious health risks, especially to vulnerable populations such as senior citizens, young children, and those with pre-existing medical conditions.

In addition to extreme weather, Elk Grove is facing the consequences of more frequent and severe droughts, which can lead to water scarcity issues that impact food production, stress trees and vegetation, and increase reliance on groundwater. Drought conditions also increase the risk of wildfires in the surrounding region.

Even when fires occur in distant parts of the state, communities are affected by the smoke and degraded air quality. Wildfire smoke can trigger respiratory issues and worsen existing health problems, disproportionately impacting sensitive groups.

## **Assets at Risk**

Assets at risk from climate change include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

### *People and Populations*

Climate change affects people and populations within a community, especially those climate change issues related to increases in temperature over time. While all populations can be affected by temperature extremes, populations particularly vulnerable include the very old and very young, medically fragile people, people without means of shelter (and air conditioning or heat) or transportation, people who are socially isolated and other vulnerable or underserved populations (as shown in the discussion in Section B.4.1). Acclimatization to extreme temperatures and other weather extremes may help reduce impacts from these extreme events, such as from heat waves, in the healthy general population but may not be sufficient to protect those with underlying medical conditions.

### *Structures*

Climate change, on its own, does not generally impact structures. However, structures in areas of increased flood, wildfire, or other areas exacerbated by the effects of climate change would be at increased risk, as described in the other hazard sections throughout this LHMP.

### *Critical Facilities and Infrastructure*

As with structures, critical facilities and infrastructure in areas of increased wildfire, flood, or other areas due to the effects of climate change would be at increased risk. Climate change is expected to increase the vulnerability of critical facilities and infrastructure to many natural hazards.

### *Natural, Historic, and Cultural Resources*

The rivers, streams, agricultural lands, and open space areas of the City supports rich biodiversity, including many special-status species and habitat areas. These are all at risk from the effects of climate change. In addition, if heat continues to contribute to changes in wildfire patterns, all areas (on land) of the City are at increased risk from fire – including natural, historic, and cultural resources. Furthermore, as climate change exacerbates the drought hazard, areas of wetlands in the City may be reduced or dry up temporarily, which could damage habitat areas for waterfowl and other species that depend on these areas.

## Impacts from Climate Change

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Central Valley Region in which the City is part of:

- Increased temperatures
- Reduced precipitation
- Public health – heat and air pollution
- Reduced agricultural productivity
- Inland flooding
- Reduced tourism

In addition to these sources, the 2023 State of California Hazard Mitigation Plan noted that according to California’s Fourth Climate Change Assessment, the state will experience the following climate impacts:

- Annual average daily high temperatures are expected to rise by 2.7° F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages.
- Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter.
- Droughts are likely to become more frequent and persistent through 2100.
- The strength of the most intense precipitation and storm events affecting California is expected to increase.
- Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease.
- Extreme wildfires (i.e., fires larger than 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.

Elk Grove has a Community Mobility Resilience Plan, including white papers discussing the extent to which extreme heat and flooding are anticipated to impact the City over the coming century. In addition, Elk Grove has finalized the Climate Compass, a comprehensive update to the 2019 Climate Action Plan, which includes climate mitigation, adaptation, resilience and sustainability strategies.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile section above), changes in population patterns, and changes in land use and development. The influencing effects of these factors on this hazard are discussed further in the Future Conditions/Future Development discussion below.

## Future Conditions/Future Development

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

## Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City include the following:

- As climate change continues to accelerate over time, climate related impacts to the City will continue to increase.
- Climate change can influence population growth in the City over time. While the City is expected to see slow and steady growth, the City could see population fluctuations as a result of climate impacts relative to those experienced in other regions, and these fluctuations are expected to impact demand for housing and other development. The City noted 51 areas where development is occurring or likely to occur in the next five years. Changes in population and population patterns that would come with the 51 future development areas would likely increase the impacts associated with this hazard. Additionally, climate change may also influence future population growth in the City and County.
- Land use planning should be proactive to address future hazard conditions. The City noted 51 areas where development is occurring or likely to occur in the next five years. The increasing severity and frequency of storms and other weather events and natural hazards due to the changing climate should be taken into account while considering land use planning and development in the City. Changes in land use and development may or may not increase the impacts and associated vulnerabilities of the City to this hazard depending on where and how this future growth occurs and the extent of future climate change influence in the City.

## Future Development

Future development considerations should be ongoing and proactive. Ensuring that comprehensive land use planning is conducted, regulatory requirements, such as building codes, are followed, and varying needs for different demographic groups that reside within the City are considered can help to make for a more disaster resilient community.

## *Dam Failure*

**Likelihood of Future Occurrence**—Unlikely

**Vulnerability**—Extremely High

## Hazard Profile

Dams are manmade structures built for a variety of uses including flood protection, power generation, agriculture, water supply, and recreation. When dams are constructed for flood protection, they are usually engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any given year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped or fail. Overtopping is the primary cause of earthen dam failure in the United States. In addition, with storms increasing in volume and intensity, as seen with the atmospheric river events of recent years, controlled releases from dams can also impact downstream levees and flood control structures resulting in increased and widespread flooding.

Dam failures, for purposes of this Plan, can also result from any one or a combination of the following:

- Earthquake
- Overtopping and uncontrolled releases
- Controlled releases
- Inadequate spillway capacity resulting in excess overtopping flows
- Internal erosion caused by embankment or foundation leakage, or piping or rodent activity
- Improper design
- Improper maintenance
- Negligent operation
- Failure of upstream dams on the same waterway

Dam failure is a natural disaster from two perspectives. First, the inundation from released waters resulting from dam failure is related to naturally occurring floodwaters. Second, a total dam failure would most probably happen as a consequence of the natural disaster triggering the event, such as an earthquake.

### **Location and Extent**

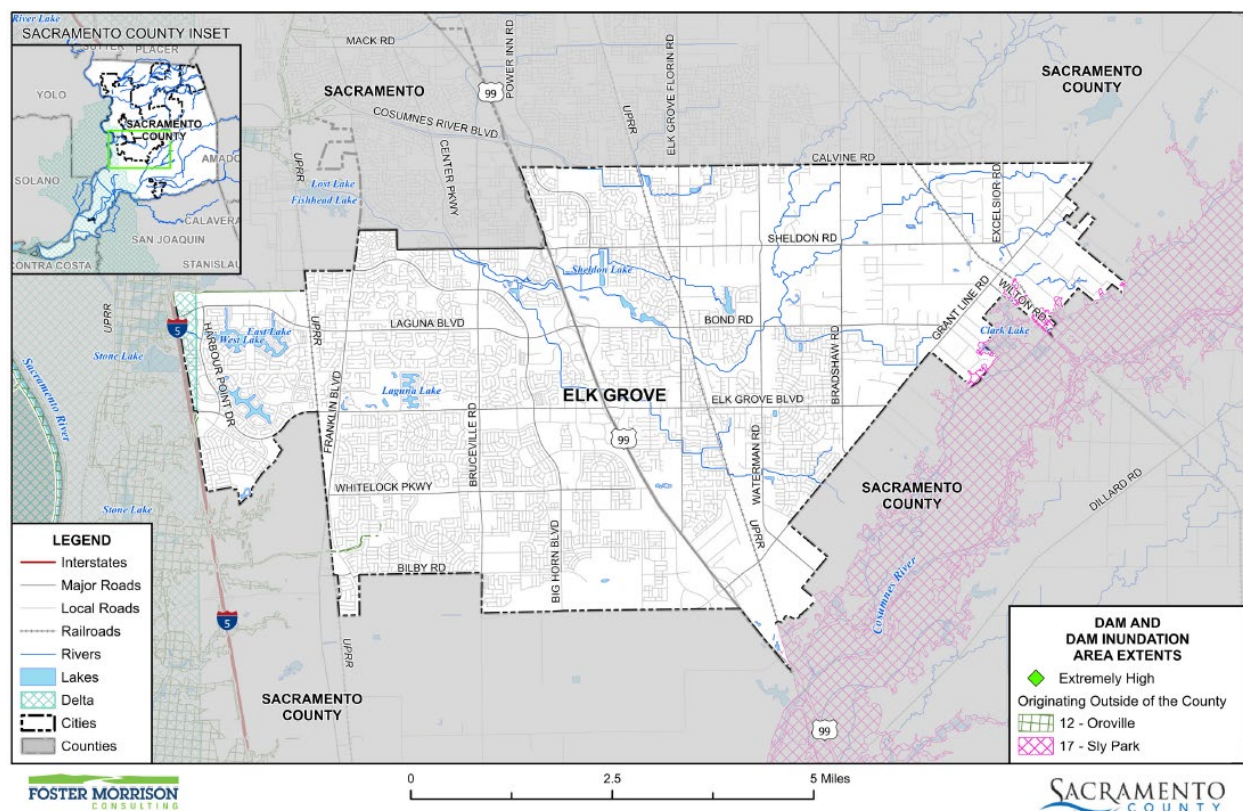
An inventory map of dams located within and around Sacramento County was shown in Section 4.3.8 in the Base Plan. Inundation mapping and analyses were conducted on Extremely High and High Hazard dams with inundation areas located in the Sacramento County Planning Area. Dams with an inundation area within the City of Elk Grove are shown on Figure B-23 for Extremely High Hazard dams from outside the County, Figure B-24 for High Hazard dams from inside the County. There is no mapping for High Hazard dams from outside the County as it does not affect Elk Grove. The City is affected by two Extremely High Hazard dams (Oroville and Sly Park), three High Hazard dams from within the County (Calero, Chesbro, and Nimbus). In addition, based on the Folsom dam inundation analyses included in the 2021 and 2016 Sacramento County LHMPs, areas of the City fall within previous dam inundation areas for Folsom. It is thus assumed that, while not quantified, the City remains at risk and vulnerable to a future Folsom dam incident.

There is no scale with which to measure dam failure. However, FEMA and CA DWR Division of Safety of Dams (DSOD) assign hazard potential classifications to dams within the State that provides information on the potential impact should a dam fail. The following two factors are considered when assigning hazard ratings: existing land use and land use controls (zoning) downstream of the dam. FEMA categorizes the downstream hazard potential into three categories in increasing severity: Low, Significant, and High. DSOD adds a fourth category of Extremely High. Dams are classified in these four categories that identify the potential hazard to life and property. These were discussed in more detail in Section 4.3.8 of the Base Plan.

While a dam may fill slowly with runoff from winter storms, a dam break has a very quick speed of onset. The duration of dam failure is generally not long – only as long as it takes to empty the reservoir of water the dam held back. For dam overtopping, the speed of onset is somewhat slower than that of a dam break, and the duration is longer (as evidenced in the 2017 Oroville Dam spillway event). The City would be affected for as long as the flood waters from the dam failure took to drain downstream.

An inventory map of dams located within and around Sacramento County was shown in Section 4.3.8 in the Base Plan. Inundation mapping and analyses were conducted on Extremely High and High Hazard dams with inundation areas located in the Sacramento County Planning Area. Geographic flood extent from the DSOD dam inundation areas originating within the City of Elk Grove are shown in Table B-18 for Extremely High Hazard dams originating from outside the County and Table B-19 for High Hazard dams originating from inside the County. There is no extent tables presented for High Hazard dams from outside the County as they don't affect the City.

*Figure B-23 City of Elk Grove – Extremely High Hazard Dams (Outside the County) Inundation Areas*



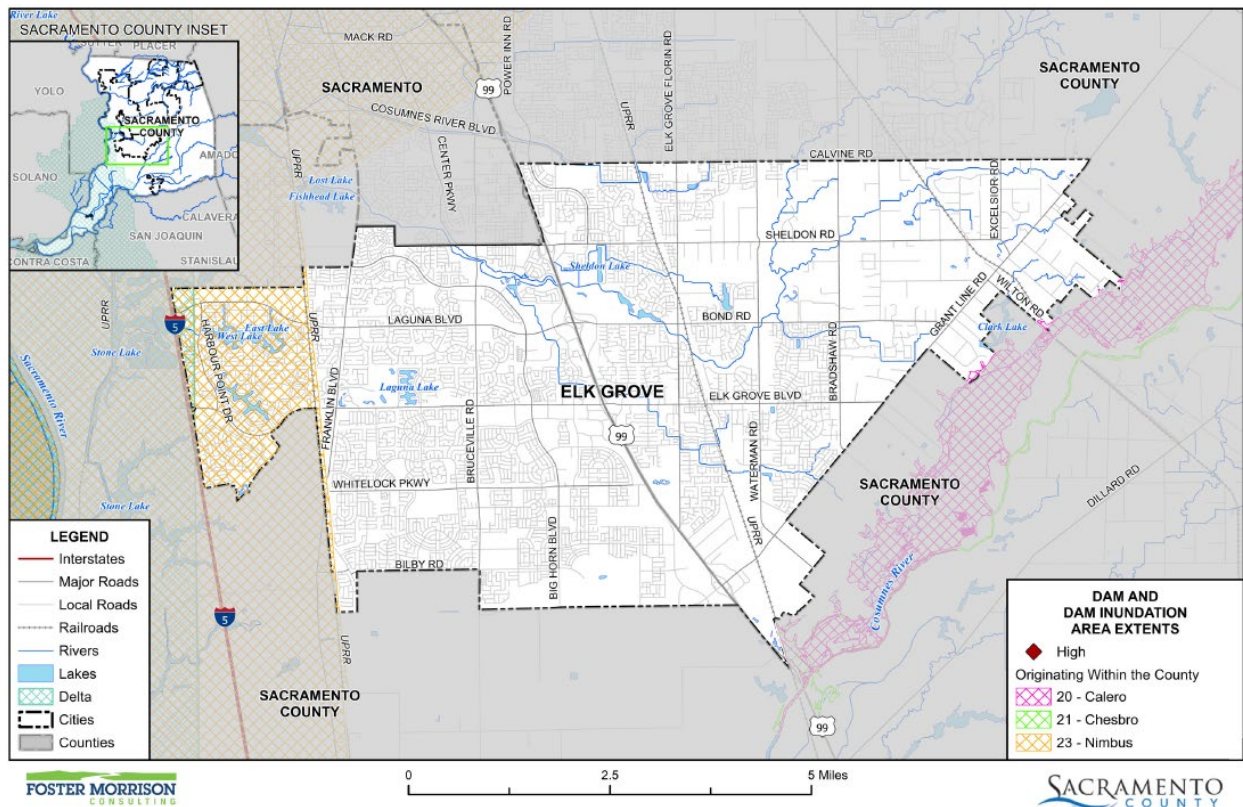
Data Source: DWR DSOD dam inundations (updated 7/2025; data downloaded 10/2025),  
NID dam inventory and inundation data (updated 11/6/2025; data downloaded 11/6/2025),  
Sacramento County, Cal-Atlas; Map Date: 4/2/2026.

*Table B-17 City of Folsom – Geographical Extents of Extremely High Hazard (Outside the County) Dam Inundation Areas*

| Dam Inundation Areas | Total Parcel Count | Improved Parcel Count | Total Land Value | Structure Value | Total Value  | Estimated Contents Value | Total Value  |
|----------------------|--------------------|-----------------------|------------------|-----------------|--------------|--------------------------|--------------|
| Oroville             | 22                 | 3                     | \$6,440,182      | \$28,437,067    | \$34,877,249 | \$42,171,454             | \$77,048,703 |
| Sly Park             | 55                 | 46                    | \$13,200,832     | \$27,562,805    | \$40,763,637 | \$13,781,403             | \$54,545,040 |

Source: DWR DSOD, NID

*Figure B-24 City of Elk Grove – High Hazard Dam (Inside the County) Inundation Areas*



Data Source: DWR DSOD dam inundations (updated 7/2025; data downloaded 10/2025),  
NID dam inventory and inundation data (updated 11/6/2025; data downloaded 11/6/2025),  
CalOES CIP dam inundation data (3/2017),  
Sacramento County, Cal-Atlas; Map Date: 4/2/2026.

*Table B-18 City of Elk Grove – Geographical Extents of High Hazard Dam (Inside the County) Inundation Areas*

| Jurisdiction / Dam Inundation Area | Total Acres | % of Total Acres | Improved Acres | % of Total Improved Acres | Unimproved Acres | % of Total Unimproved Acres |
|------------------------------------|-------------|------------------|----------------|---------------------------|------------------|-----------------------------|
| Calero                             | 16          | 13               | \$3,683,558    | \$7,153,506               | \$3,576,753      | \$14,413,817                |
| Chesbro                            | 2           | 0                | \$0            | \$0                       | \$0              | \$0                         |
| Nimbus                             | 6,648       | 6,272            | \$873,029,544  | \$2,754,726,915           | \$1,626,408,883  | \$5,254,165,342             |

Source: DWR DSOD, NID

## Past Occurrences

### Disaster Declaration History

There have been no state or federal disaster declarations for dam failure in Sacramento County.

### *NCDC Events*

The NCDC does not contain any dam failure events for Sacramento County.

### *City of Elk Grove Events*

The City Planning Team noted no past occurrences of dam failure to affect the City.

### **Climate Change and Dam Failure**

It is likely that climate change will increase the chance of future occurrence as well as future impacts associated with dam failure. More information on future impacts to the City can be found below and in the Future Conditions/Future Development section of the Vulnerability Assessment below.

The 2023 California State Hazard Mitigation Plan noted that modeling described in California's Fourth Climate Change Assessment projects less frequent but more extreme daily precipitation. Year-to-year precipitation will become more volatile, and the number of dry years will increase by mid-century. As the climate continues to warm, atmospheric rivers will carry more moisture, and extreme precipitation may increase. Climate model projections show a tendency for the northern part of the State to become wetter. Increases in both precipitation and heat causing snow melt in areas upstream of dams could increase the potential for dam failure and uncontrolled releases in Sacramento County. The City could be affected by these changes, especially in those areas of the City located within dam inundation areas.

The 2024 Sacramento County CAP noted that climate change is likely to lead to changes in the frequency, intensity, and duration of extreme weather events. The County is projected to experience a steady increase in average annual precipitation through the end of the century, with much of that precipitation likely to occur during extreme precipitation events, which can lead to flood impacts. According to Cal-Adapt, the historic average annual precipitation in Sacramento County is 18.3 inches, and the historic average annual number of extreme precipitation events is four. The average annual precipitation across the County may rise upwards of 22 inches, with the number of extreme precipitation events potentially exceeding 7 per year by the end of the century, depending on the level of current and future GHG emissions.

In general, California exhibits "booms and busts," which refers to the existence of both very wet years and very dry years. The amount of precipitation that falls in any particular year is largely influenced by occurrences of large, discrete winter storms, also known as atmospheric rivers, which often provide a substantial fraction of the region's annual precipitation, inclusive of the county. In California, atmospheric rivers vary in intensity; some are beneficial for water supply and replenish snowpack that naturally melts during the summer, serving as the water supply for people and agriculture, while others are responsible for widespread and adverse impacts (NOAA 2023). Extreme precipitation from these atmospheric rivers in the future may prove to be more variable, volatile, and potentially more severe. These extremes are most likely to occur during storm events, leading to more severe damage from waves and floods, thus possibly leading to more dam failure events.

## **Vulnerability to Dam Failure**

The vulnerability of the City to dam failure flooding would vary depending on which dam fails and the nature and extent of the dam failure and associated flooding. The primary danger associated with dam failure is the high velocity flooding of those properties downstream of the dam. A dam failure can range from a small, uncontrolled release to a catastrophic failure. Vulnerability to dam failures is generally confined to the areas subject to inundation downstream of the facility. Secondary losses would include loss of the multi-use functions of the facility and associated revenues that accompany those functions. Dam failure flooding would vary by community depending on which dam fails and the nature and extent of the dam failure and associated flooding.

An assessment of a community's vulnerability to dam failure begins with an understanding of local exposure to dam failure. This is included in the Local Concerns section below followed by a discussion of the City's Assets at Risk to this hazard.

### **Local Concerns**

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

### ***General Concerns***

The City's Environmental Impact Report from the General Plan noted that Folsom Dam and Sly Park Dam have the potential to cause flooding in the Planning area in the event of a dam failure. This has not changed since the 2021 LHMP.

The City follows procedures and evacuation routes as specified by County OES and Cal OES in the event of a dam failure.

### **Assets at Risk**

Assets at risk from dam failure include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

### ***People and Populations***

All people and populations located in dam inundation areas are vulnerable to dam failure. Certain vulnerable populations may be at increased risk to dam failure, especially during a large event with minimal advance notice. These vulnerable populations may include: the unsheltered, those with limited mobility, and those that lack the resources to leave the area.

City residents that live in these dam inundation areas are often the most vulnerable. Not only are the residents at risk, but their homes and contents are all at risk, compounding the impacts associated with significant hazard events. To further evaluate the impact to the City of Elk Grove's residential populations located in these hazard areas, a separate analysis was performed to determine residential populations in the

dam inundation areas. The DSOD dam inundation areas were overlayed on the parcel layer. Those residential parcel that intersect the dam inundation areas were counted and multiplied by the Census Bureau average household factors for the City of Elk Grove – 3.27. This is shown in Table B-20. While not currently mapped, this includes those populations impacted by a future Folsom dam incident.

*Table B-19 City of Elk Grove – Improved Residential Parcels and Population by Dam Inundation Area*

| Dam Name                                                         | Improved Residential Parcels | Population at Risk |
|------------------------------------------------------------------|------------------------------|--------------------|
| <b>Extremely High Hazard (Outside the County) Dam Inundation</b> |                              |                    |
| Oroville                                                         | 0                            | 0                  |
| Sly Park                                                         | 46                           | 147                |
| <b>High Hazard Dam (Inside County) Inundation</b>                |                              |                    |
| Calero                                                           | 13                           | 42                 |
| Chesbro                                                          | 0                            | 0                  |
| Nimbus                                                           | 6,142                        | 19,654             |

Source: DSOD, Sacramento County 2025 Parcel/Assessor Data, 2023 US Census Bureau American Community Survey Average Household Size –City of Elk Grove (3.27).

The City noted that the Critical Facilities and Infrastructure section below includes the facilities used by At-Risk populations that are threatened by this hazard. While this is not specific to what special populations reside in the City, it does speak to facilities that are used to serve (portions) of these populations.

### *Structures*

Many structures in the City have some measure of risk to dam failure. Dam failure flooding can affect the built environment of the City. Structures in dam inundation areas are at risk and depending on flood depths, can range from slight damage to totally inundated. Analysis by Extremely High Hazard and High Hazard dam follows.

A GIS based analysis was used to determine the possible impacts of dam inundation flooding on parcels and structures within the City of Elk Grove. The methodology described in Section 4.3.8 of the Base Plan was followed in determining City parcels and structures at risk to dam failure. Parcel counts, land and improved values (i.e., those with a structure improvement on the parcel), estimated content replacement values, and total values that fall within dam inundation areas in the City are presented below by hazard classification and by dam. The results are presented in Table B-21 and Table B-22 for the dams that affect the City. While not currently mapped, this includes structures impacted by a future Folsom dam incident.

*Table B-20 City of Elk Grove – Count and Value of Parcels and Structures in Extremely High Hazard Dam (Outside the County) Inundation Areas by Dam and Property Use*

| Dam Inundation Area / Property Use | Total Parcel Count | Improved Parcel Count | Total Land Value    | Structure Value     | Total Value         | Estimated Contents Value | Total Value         |
|------------------------------------|--------------------|-----------------------|---------------------|---------------------|---------------------|--------------------------|---------------------|
| <b>Oroville</b>                    |                    |                       |                     |                     |                     |                          |                     |
| Industrial                         | 3                  | 2                     | \$4,098,517         | \$27,468,773        | \$31,567,290        | \$41,203,160             | \$72,770,450        |
| Miscellaneous                      | 11                 | 0                     | \$101               | \$0                 | \$101               | \$0                      | \$101               |
| Office                             | 1                  | 1                     | \$622,382           | \$968,294           | \$1,590,676         | \$968,294                | \$2,558,970         |
| Public / Utilities                 | 1                  | 0                     | \$0                 | \$0                 | \$0                 | \$0                      | \$0                 |
| Vacant                             | 6                  | 0                     | \$1,719,182         | \$0                 | \$1,719,182         | \$0                      | \$1,719,182         |
| <b>Oroville Total</b>              | <b>22</b>          | <b>3</b>              | <b>\$6,440,182</b>  | <b>\$28,437,067</b> | <b>\$34,877,249</b> | <b>\$42,171,454</b>      | <b>\$77,048,703</b> |
| <b>Sly Park</b>                    |                    |                       |                     |                     |                     |                          |                     |
| Public / Utilities                 | 3                  | 0                     | \$0                 | \$0                 | \$0                 | \$0                      | \$0                 |
| Recreational                       | 1                  | 0                     | \$9                 | \$0                 | \$9                 | \$0                      | \$9                 |
| Residential                        | 46                 | 46                    | \$12,319,509        | \$27,562,805        | \$39,882,314        | \$13,781,403             | \$53,663,717        |
| Vacant                             | 5                  | 0                     | \$881,314           | \$0                 | \$881,314           | \$0                      | \$881,314           |
| <b>Sly Park Total</b>              | <b>55</b>          | <b>46</b>             | <b>\$13,200,832</b> | <b>\$27,562,805</b> | <b>\$40,763,637</b> | <b>\$13,781,403</b>      | <b>\$54,545,040</b> |

Source: DSOD, Sacramento County 2025 Parcel/Assessor Data

*Table B-21 City of Elk Grove – Count and Value of Parcels and Structures in High Hazard Dam (Inside the County) Inundation Area by Property Use*

| Dam Inundation Area / Jurisdiction / Property Use | Total Parcel Count | Improved Parcel Count | Total Land Value   | Structure Value    | Estimated Contents Value | Total Value         |
|---------------------------------------------------|--------------------|-----------------------|--------------------|--------------------|--------------------------|---------------------|
| <b>Calero</b>                                     |                    |                       |                    |                    |                          |                     |
| Public / Utilities                                | 2                  | 0                     | \$0                | \$0                | \$0                      | \$0                 |
| Residential                                       | 13                 | 13                    | \$3,438,392        | \$7,153,506        | \$3,576,753              | \$14,168,651        |
| Vacant                                            | 1                  | 0                     | \$245,166          | \$0                | \$0                      | \$245,166           |
| <b>Calero Total</b>                               | <b>16</b>          | <b>13</b>             | <b>\$3,683,558</b> | <b>\$7,153,506</b> | <b>\$3,576,753</b>       | <b>\$14,413,817</b> |
| <b>Nimbus</b>                                     |                    |                       |                    |                    |                          |                     |
| Care / Health                                     | 3                  | 3                     | \$2,940,856        | \$5,712,055        | \$5,712,055              | \$14,364,966        |
| Church / Welfare                                  | 6                  | 6                     | \$5,553,190        | \$24,031,910       | \$24,031,910             | \$53,617,010        |

| Dam Inundation Area / Jurisdiction / Property Use | Total Parcel Count | Improved Parcel Count | Total Land Value     | Structure Value        | Estimated Contents Value | Total Value            |
|---------------------------------------------------|--------------------|-----------------------|----------------------|------------------------|--------------------------|------------------------|
| Industrial                                        | 25                 | 22                    | \$26,387,422         | \$131,760,328          | \$197,640,492            | \$355,788,242          |
| Miscellaneous                                     | 210                | 0                     | \$384,705            | \$0                    | \$0                      | \$384,705              |
| Office                                            | 63                 | 54                    | \$19,790,995         | \$121,329,005          | \$121,329,005            | \$262,449,005          |
| Public / Utilities                                | 9                  | 0                     | \$0                  | \$0                    | \$0                      | \$0                    |
| Recreational                                      | 3                  | 3                     | \$4,068,364          | \$20,254,382           | \$20,254,382             | \$44,577,128           |
| Residential                                       | 6,220              | 6,142                 | \$748,978,639        | \$2,388,396,393        | \$1,194,198,197          | \$4,331,573,229        |
| Retail / Commercial                               | 45                 | 42                    | \$30,374,463         | \$63,242,842           | \$63,242,842             | \$156,860,147          |
| Unknown                                           | 1                  | 0                     | \$0                  | \$0                    | \$0                      | \$0                    |
| Vacant                                            | 63                 | 0                     | \$34,550,910         | \$0                    | \$0                      | \$34,550,910           |
| <b>Nimbus Total</b>                               | <b>6,648</b>       | <b>6,272</b>          | <b>\$873,029,544</b> | <b>\$2,754,726,915</b> | <b>\$1,626,408,883</b>   | <b>\$5,254,165,342</b> |

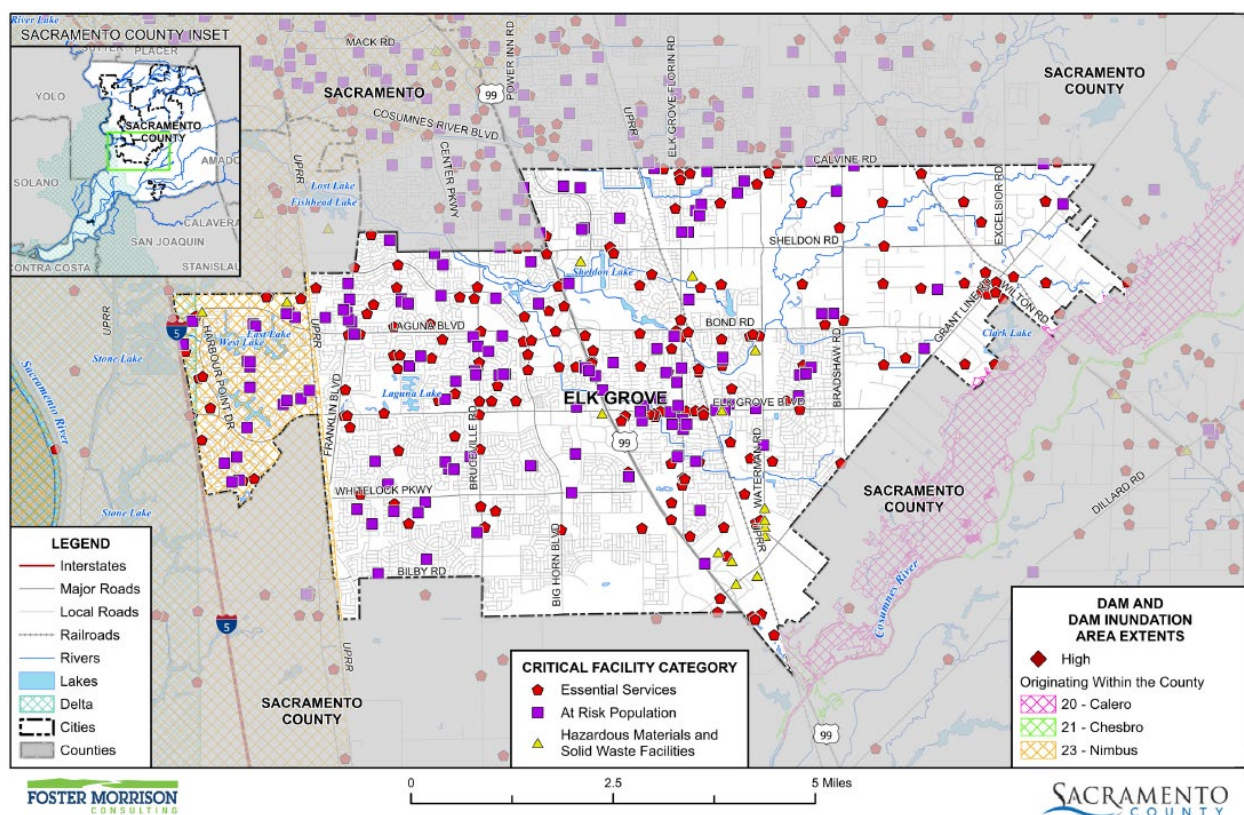
Source: DSOD, Sacramento County 2025 Parcel/Assessor Data

### *Critical Facilities and Infrastructure*

Dam failure flooding presents a threat to critical facilities and infrastructure. For example, transportation routes, including bridges and highways, are vulnerable to dam inundation and have the potential to be unpassable and even destroyed, creating isolation and supply chain issues. Those critical facilities that are most vulnerable include those that are already in poor condition and would not be able to withstand a large water surge.

The following analysis was performed on the critical facility inventory in the City to determine which critical facilities fall into each DSOD dam inundation area. This was done separately for both Extremely High Hazard and High Hazard dam inundation areas. Using GIS, the Extremely High Hazard dam inundation areas were overlayed on the critical facility GIS layer. The City has no critical facilities in the Extremely High Hazard dam inundation areas; as such, no maps or tabular analysis is presented. Using GIS, the High Hazard dam inundation areas were overlayed on the critical facility GIS layer. This is shown on Figure B-25 for the High Hazard dam inundation areas. Table B-23 details which critical facilities fall in the High Hazard dam inundation areas. While not currently mapped, this includes those critical facilities and infrastructure impacted by a future Folsom dam incident.

*Figure B-25 City of Elk Grove – Critical Facilities in High Hazard Dam (Inside the County) Inundation Areas*



Data Source: DWR DSOD dam inundations (updated 7/2025; data downloaded 10/2025),  
NID dam inventory and inundation data (updated 11/6/2025; data downloaded 11/6/2025),  
CalOES CIP dam inundation data (3/2017),  
Sacramento County, Cal-Atlas; Map Date: 4/20/2026.

*Table B-22 City of Elk Grove – Critical Facilities in High Hazard Dam (Inside the County) Inundation Areas by Category and Type\**

| Critical Facility Category                     | Facility Count |
|------------------------------------------------|----------------|
| Essential Services Facilities                  | 19             |
| At Risk Population Facilities                  | 22             |
| Hazardous Materials and Solid Waste Facilities | 2              |
| <b>Elk Grove Total</b>                         | <b>43</b>      |

Source: DSOD, City of Elk Grove

\*The City noted that it took exception to some of the data in this table. The City recommends an updated database be created with input from local stakeholders.

### *Natural, Historic, and Cultural Resources*

A major dam failure event and associated flooding could have a devastating impact on the City. Large flood events can affect all natural, historic, and cultural resources that lie in the dam inundation areas. There are a number of ways floodwaters associated with a dam failure event can impact natural resources and the environment: Wildlife habitats can be destroyed by floodwaters. Contaminated floodwater can pollute

rivers and habitats. Silt and sediment can destroy natural areas. Riverbanks and natural levées can be eliminated as rivers reach bankfull capacity. Rivers can be widened, and deposition can increase downstream. Trees can be uprooted by high-velocity water flow. Plants that survive the initial flood may die due to being inundated with water. Historic and cultural resources may also be affected. Generally, the impacts are associated with damage to these structures within the inundated areas, but other cultural resources such as those associated with Native Americans and old tribal areas can also be disturbed, damaged, and lost during extreme dam failure flood events.

### Impacts from Dam Failure

Impacts to the City from dam failure flooding could be extensive and widespread and include loss of life and injury, flooding and damage to property and structures, damage to critical facilities and infrastructure, loss of natural resources, and all other flood related impacts. Additionally, mass evacuations and associated economic losses can also be significant.

Other impacts associated with dam failure include landslides, bank erosion, and destruction of habitat. Dam failures can cause downstream flooding and can transport large volumes of sediment and debris and contaminants from the floodwaters. Other environmental impacts can include contamination from septic system failures and releases of contaminants from hazardous materials facilities, contamination of potable water supplies; changes in configurations of streams; loss of wildlife habitats; and degradation of wetlands. A large dam failure event could have significant and catastrophic impacts.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the Climate Change and Dam Failure discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed in the Future Conditions/Future Development discussion below.

### Future Conditions/Future Development

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

#### Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City include the following:

- Climate change is likely to exacerbate future rain and storm conditions and associated impacts and vulnerability of the City to dam failure. This was discussed in greater detail in the Climate Change and Dam Failure section of the Hazard Profile above.
- The City is expected to see slow and steady growth, and this additional growth within the dam inundation areas of the City would place additional populations at risk to dam failure. Many of the 51 future development areas would fall in a dam inundation area, which would raise the population residing or working in those areas. Additional population growth would likely bring continued

diversity to the City. Vulnerable population groups could face disproportionate effects from a dam failure and should be planned for. Changes in population and population patterns that will come from new development will place more people within the dam inundation areas and would likely increase the impacts and vulnerability of the City to this hazard.

- Land use planning should be proactive to address future hazard conditions. Locating new development, structures, and critical facilities and infrastructure within or near areas of dam failure risk will put additional development at risk. 51 locations are expected to be developed in the next five years. Many of these fall inside of the dam inundation areas. City building codes are in effect to partially reduce this risk and should be updated as necessary to continue to address future dam failure conditions. Changes in land use and future development is likely to increase the impacts and associated vulnerabilities of the City to this hazard.

## Future Development

Future dam failure events may occur in the City. Given the number of affected parcels and structures, future development in the City would likely be affected by dam failures and associated flooding. Siting of future development areas should take dam failure flooding into account. The City enforces its floodplain ordinance, which helps to reduce risk to flooding by requiring structures located in a Special Flood Hazard Areas (SFHA) to be above the base flood elevation which, depending on inundation depths, may provide some relief.

Future development areas and their vulnerability to dam failure are discussed further in the GIS analysis below.

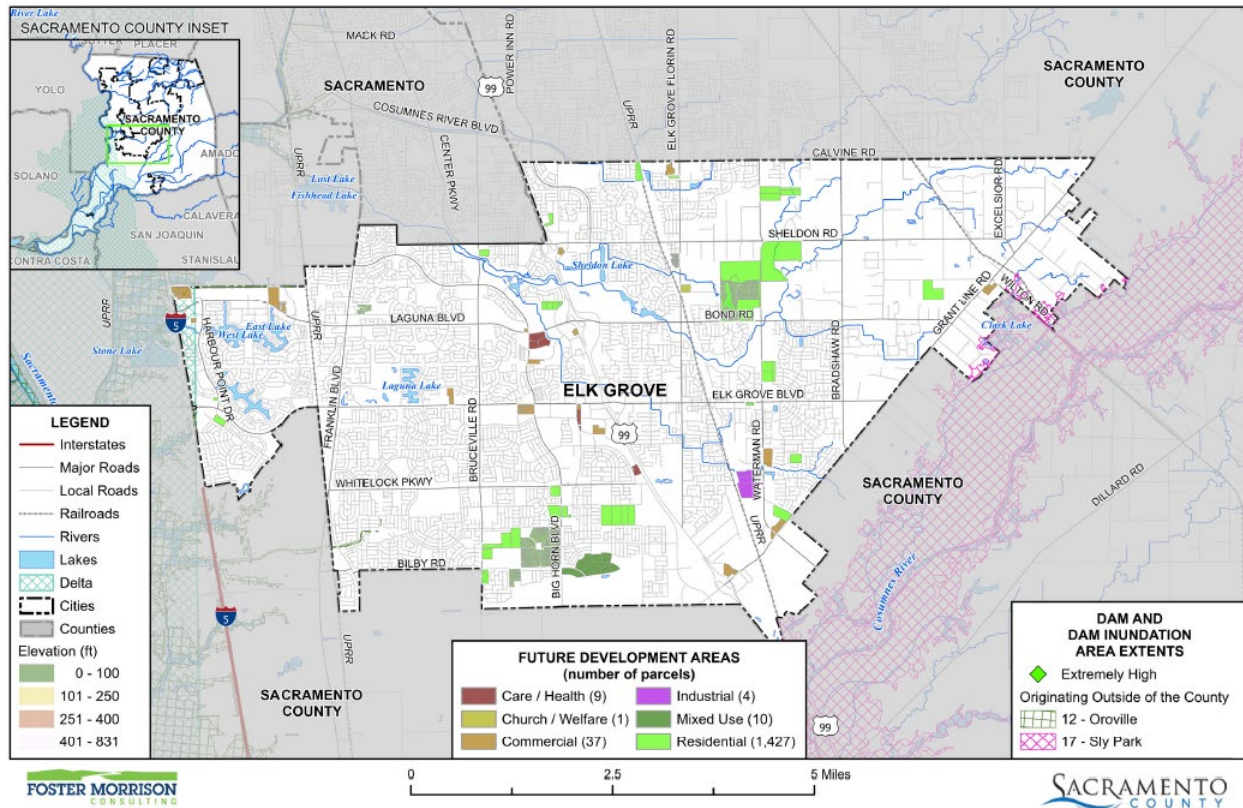
## GIS Analysis

The City of Elk Grove provided 51 future development areas which were used as the basis for the inventory of future development for the City. These were mapped in GIS. The City has areas in both the Extremely High and High Hazard dams inundation areas.

Figure B-26 shows the locations of the future development areas overlayed on the Extremely High Hazard dam inundation areas. Only one Extremely High Hazard dam (Oroville) intersects the future development areas. Future development affected by the Oroville Dam is detailed in Table B-24. As shown, only 1 of the 51 future development areas fall in the Oroville Dam inundation area.

Figure B-27 shows the locations of the future development areas overlayed on the High Hazard (inside the County) dam inundation areas. Only one High Hazard dam (Nimbus) intersects the future development areas. Future development affected by the Nimbus Dam is detailed in Table B-25. As shown, only 6 of the 51 future development areas fall in the Nimbus Dam inundation area.

*Figure B-26 City of Elk Grove – Future Development Areas in Extremely High Hazard (Outside the County) Dam Inundation Areas*



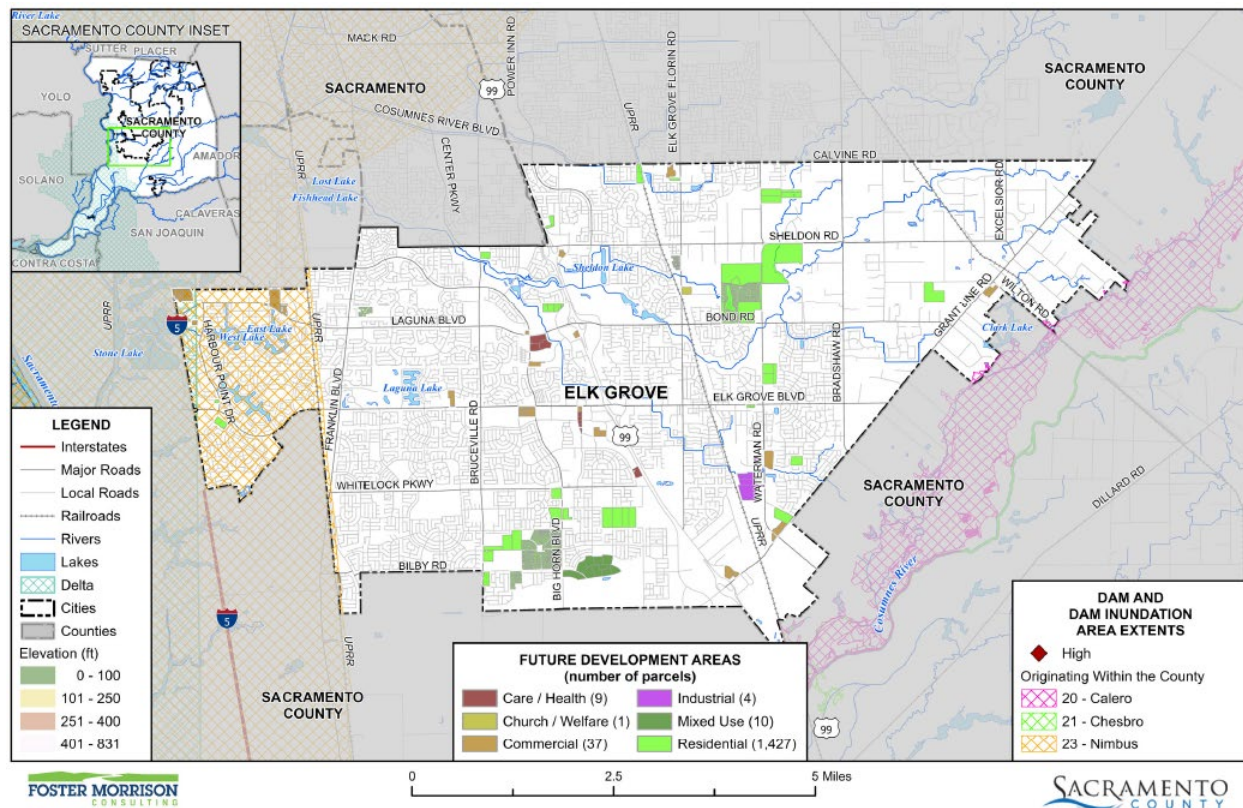
Data Source: DWR DSOD dam inventory and inundations (updated 7/2025; data downloaded 10/2025), Sacramento County, Cal-Atlas; Map Date: 9/24/2026.

*Table B-23 City of Elk Grove – Future Development Areas by Type and Status in Extremely High Hazard (Outside the County) Dam Inundation Areas with Parcels and Acres*

| Dam Hazard Inundation Areas / Future Development Type and Status | Site/Location Name              | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|------------------------------------------------------------------|---------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>Oroville</b>                                                  |                                 |                    |                       |                         |             |                      |                        |
| <b>Commercial</b>                                                |                                 |                    |                       |                         |             |                      |                        |
| In Planning Review                                               | Slakey Brother Expansion        | 3                  | 1                     | 2                       | 17.4        | 11.4                 | 6.0                    |
|                                                                  | <b>In Planning Review Total</b> | 3                  | 1                     | 2                       | 17.4        | 11.4                 | 6.0                    |
| <b>Commercial Total</b>                                          |                                 | 3                  | 1                     | 2                       | 17.4        | 11.4                 | 6.0                    |
| <b>Oroville Total</b>                                            |                                 | 3                  | 1                     | 2                       | 17.4        | 11.4                 | 6.0                    |

Source: DSOD/NID, City of Elk Grove

*Figure B-27 City of Elk Grove – Future Development Areas in High Hazard (Inside the County) Dam Inundation Areas*



Data Source: DWR DSOD dam inventory and inundations (updated 7/2025; data downloaded 10/2025), CalOES CIP dam inundation data (3/2017), Sacramento County, Cal-Atlas; Map Date: 9/24/2026.

*Table B-24 City of Elk Grove – Future Development Areas by Type and Status in High Hazard (Inside the County) Dam Inundation Areas with Parcels and Acres*

| Dam Hazard Inundation Areas / Future Development Type and Status | Site/Location Name            | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|------------------------------------------------------------------|-------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>Nimbus</b>                                                    |                               |                    |                       |                         |             |                      |                        |
| <b>Residential</b>                                               |                               |                    |                       |                         |             |                      |                        |
| Approved                                                         | Elk Grove Apartments          | 1                  | 0                     | 1                       | 1.3         | 0.0                  | 1.3                    |
|                                                                  | Wellington Crossing Amendment | 1                  | 0                     | 1                       | 7.5         | 0.0                  | 7.5                    |
|                                                                  | <b>Approved Total</b>         | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>8.7</b>  | <b>0.0</b>           | <b>8.7</b>             |

| Dam Hazard Inundation Areas / Future Development Type and Status | Site/Location Name                             | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|------------------------------------------------------------------|------------------------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>Residential Total</b>                                         |                                                | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>8.7</b>  | <b>0.0</b>           | <b>8.7</b>             |
| <b>Commercial</b>                                                |                                                |                    |                       |                         |             |                      |                        |
| Approved                                                         | Elk Grove Sports Center Retail & Tech Building | 1                  | 1                     | 0                       | 19.4        | 19.4                 | 0.0                    |
|                                                                  | <b>Approved Total</b>                          | <b>1</b>           | <b>1</b>              | <b>0</b>                | <b>19.4</b> | <b>19.4</b>          | <b>0.0</b>             |
| In Planning Review                                               | Laguna Contractors Garage & Self Storage       | 1                  | 0                     | 1                       | 4.6         | 0.0                  | 4.6                    |
|                                                                  | Slakey Brother Expansion                       | 4                  | 1                     | 3                       | 19.7        | 11.4                 | 8.3                    |
|                                                                  | <b>In Planning Review Total</b>                | <b>5</b>           | <b>1</b>              | <b>4</b>                | <b>24.3</b> | <b>11.4</b>          | <b>12.9</b>            |
| <b>Commercial Total</b>                                          |                                                | <b>6</b>           | <b>2</b>              | <b>4</b>                | <b>43.7</b> | <b>30.8</b>          | <b>12.8</b>            |
| <b>Nimbus Total</b>                                              |                                                | <b>8</b>           | <b>2</b>              | <b>6</b>                | <b>52.4</b> | <b>30.8</b>          | <b>21.6</b>            |

Source: DSOD/NID, City of Elk Grove

## *Drought & Water Shortage (w/Tree Mortality)*

**Likelihood of Future Occurrence**–Likely

**Vulnerability**–High

### **Hazard Profile**

Drought and water shortage are complex issues involving many factors—it occurs when a normal amount of precipitation is not available to satisfy an area’s usual water-consuming activities. Drought can often be defined regionally based on its effects. Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water supply is the most significant issue and is critical for agriculture, manufacturing, tourism, recreation, and commercial and domestic use. Drought has also affected tree mortality in the area in the past. As the population in the area continues to grow, so will the demand for water.

### *Tree Mortality and Drought*

One of the specific impacts of drought in the City of Elk Grove and the Sacramento County Planning Area is the increased risk to trees from insects, pathogens and parasites, and other tree mortality and die back

issues. Drought weakens trees and makes them more susceptible to insect infestation and other pathogens. Insects, such as bark beetles and others, frequently attack trees weakened by drought, disease, injuries, or other factors that may stress the tree. These insects and other pathogens can contribute to the decline and eventual death of trees throughout the City. The tree mortality and dieback problems are a high priority because of the issue of hazardous trees and an increased wildfire hazard. In addition to an increase in wildfire fuels, hazardous trees can fall onto structures causing damage and a result in a reduction on the tree canopy within the City that provides relief during extreme heat days.

## Location and Extent

Drought and water shortage are regional phenomenon. The whole of the City and County is at risk. The US Drought Monitor categorizes drought conditions with the following scale:

- None
- D0 – Abnormally dry
- D1 – Moderate Drought
- D2 – Severe Drought
- D3 – Extreme Drought
- D4 – Exceptional Drought

The Sacramento County Planning Area, including the City of Elk Grove, has been in and out of drought since 2014. Over the last seven years since the 2021 LHMP, drought conditions have ranged from none to exceptional. Drought conditions are expected to continue to be cyclical in nature depending on the year.” Current drought conditions in the City are shown in Section 4.3.9 of the Base Plan.

Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time (which does not usually affect water shortages) or for longer periods (which may challenge water supplies). Should a drought last for a long period of time, water shortage becomes a larger issue. Surface water is the dominant source of water in the City due to the number of rivers in the region, but ground water supplements agriculture, which consumes the majority of water in the surrounding County.

## Past Occurrences

### *Disaster Declaration History*

There have been 3 state and 1 federal disaster declarations for Sacramento County. This can be seen in Table B-26. Additionally, there have been 26 USDA Secretarial Disaster Declarations from drought in the County, as shown in Past Occurrences in Section 4.3.9 of the Base Plan. These events also likely affected the City to some degree.

*Table B-25 Sacramento County –State and Federal Drought Disaster Declarations 1950-2025*

| Disaster Type | State Declarations |                  | Federal Declarations |       |
|---------------|--------------------|------------------|----------------------|-------|
|               | Count              | Years            | Count                | Years |
| Drought       | 4                  | 2008, 2014, 2015 | 1                    | 1977  |

Source: Cal OES, FEMA

### *NCDC Events*

There have been 83 NCDC drought events in Sacramento County since 1993. These most likely had some impact on the City.

### *City of Elk Grove Events*

Based on historical information, the occurrence of drought in California, including the City of Elk Grove, is cyclical, driven by weather patterns. Section 4.3.9 of the Base Plan notes that five droughts have occurred in the past 86 years, which impacted the City and Sacramento County Planning Area. The City Planning Team noted that the City has experienced multiple, consecutive years of drought.

Since drought is a regional phenomenon, past occurrences of drought for the City are the same as those for the County and includes 4 multi-year droughts since 1950. Details on past drought occurrences can be found in Section 4.3.8 of the Base Plan.

The City noted no events since the 2021 LHMP. The City had moderate issues between 2014 and 2016. Quality of life was impacted due to severe cutbacks in irrigation, leaving many private landscape areas brown. The parks district limited watering to only certain facilities, leaving many neighborhood parks without irrigation. In addition, water was limited for construction-related use, such as fugitive dust mitigation.

### **Climate Change and Drought and Water Shortage**

It is likely that climate change will increase the chance of future occurrence as well as future impacts associated with drought and water shortage. More information on future impacts to the City can be found in the Future Conditions/Future Development section of the Vulnerability Assessment below.

Climate scientists studying California find that drought conditions are likely to become more frequent and persistent over the 21<sup>st</sup> century due to climate change. The experiences of California during recent years underscore the need to examine more closely the state's water storage, distribution, management, conservation, and use policies. The 2024 Climate Adaptation Study (CAS) stresses the need for public policy development addressing long term climate change impacts on water supplies. The CAS notes that climate change is likely to significantly diminish California's future water supply, stating that: California must change its water management and uses because climate change will likely create greater competition for limited water supplies needed by the environment, agriculture, and cities.

Cal Adapt scenarios for modeled future drought scenarios were shown in Section 4.3.9 of the Base Plan.

The 2024 Sacramento County CAP noted that California, including Sacramento County, has a highly variable climate that is susceptible to prolonged periods of drought, and recent research suggests that extended drought occurrences (or "mega-droughts") could become more pervasive in future decades, which may result in major impacts on local water supplies and other secondary impacts. The County is not located in an area where snow accumulates, however, major water districts and utilities in the County receive and depend on a substantial amount of water from watersheds that rely upon spring and early-summer snowmelt in the Sierra Nevada mountain range. The Sierra Nevada snowpack, which serves as a natural water supply

reservoir for California during the dry months, is predicted to decline in area covered and water volume stored as temperatures rise and precipitation falls more frequently as rain instead of snow at mountain elevations. Further, increased temperatures will affect the timing of historical snowmelt such that the snowpack will typically melt earlier in the year, causing more rapid early spring flows in the Sacramento, American, Cosumnes, and Mokelumne Rivers and reduced late spring and summer flows. Approximately 50 percent of the County is served by groundwater supplies. Changes in surface water flow will have a direct impact on groundwater recharge, including decreased periods of recharge when late spring and summer stream flows diminish. Further, groundwater usage is higher in periods of drought, therefore, groundwater supplies may be reduced during and after periods of limited surface water flows.

The 2026 American, Bear, and Cosumnes Watersheds Resilience Plan noted that a key driver of climate vulnerability, adaptive capacity, and implementation readiness in the watershed group is drought. An equity analysis was performed as part of this Plan. An Equity Analysis Technical Appendix demonstrates how social vulnerability aligns with the physical hazard environment across the watershed. It noted that drought vulnerability intensifies in the upper watersheds, where cumulative annual flow deficits are projected to increase by up to 25%, contributing to downstream water-supply and affordability pressures that disproportionately affect low-income households.

### **Vulnerability to Drought and Water Shortage**

Based on historical information, the occurrence of drought and water shortage in California, including the City, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts can be extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. The vulnerability of the City of Elk Grove to drought may vary and include reduction in water supply, turf losses, impacts to natural resources, and an increase in dry fuels and tree dieback.

The whole of the City is at some measure of vulnerability to drought and water shortage. An assessment of a community's vulnerability to drought and water shortage begins with an understanding of local exposure to drought. This is included in the Local Concerns section below followed by a discussion of the City's Assets at Risk to this hazard.

### **Local Concerns**

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Water resources are essential assets to communities and a shared economic responsibility of business and industry, farms and factories, individuals and communities. Water resource management is an urgent and growing need. Without water, neither small businesses nor major global industries can function. Nor can family farms, major agribusinesses, energy production facilities, computer manufacturers, or steel companies. Similarly, poor water quality, or limited or unreliable access to water means higher costs for all businesses – and all consumers. Water scarcity means greater risks for a community's long-term viability

and a negative impact on their competitiveness. It also means that a community's ability to grow and create jobs is at risk.

Water for residents in the City come from the Elk Grove Water District, Sacramento County Water Agency (SCWA), or private wells. Department of Water Resources do not have any records of private wells going dry within the City limits. The groundwater basin appears to be healthy.

### **Assets at Risk**

Assets at risk from drought and water shortage include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

#### *People and Populations*

The people and populations of the City are not directly affected by drought; although, their turfed areas, trees, and other water dependent resources can all be affected. In extreme drought conditions, however, residents and other populations within the City may be vulnerable to drought and water shortage issues. Water quality can be impacted causing health problems, especially to vulnerable populations. Drought and water shortage can lead to an increase in wildfires threatening City residents. Water shortages can have an effect on all of the population in the City, but often have a greater effect on the unhoused and other vulnerable populations that may be unable to access clean drinking water during shortages. During periods of drought, as the costs of water usage may increase, especially during mandated conservation times, those who are economically disadvantaged may be unable to afford the increased costs of potable water.

#### *Structures*

Structures have a limited vulnerability to drought and water shortage. It is the secondary hazard of drought (wildfire) which causes risks to structures. Drought can also stress trees, causing die off. These trees may fall on structures adjacent to them.

#### *Critical Facilities and Infrastructure*

Most critical facilities and infrastructure have a limited vulnerability to drought and water shortage. Should drought conditions be severe enough to cause water shortage reliability issues, some facilities and infrastructure may be affected. Water and wastewater systems may be impacted during times of reduced water supply and need to employ contingencies to remain functional and fully operational. Other water-dependent systems may also be adversely affected. Further, the secondary hazard of drought (increased potential for spread of urban fires and wildfire) can pose a significant risk to critical facilities and infrastructure. Sufficient water supply for firefighting can also be an issue. Drought can also stress trees, causing die off. These trees may fall on critical infrastructure adjacent to them and impact power lines and other utilities.

### *Natural, Historic, and Cultural Resources*

Drought and water shortage can have a significant impact on natural resources. Water levels in reservoirs and lakes may be reduced, and a loss of wetlands and coastal marsh areas may occur. Severe drought conditions can contribute to an increase in erosion of soils and lead to poor soil and water quality. Further, all of the trees in the City are at risk to drought impacts and a reduction in water supply. These trees provide a wealth of social and environmental benefits to City residents and visitors, from shade and beauty to air quality, carbon reduction and stormwater management. Drought can devastate crops and dry out pastures, dry out forests and critical habitat areas, and reduce food and water available for wildlife and livestock, the latter detailed above as a specific concern to the City. Additionally, drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. It is unlikely that drought and water shortage would have a significant impact on historic and cultural resources in the City.

### **Impacts from Drought and Water Shortage**

The vulnerability of the City to drought is City-wide, but impacts may vary and include reduction in water supply and an increase in dry fuels. The potential for a reduction in water supply during drought conditions generally leads to both mandated and voluntary conservation measures during extended droughts. During these times, the costs of water can also increase. Also of concern, the increased dry fuels, fuel loads, and tree mortality events associated with drought conditions can result in an increased fire danger. In areas of extremely dry fuels, the intensity and speed of fires can be significant. Water supply and flows for fire suppression can also be an issue during extended droughts. Drought can also lead to turf losses and cause tree die off within the City.

Other qualitative impacts associated with drought in the City are those related to water intensive activities such as municipal usage, commerce, tourism, and recreation use. With more precipitation likely falling as rain instead of snow in the Sierra's, and warmer temperatures causing decreased snowfall to melt faster and earlier, water supply is likely to become more unreliable. In addition, drought and water shortage is predicted to become more common. This means less water available for use over the long run, and additional challenges for water supply reliability, especially during periods of extended drought.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed below.

### **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

## Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to exacerbate future drought conditions and associated impacts and vulnerability of the City to drought and water shortage. This was discussed in greater detail in the Climate Change and Drought and Water Shortage section of the Hazard Profile above.
- Future population growth should be considered as having more or less people in a community affects the overall hazard vulnerability to the City. Water shortages in the future may be worsened by drought. The City is expected to see slow and steady growth, and any future population growth (like that shown in the 51 future development areas) in the City will add additional pressure to water companies during periods of drought and water shortage. Water companies will need to continue to plan for and add infrastructure capacity for population growth. As the population grows, the nature and makeup of populations will shift and change along with it. Vulnerable and underserved populations, such as those with low incomes and the unhoused that might not always have access to clean water, will need to be considered as future development continues, since they may experience a disproportionate impact from drought and water shortage. Potential population growth will be a challenge with regard to the City's water access for domestic, agricultural, and other uses. Significant population growth in the City is likely to increase the vulnerability and impacts to the City from this hazard.
- Land use planning should be proactive to address future hazard conditions. More development will require an increase in water supply and associated infrastructure. With the amount of growth planned in the City, changes in land use and development will likely increase the impacts and associated vulnerabilities of the City to this hazard, the extent, depending on where and how this future growth occurs.

## Future Development

As the population in the City continues to grow, so will the demand for water. Ongoing planning will be needed by the City and local water companies to account for population growth and increased water demands.

## *Earthquake (w/Subhazards)*

**Likelihood of Future Occurrence**—Occasional (minor)/ Unlikely (major)

**Vulnerability**—High

## Hazard Profile

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Earthquakes cause ground shaking, possible liquefaction, landslide, settlement, and can cause fires that follow the earthquake. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks, such as water, wastewater, power, gas, communication, and transportation. Earthquakes may also cause collateral

emergencies including dam and levee failures, seiches, hazmat incidents, fires, avalanches, and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography, and the design, type, and quality of building construction.

### *Liquefaction Potential*

Liquefaction can be defined as the loss of soil strength or stiffness due to a buildup of pore-water pressure during a seismic event and is associated primarily with relatively loose, saturated fine- to medium-grained unconsolidated soils. Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. If this layer is at the surface, its effect is much like that of quicksand for any structure located on it. If the liquefied layer is in the subsurface, the material above it may slide laterally depending on the confinement of the unstable mass. Liquefaction is caused by a sudden temporary increase in pore-water pressure due to seismic densification or other displacement of submerged granular soils. Liquefiable soil conditions are not uncommon in alluvial deposits in moderate to large canyons and could also be present in other areas of alluvial soils where the groundwater level is shallow (i.e., 50 feet below the surface). Bedrock units, due to their dense nature, are unlikely to present a liquefaction hazard.

### **Location and Extent**

Since earthquakes are regional events, the whole of the City is at risk to earthquake. The City of Elk Grove, Sacramento County, and surrounding areas have some level of risk from seismic and geologic hazards. Regional faults were shown in Section 4.3.10 of the Base Plan. Geological literature indicates that no major active faults transect the County; however, there are several subsurface, likely inactive, faults in the Delta, such as the Midland fault. To the east, the Bear Mountain fault zone trends northwest-southeast through Sacramento and El Dorado Counties. As noted in the Base Plan, there have been historically active faults outside the County. These include: San Andreas, Vaca, Concord, Greenville, Hayward, Calaveras, Foothill Fault System, Las Positas, Midland, and West Napa. A significant seismic event on any of these major faults could cause damage in the City of Elk Grove.

The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. An earthquake's magnitude is expressed in whole numbers and decimals (e.g., 6.8). Seismologists have developed several magnitude scales, as discussed in Section 4.3.11 of the Base Plan.

Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. The City is located in an area where earthquakes of some magnitude occur, so both magnitude and intensity of earthquakes are expected to remain low to moderate. Seismic shaking maps for the area in Section 4.3.10 of the Base Plan show Sacramento County and the City fall within a low to moderate shake risk.

## Past Occurrences

### *Disaster Declaration History*

There has been no state or federal disaster declarations in Sacramento County from earthquake.

### *NCDC Events*

The NCDC does not track earthquake events.

### *City of Elk Grove Events*

While there have been 5 instances of 4.0 or greater magnitude earthquakes within 100 km of Elk Grove over the past 5 years, there have been no significant impacts to the City. The City noted no past occurrences of earthquakes or that affected the City in any meaningful way.

## Climate Change and Earthquake

Climate change is unlikely to increase earthquake frequency or strength. More information on future impacts can be found in the Future Conditions/Future Development section of the Vulnerability Assessment below.

## Vulnerability to Earthquake

The combination of plate tectonics and associated California coastal mountain range building geology generates earthquakes as a result of the periodic release of tectonic stresses. Earthquake vulnerability is primarily based on population and the built environment. Urban areas in high seismic hazard zones are the most vulnerable, while more rural areas are less vulnerable. The primary impacts of concern are life safety and property damage. Although several active faults are near the Sacramento County Planning Area and the City, seismic hazard mapping indicates that the City has low to moderate seismic hazard potential. There is the potential for the City and Sacramento County Planning Area to be subject to some level of moderate seismic shaking during earthquake events occurring on these regional faults depending on the location and magnitude of the event. Some degree of structural damage due to stronger seismic shaking could be expected in the City.

The Uniform Building Code (UBC) identifies four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. The UBC establishes more stringent construction standards for areas within Zones 3 and 4. All of California lies within either Zone 3 or Zone 4. The City of Elk Grove is located within Zone 3.

The whole of the City is at some measure of vulnerability to earthquake. An assessment of a community's vulnerability to earthquakes begins with an understanding of local exposure to earthquakes. This is included in the Local Concerns section below. After that section, assets at risk are discussed.

## Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Generally, newer construction is more earthquake resistant than older construction due to improvements in building codes. Approximately 80% of Elk Grove's building stock has been constructed since 1990. Buildings which are most susceptible to earthquake damage are manufactured housing, and smaller buildings, particularly those constructed of unreinforced masonry (URM) and soft story buildings. The City has a small number of manufactured housing, a few URM buildings in the Old Town area, and no soft story buildings.

Areas with industrial uses may also be of concern due to the presence of chemicals and other materials that could result in damage both on and off-site in the event of an earthquake. These areas are concentrated in the southern portion of Elk Grove and in the Laguna West area.

The City does lie in the shake zone from active faults located outside of the County. A Hazus analysis was performed associated with scenarios from 4 active regional faults: Calaveras, Concord, Hayward, and San Andreas. A small portion of the damages from the Hazus analysis would have likely come from the City.

## Assets at Risk

Many assets in the City are at risk to ground shaking and other earthquake related impacts. As previously described, the City sits outside of mapped earthquake liquefaction zones; as such, no mapping or tabular analysis is shown below. Assets at risk from earthquake include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections. More information on the Hazus scenarios and how the City and County is affected is included in Section 4.3.10 of the Base Plan and in Appendix H.

### *People and Populations*

All people and populations are at risk from earthquake events. Those at heightened risk include:

- The unsheltered
- Low income and other socially vulnerable populations
- Individuals dependent on medical equipment
- Individuals with impaired mobility

The greatest risk to people and populations from earthquake is death and injury. More information on people and populations at risk to earthquake shaking events can be seen in the Hazus scenarios developed for this LHMP.

## *Structures*

All structures in the City are vulnerable to earthquakes, depending on the severity, location of the event, age of structure relative to what building code the structure was designed for, and whether any seismic retrofits have been performed. The Hazus scenarios conducted for the entire Sacramento County Planning Area, including the City, show how structures may be affected.

## *Critical Facilities and Infrastructure*

Earthquake and its related hazards present risks to the City. Earthquakes can damage critical facilities and infrastructure that provide vital services to the City. Damage to critical facilities from the Hazus earthquake scenarios for the Sacramento County Planning Area, including the City of Elk Grove, are discussed in the Base Plan. Given the nature of earthquake events causing significant ground shaking among other issues, those critical facilities and infrastructure that include underground components such as water and wastewater facilities would be uniquely vulnerable to damaging earthquakes.

## *Natural, Historic, and Cultural Resources*

The 2023 State Hazard Mitigation Plan noted that environmental problems from earthquakes can be numerous. It is possible for earthquakes to reroute streams, which can change the water quality, possibly damaging habitat and feeding areas. Streams fed by groundwater and/or springs may dry up because of changes in underlying geology. Another threat to the environment from earthquakes is the potential release of hazardous materials into the natural environment causing contamination that can be difficult to contain. Historical and cultural resources are at risk, often due to their age and construction types. The Hazus scenarios are relatively silent on the vulnerability to natural, historic, and cultural resources, but impacts to these resources could be long lasting.

## **Impacts from Earthquake**

Earthquakes can strike without warning and cause dramatic changes to the landscape of an area that can have devastating impacts on the built environment. The greatest impact is to life safety of the City of Elk Grove residents and visitors. Other impacts to the City could include damages to infrastructure such as roads and bridges; damages and loss of services to utilities and critical infrastructure, including those related to gas, power, water, wastewater and communication systems; damages to structures and other development; and possible loss of life and injuries.

Earthquakes can also cause failure of dams, levees, and reservoirs. Facilities and lands adjacent to or downstream from dams, reservoirs, or behind levees might be subject to flooding, if the dams, reservoirs, or levees fail as a result of an earthquake. The City has locations with significant flood risk that include facilities downslope from levees and dams that could be affected by a significant earthquake event.

Impacts that are not quantified, but can be anticipated in large future events, include:

- Injury and loss of life;
- Commercial and residential structural and property damage;
- Disruption of and damage to public infrastructure, utilities, and services;

- Damage to roads/bridges resulting in loss of mobility;
- Significant economic impact (jobs, sales, tax revenue) to the community; and
- Negative impact on commercial and residential property values

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the Likelihood of Future Occurrence discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed below.

## Future Conditions/Future Development

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

### Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to have no effect on future earthquake conditions and associated impacts and vulnerability of the City. This was discussed in greater detail in the Climate Change and Earthquake section of the Hazard Profile above.
- The City is expected to see slow and steady growth. There are 51 areas which the City expects to see experience development over the next 5 years. Any additional growth in the City would place additional populations at risk to earthquake. Additional population growth would likely bring continued diversity to the City. Vulnerable population groups could face disproportionate effects from an earthquake and should be planned for. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location and severity of future earthquake events.
- Land use planning should be proactive to address future hazard conditions. There are 51 areas the City is planning to develop over the next five years. City building codes are in effect to reduce structure damage, including damage to critical facilities and infrastructure, and should be updated as necessary to continue to address future earthquake conditions. Depending on the location of new development and adherence to protective building codes, changes in land use and development may or may not increase the impacts and associated vulnerabilities of the City to this hazard.

### Future Development

Although new growth and development corridors would fall in areas affected by earthquake, given the low probability of major earthquake and the building codes in effect, development in areas prone to earthquakes will continue to occur. Seismic retrofits of the City's older, more vulnerable structures should be evaluated as part of future development in the City. 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 and land use planning.

### *Flood: 1%/0.5%/0.2% Annual Chance*

**Likelihood of Future Occurrence**—Occasional (1%)/Unlikely (0.5/0.2%)

**Vulnerability**—High

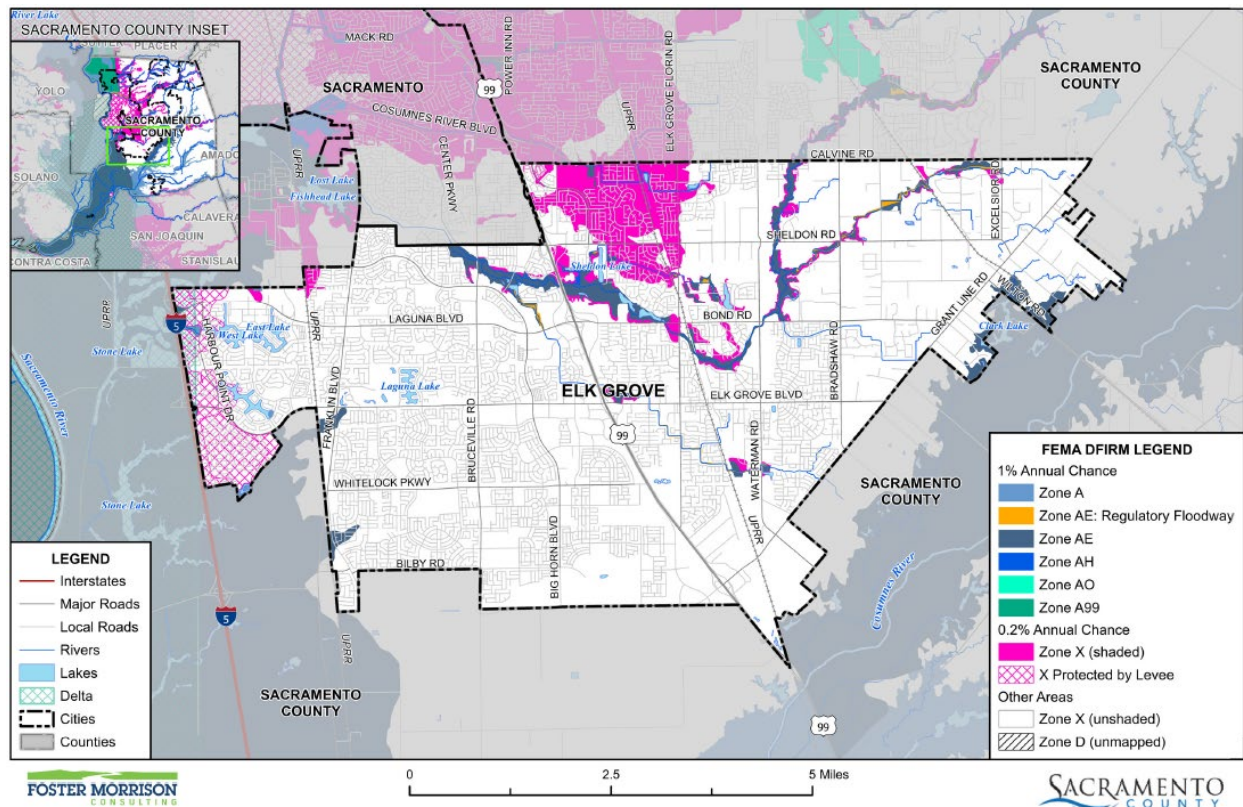
#### **Hazard Profile**

This hazard discusses the FEMA DFIRM 1%, 0.5%, and 0.2% annual chance floods. These tend to be the larger floods that can occur in the City and have caused damage in the past. Flooding can be a significant problem in the City. Historically, the City has been at risk to flooding primarily during the winter and spring months when river systems in the City swell with heavy rainfall and snowmelt runoff. The City has also been at risk during atmospheric river flood events. Rain on snow events occurring in upper elevations during the spring months can also be significant and contribute to greater downstream runoff and flooding during large storm events. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures located throughout the Sacramento County Planning Area and the City of Elk Grove. Occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage. Flooding has occurred both within the 1%, 0.5%, and 0.2% annual chance floodplains and in other localized areas in the City.

#### **Location and Extent**

The City of Elk Grove has areas located in the 1%, 0.5%, and 0.2% annual chance flood zones. This is seen in Figure B-28.

Figure B-28 City of Elk Grove – FEMA DFIRM Flood Zones



Data Source: FEMA Effective DFIRM 02/22/2024 (NFHL 10/13/2025 database), Sacramento County, Cal-Atlas; Map Date: 1/30/2026.

Table B-27 details the DFIRM mapped flood zones located within the City.

Table B-26 City of Elk Grove– DFIRM Flood Hazard Zones

| Flood Zone             | Description                                                                                                                                                                                                                                                | Present in City of Elk Grove |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| A                      | 1% annual chance flooding; No base flood elevations provided                                                                                                                                                                                               | X                            |
| AE Regulatory Floodway | 1% annual chance flood: Regulatory floodway; Base flood elevations provided                                                                                                                                                                                | X                            |
| AE                     | 1% annual chance flooding; Base flood elevations provided                                                                                                                                                                                                  | X                            |
| AH                     | 1% annual chance flood areas of shallow flooding between one to three feet deep. Regulatory floodway; Base flood elevations provided                                                                                                                       |                              |
| AO                     | Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. | X                            |
| A99                    | Areas subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system.. No Base Flood Elevations (BFEs) or depths are shown.             |                              |

| Flood Zone           | Description                                                                                                                                                                               | Present in City of Elk Grove |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| X (Shaded)           | 0.2% annual chance flooding: The areas between the limits of the 1% annual chance flood and the 0.2-percent-annual-chance (or 500-year) flood                                             | X                            |
| X Protected by Levee | Areas protected by levees from 1% annual chance flood event. Levee protection places these areas in the 0.2% annual chance flood zone. Flood insurance is not mandatory but is available. | X                            |
| X (unshaded)         | Areas of minimal flood hazard                                                                                                                                                             | X                            |
| D                    | Unmapped                                                                                                                                                                                  |                              |

Source: FEMA DFIRM 02/22/2024

Additionally, flood extents can generally be measured in volume, velocity, and depths of flooding. Expected flood depths in the City vary, depending on the nature and extent of a flood event; specific depths are unknown. Flood durations in the City tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Flooding in the City tends to have a shorter speed of onset, due to the amount of water that flows through the City.

Geographical flood extents for the City from the FEMA DFIRMs are shown in Table B-28.

*Table B-27 City of Elk Grove – Geographical DFIRM Flood Zone Extents*

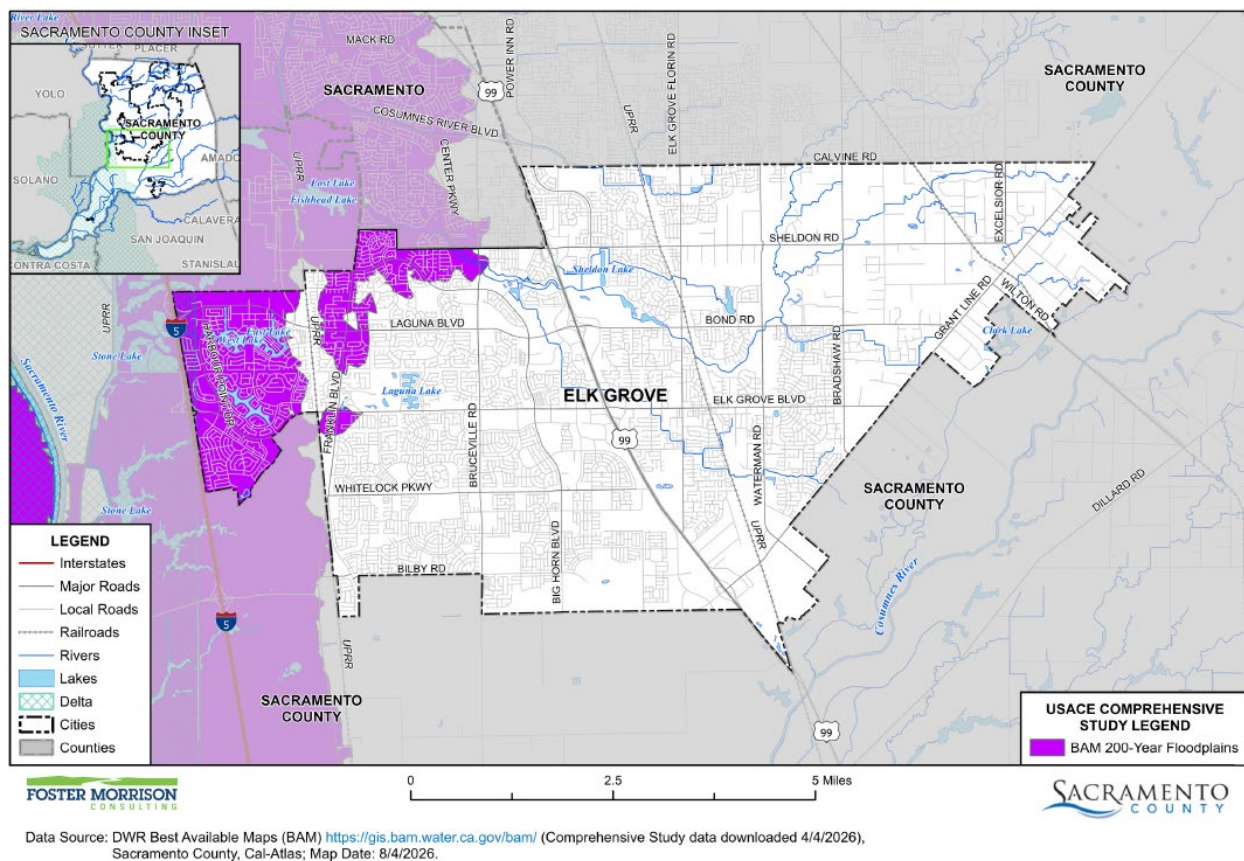
| Flood Zone                      | Total Acres   | % of Total Acres | Improved Acres | % of Total Improved Acres | Unimproved Acres | % of Total Unimproved Acres |
|---------------------------------|---------------|------------------|----------------|---------------------------|------------------|-----------------------------|
| 1% Annual Chance Flood Hazard   | 1,265         | 5%               | 499            | 3%                        | 766              | 11%                         |
| 0.2% Annual Chance Flood Hazard | 1,887         | 8%               | 1,349          | 8%                        | 538              | 7%                          |
| Other Areas                     | 20,452        | 87%              | 14,539         | 89%                       | 5,913            | 82%                         |
| <b>City of Elk Grove Total</b>  | <b>23,604</b> | <b>100%</b>      | <b>16,387</b>  | <b>100%</b>               | <b>7,217</b>     | <b>100%</b>                 |

Source: FEMA DFIRM 02/22/2024

### *0.5% Annual Chance Mapping*

Urban level of flood control in California is defined as the level of protection necessary to withstand a 1-in-200 or 0.5% annual chance of flooding in any given year. This standard is mandated for urban and urbanizing areas within the Central Valley (populations of 10,000 or more) by the Central Valley Flood Protection Act of 2008, which requires local jurisdictions to incorporate these criteria into land use planning and development policies. There are 0.5% annual chance flood areas in City. These are shown on Figure B-29.

*Figure B-29 City of Elk Grove– 0.5% Annual Chance Flooding*



The area potentially affected by a 200-year flood event in Elk Grove is in the southeast portion of the City, along Deer Creek and the Cosumnes River. Much of this land is preserved for agricultural use and would be at limited risk of damage from flood hazard zones. However, a 200-year flood event caused by levee breaks along the Sacramento River could result in flooding in small portions of Laguna West, an existing residential neighborhood on the western side of the City. If, in the future, the City were to consider expanding beyond its existing Planning Area north or south along Interstate 5, development in these areas would also be at risk in a 200-year flood event.

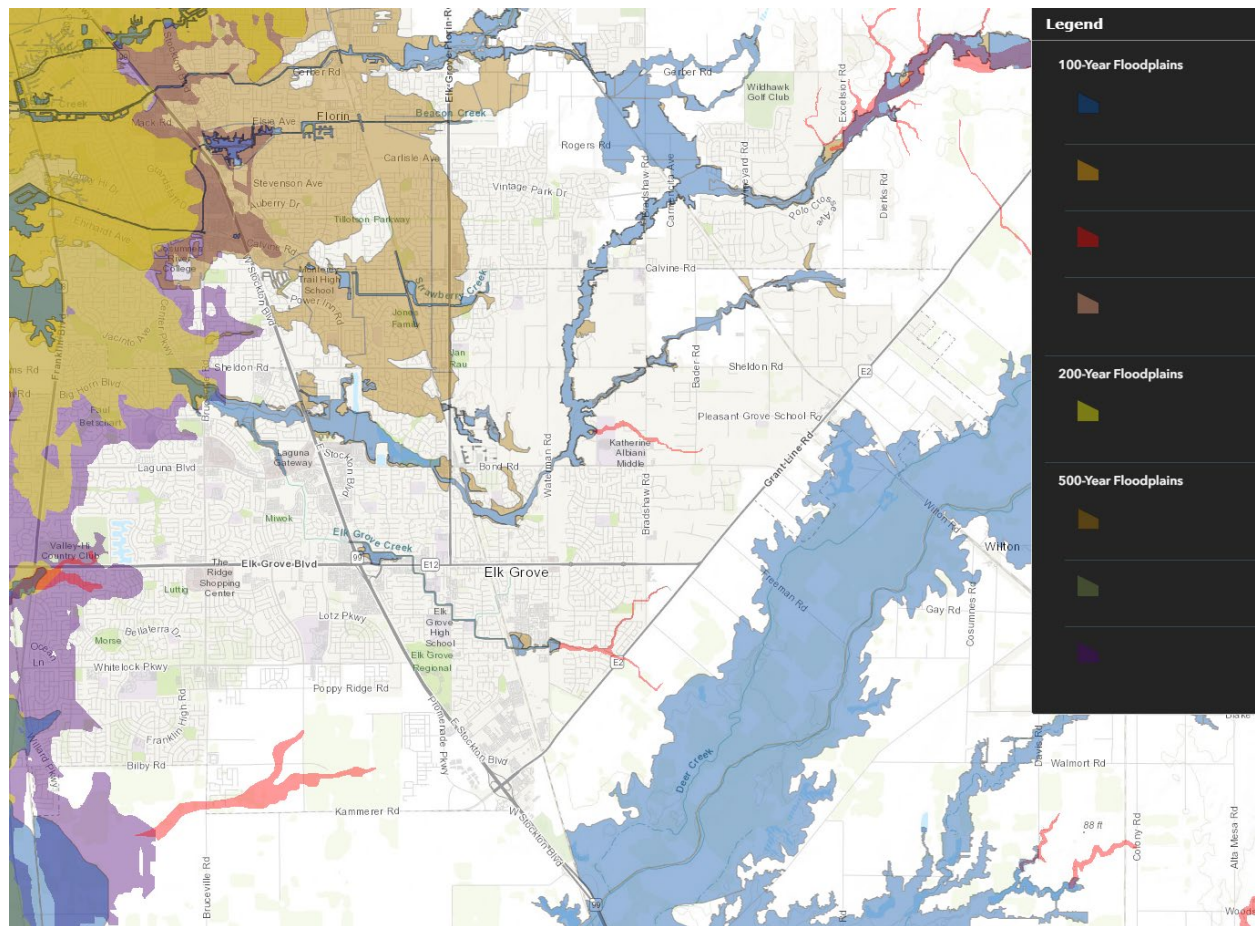
### *California Department of Water Resources Best Available Maps (BAM)*

The FEMA regulatory maps provide just one perspective on flood risks in the City. 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 Nevada-San Joaquin (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-(as applicable), 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, and for each flood frequency 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. The BAM map for the City is shown in Figure B-30.

*Figure B-30 City of Elk Grove – Best Available Map*



Source: California DWR. Retrieved 12/1/2025.

Legend explanation: **Blue** - FEMA 100-Year, **Orange** – Local 100-Year (developed from local agencies), **Red** – DWR 100-year (Awareness floodplains identify the 100-year flood hazard areas using approximate assessment procedures.), **Pink** – USACE 100-Year (2002 Sac and San Joaquin River Basins Comp Study), **Yellow** – USACE 200-Year (2002 Sac and San Joaquin River Basins Comp Study), **Tan** – FEMA 500-Year, **Grey** – Local 500-Year (developed from local agencies), **Purple** – USACE 500-Year (2002 Sac and San Joaquin River Basins Comp Study).

## Past Occurrences

### *Disaster Declaration History*

A list of state and federal disaster declarations for Sacramento County from flooding is shown on Table B-29. These events also likely affected the City to some degree.

*Table B-28 Sacramento County – State and Federal Disaster Declarations from Flood 1950-2025*

| Disaster Type                            | State Declarations |                                                                                                                                                             | Federal Declarations |                                                                                                                    |
|------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------|
|                                          | Count              | Years                                                                                                                                                       | Count                | Years                                                                                                              |
| Flood (including heavy rains and storms) | 26                 | 1950, 1955, 1958 (twice), 1963, 1969, 1982 (twice), 1983, 1986, 1995 (twice), 1996, 1997, 1998, 2008, 2017 (three times), 2022*, 2023 (three), 2024 (twice) | 18                   | 1955, 1958, 1964, 1969, 1983, 1986, 1995 (twice), 1997, 1998, 2006, 2017 (three times), 2023 (three times)*, 2024* |

Source: Cal OES, FEMA

\*included a landslide component.

### *NCDC Events*

The NCDC tracks flooding events for the County. Events have been tracked for flooding since 1993. Sacramento County has seen 174 events. These events most likely had some impact on the City.

### *City of Elk Grove Events*

The flooding in 2017 caused localized flooding and downed trees in the City. Many of the localized street flooding issues were due to maintenance practices, which have subsequently been corrected. Highway 99, a major transportation corridor through the City, was flooded just south of the City boundary. This is a result of the highway being on low ground and is being corrected by Caltrans. The Emerald Oaks Golf Course, on the southern tip of the City and immediately east of Hwy 99, also flooded by design as it is a flood basin. The City noted no other events of significance have occurred since the previous LHMP.

## Climate Change and Flood

It is likely that climate change will increase the chance of future occurrence as well as future impacts associated with flood. More information on future impacts to the City can be found in the Future Conditions/Future Development section of the Vulnerability Assessment below.

According to the 2024 CAS, climate change may affect flooding in California, the Sacramento County Planning Area, and the City of Elk Grove. While average annual rainfall may increase or decrease slightly, the intensity of individual rainfall events is likely to increase during the 21<sup>st</sup> century. It is possible that average soil moisture and runoff could decline, however, due to increasing temperature, evapotranspiration rates, and spacing between rainfall events. Reduced snowpack and increased number of intense rainfall events are likely to put additional pressure on water infrastructure which could increase the chance of flooding associated with breaches or failures of flood control structures such as levees and dams. Cal Adapt future precipitation projections were shown in Section 4.3.4.

The 2024 Sacramento County CAP noted that climate change is likely to lead to changes in the frequency, intensity, and duration of extreme weather events, such as sustained periods of heavy precipitation, increased rainfall intensity during precipitation events, and increased risk of rain-on-snow events. Further, more winter-time precipitation that falls as rain instead of snow, and higher temperatures that will cause earlier snowmelt, which could produce substantial surface water flows over a short period of time and may potentially affect dams and spillways and overwhelm levee systems designed for historical precipitation patterns. Historically, the County experienced an average of four extreme precipitation events per year (as shown in Section 4.3.4 of the Base Plan). Under the medium and high emissions scenarios, the County is expected to experience five to six extreme precipitation events per year by mid-century and six to seven extreme precipitation events per year by the late century.

The 2026 American, Bear, and Cosumnes Watersheds Resilience Plan noted that a key driver of climate vulnerability, adaptive capacity, and implementation readiness in the watershed group is flooding. An equity analysis was performed as part of this Plan. An Equity Analysis Technical Appendix demonstrates how social vulnerability aligns with the physical hazard environment across the watershed. It noted that flooding impacts are most severe downstream, where rising flows increasingly stress Sacramento's levee system; a modeled levee-breach scenario affects 12.5% of the watershed population, and 59% of those affected fall into the highest flood-sensitivity category.

Future flooding exacerbated by climate change will result in a range of potential impacts across the County and the City. For populations, there is an array of social vulnerability factors that exacerbate flood-related risks, and those residing in floodplains are especially vulnerable to the direct impacts of flooding. Floodwaters can interact with sources of pollution and distribute hazardous pollutants locally and regionally, which may result in water contamination and a range of human health impacts. Additionally, flooding can disrupt transportation networks, cause economic losses through business and government facility closures, disrupt communications, disrupt the provision of utilities, and cause significant damage to buildings and critical infrastructure. Further, flooding may also threaten ecosystems and agricultural resources; unlike natural flooding regimes that deposit useful sediment resulting in increased soil fertility as well as groundwater recharge, catastrophic flooding from levee overtopping could lead to soil erosion and loss of viable cropland. It could also release sewage and hazardous materials into the environment if wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.

The City is working on increasing protection from flood using sustainable design and long-term flood resilience. The City's Climate Compass discusses Elk Grove's rain garden, which captures rainwater, filters pollutants, and reduces flooding, all while showcasing native plants. This sustainable solution turns stormwater into a resource and demonstrates how nature-based approaches build climate resilience.

### **Vulnerability to Flood: 1%, 0.5%, and 0.2% Annual Chance**

Floods have been a part of the City's historical past and will continue to be so in the future. During winter months, long periods of precipitation and the timing of that precipitation are critical in determining the threat of flood, and these characteristics further dictate the potential for widespread structural and property damage. Predominantly, the effects of 1% and 0.2% annual chance flooding are generally confined to areas near the waterways of the City. As waterways grow in size from local drainages, so grows the threat of flood and dimensions of the threat.

The whole of the City is at some measure of vulnerability to floods. An assessment of a community's vulnerability to flood begins with an understanding of local exposure to flood. This is included in the Local Concerns section below followed by a discussion of the City's Assets at Risk to this hazard.

### Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

One of the biggest concerns with major flooding is timely evacuation and access to vulnerable populations. The City experiences localized flooding along roadways in the City that is caused by either undeveloped drainage structures in the City's rural regions or blockages in the stormwater drainage system related to debris and leaf buildup. City staff have observed during intense rainfall, major streets in the City experience localized flooding because inlets are blocked with leaves, resulting in standing water in one or more lanes in the roadway. Major streets of primary concern that are monitored during rain events are Big Horn Boulevard, Laguna Boulevard, Bruceville Road, Elk Grove Boulevard, Kammerer Road, and Franklin Boulevard. The City is currently working on evacuation plans for hazardous events.

The City's Storm Drain Master Plan update will help better identify these system deficiencies and propose capital improvement projects if there are areas that do not meet current improvement standards. As part of the Storm Drain Master Plan update, the City will update the hydrology and hydraulics models for the creek systems within the study area. This includes utilizing QLI LiDAR and model calibration based on recent storms.

### Assets at Risk

Assets at risk from flood include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

#### *People and Populations*

All people and populations located in the 1%, 0.5%, and 0.2% annual chance floodplains are at some risk to flooding. Certain vulnerable populations located within areas prone to flooding may be at increased risk to this hazard, especially during a large event with minimal advance notice. These vulnerable populations include: the unsheltered, those with limited mobility, and those that lack the resources to leave the area.

City residents that live in the 1%, 0.5%, and 0.2% annual chance floodplains are often the most vulnerable. Not only are the residents at risk, but their homes and contents are all at risk, compounding the impacts associated with significant hazard events. To further evaluate the impact to the City of Elk Grove's residential population residing within these hazard areas, the DFIRM flood zones were overlayed on the parcel layer. Those residential parcels that intersect the flood zones were counted and multiplied by the 2023 Census Bureau average household factors for the City of Elk Grove – 3.27. According to this analysis, there is a total population of 7,184 and 14,119 residents of the City at risk to flooding in the 1% and 0.2% annual chance floodplains, respectively. A population analysis was not conducted for the 0.5% annual chance flood. This is shown in Table B-30.

*Table B-29 City of Elk Grove – Improved Residential Parcels and Population by Summary FEMA DFIRM Flood Zone*

| Jurisdiction | 1% Annual Chance             |                    | 0.2% Annual Chance*          |                    |
|--------------|------------------------------|--------------------|------------------------------|--------------------|
|              | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk |
| Elk Grove    | 2,245                        | 7,184              | 4,412                        | 14,119             |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/Assessor Data, 2020 US Census Bureau Average Household Size –City of Elk Grove (3.27)

\*This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone. The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

The City noted that the Critical Facilities and Infrastructure section below includes the facilities used by At-Risk populations that are threatened by this hazard. While this is not specific to what special populations reside in the City, it does speak to facilities that area used to serve (portions) of this population.

### *Structures*

Large flood events can affect the built environment of the City. Certain structures in the City are at risk of DFIRM flooding and primarily include those structures located within the 1%, 0.5%, and 0.2% annual chance floodplains. The vulnerability of structures depends on flood depths and can range from slight damage to totally inundated in extreme events.

GIS was used to determine the possible impacts of flooding on parcels and structures within the City of Elk Grove. The methodology described in Section 4.3.11 of the Base Plan was followed in determining structures and values at risk to the 1% and 0.2% annual chance flood event. A structure analysis was not conducted for the 0.5% annual chance flood. Table B-31 is a summary table for the City of Elk Grove. Parcel counts, land and improved values (i.e., those with a structure improvement on the parcel), estimated content replacement values, and total values in the City are shown for the 1% and 0.2% annual chance flood zones, as well as for those properties that fall outside of the mapped FEMA DFIRM flood zones. Table B-32 breaks down Table B-31 and shows the same analysis further broken out by detailed FEMA flood zone and property use.

*Table B-30 City of Elk Grove – Count and Value of Parcels and Structures in Summary DFIRM Flood Zones*

| Flood Zone                      | Total Parcel Count | Improved Parcel Count | Total Land Value       | Structure Value         | Estimated Contents Value | Total Value             |
|---------------------------------|--------------------|-----------------------|------------------------|-------------------------|--------------------------|-------------------------|
| 1% Annual Chance Flood Hazard   | 1,435              | 1,150                 | \$311,127,774          | \$799,508,947           | \$570,967,157            | \$1,681,603,878         |
| 0.2% Annual Chance Flood Hazard | 7,556              | 7,123                 | \$975,770,137          | \$2,772,402,387         | \$1,620,829,549          | \$5,369,002,073         |
| Other Areas                     | 51,377             | 47,098                | \$7,081,176,565        | \$18,943,686,934        | \$10,794,051,116         | \$36,818,914,615        |
| <b>Elk Grove Total</b>          | <b>60,368</b>      | <b>55,371</b>         | <b>\$8,368,074,476</b> | <b>\$22,515,598,268</b> | <b>\$12,985,847,821</b>  | <b>\$43,869,520,565</b> |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/Assessor Data

\*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

\*\*This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone.  
The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

**Table B-31 City of Elk Grove – Count and Values of Parcels and Structures by Detailed DFIRM Flood Zone and Property Use**

| Flood Zone                                                   | Total Parcel Count | Improved Parcel Count | Total Land Value       | Structure Value         | Estimated Contents Value | Total Value             |
|--------------------------------------------------------------|--------------------|-----------------------|------------------------|-------------------------|--------------------------|-------------------------|
| <b>1% Annual Chance Flood Hazard</b>                         |                    |                       |                        |                         |                          |                         |
| Zone A                                                       | 558                | 485                   | \$96,094,896           | \$230,716,969           | \$123,888,788            | \$450,700,653           |
| Zone AE                                                      | 625                | 479                   | \$155,639,984          | \$455,705,850           | \$368,410,189            | \$979,756,023           |
| Zone AE:<br>Regulatory<br>Floodway                           | 212                | 146                   | \$52,639,645           | \$94,520,760            | \$69,385,496             | \$216,545,901           |
| Zone AO                                                      | 40                 | 40                    | \$6,753,249            | \$18,565,368            | \$9,282,684              | \$34,601,301            |
| <b>1% Annual<br/>Chance<br/>Flood<br/>Hazard<br/>Total</b>   | <b>1,435</b>       | <b>1,150</b>          | <b>\$311,127,774</b>   | <b>\$799,508,947</b>    | <b>\$570,967,157</b>     | <b>\$1,681,603,878</b>  |
| <b>0.2% Annual Chance Flood Hazard</b>                       |                    |                       |                        |                         |                          |                         |
| Zone X<br>(shaded)                                           | 4,786              | 4,469                 | \$601,388,642          | \$1,577,773,018         | \$907,112,210            | \$3,086,273,870         |
| X Protected<br>by Levee                                      | 2,770              | 2,654                 | \$374,381,495          | \$1,194,629,369         | \$713,717,339            | \$2,282,728,203         |
| <b>0.2% Annual<br/>Chance<br/>Flood<br/>Hazard<br/>Total</b> | <b>7,556</b>       | <b>7,123</b>          | <b>\$975,770,137</b>   | <b>\$2,772,402,387</b>  | <b>\$1,620,829,549</b>   | <b>\$5,369,002,073</b>  |
| <b>Other Areas</b>                                           |                    |                       |                        |                         |                          |                         |
| Zone X<br>(unshaded)                                         | 51,377             | 47,098                | \$7,081,176,565        | \$18,943,686,934        | \$10,794,051,116         | \$36,818,914,615        |
| <b>Other Areas<br/>Total</b>                                 | <b>51,377</b>      | <b>47,098</b>         | <b>\$7,081,176,565</b> | <b>\$18,943,686,934</b> | <b>\$10,794,051,116</b>  | <b>\$36,818,914,615</b> |
|                                                              |                    |                       |                        |                         |                          |                         |
| <b>Elk Grove<br/>Total</b>                                   | <b>60,368</b>      | <b>55,371</b>         | <b>\$8,368,074,476</b> | <b>\$22,515,598,268</b> | <b>\$12,985,847,821</b>  | <b>\$43,869,520,565</b> |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/Assessor Data

\*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

\*\*This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone.  
The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

Table B-33 summarizes Table B-32 and shows City of Elk Grove loss estimates and improved values at risk by FEMA 1% and 0.2% annual chance flood zones. According to Table B-32 and Table B-33, the City of Elk Grove has 1,150 parcels and \$1.37 million of structure and contents values or values in the 1% annual chance flood zone, and 7, improved parcels and \$5.4 million of structure and contents values in the 0.2% annual chance flood zone. These values can be refined a step further. Applying the 20 percent damage factor as previously described in Section 4.3.11 of the Base Plan, there is a 1% chance in any given year of a flood event causing \$274.1 million in damage and a 0.2% chance in any given year of a flood event causing \$878.6 million in damage in the City of Elk Grove. The loss ratio of 0.8% indicates that flood losses for 1% annual chance flooding would be minor and the City would be able to readily recover. The loss ratio of 2.5% indicates that flood losses for 0.2% annual chance flooding would be minor to moderate and the City should also be able to recover relatively quickly.

*Table B-32 City of Elk Grove – Flood Loss Estimates*

| Flood Zone                        | Total Parcel Count | Imp. Parcel Count | Improved Structure Value | Estimated Contents Value | Total Value            | Loss Estimate          | Loss Ratio  |
|-----------------------------------|--------------------|-------------------|--------------------------|--------------------------|------------------------|------------------------|-------------|
| 1% Annual Chance Flood Hazard     | 1,435              | 1,150             | \$799,508,947            | \$570,967,157            | \$1,370,476,104        | \$274,095,221          | 0.8%        |
| 0.2% Annual Chance Flood Hazard** | 7,556              | 7,123             | \$2,772,402,387          | \$1,620,829,549          | \$4,393,231,936        | \$878,646,387          | 2.5%        |
| <b>Total</b>                      | <b>8,991</b>       | <b>8,273</b>      | <b>\$1,076,911,334</b>   | <b>\$2,191,796,706</b>   | <b>\$5,763,708,040</b> | <b>\$1,152,741,608</b> | <b>3.3%</b> |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/ Assessor Data

\*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

\*\*This parcel count only includes those parcels in the 0.2% annual chance flood zone, exclusive of the 1% annual chance flood zone. The 0.2% annual chance flood, in actuality, also includes all parcels in the 1% annual chance flood zone.

### Insurance Coverage, Claims Paid, and Repetitive Losses

Standard property insurance does not include flood coverage because of the relatively high risk. The National Flood Insurance Program (NFIP) provides flood insurance to residents in those communities that participate in the NFIP. Federal financial assistance requires the purchase of flood insurance for structures located within a 100-year floodplain – a requirement that affects nearly all mortgages financed through commercial lending institutions. Flood insurance is also recommended for all structures protected by levees, even if not mapped within a floodplain.

The City of Elk Grove joined the National Flood Insurance Program (NFIP) on October 15, 2001. The City does not participate in the CRS program. NFIP data, provided by CA DWR using FEMA's (CIS database) indicates, that as of February 2, 2026, there were 498 flood insurance policies in force in the City with \$171,283,000 of coverage. There have been 6 historical claims for flood losses totaling \$100,048.74. Of these, 2 was in an A Zones and 4 were in B, C, or X zones. 4 of the claims were for pre-FIRM structures, while 2 were for post-FIRM structures in the B, C, or X zone. There have been 0 substantial damage claims since 1978. NFIP data further indicates that there are 1 repetitive loss and 0 severe repetitive loss buildings in the City. A provided by FEMA's PIVOT database, the 1 RL property is for a single family home in the City. Additional information about these claims can be seen on Table B-34.

*Table B-33 City of Folsom – Repetitive Loss Structures*

| County                    | Community                   | Residential Type | Insured | Mitigated | FMA Repetitive Loss | FMA Severe Repetitive Loss | NFIP Repetitive Loss | NFIP Severe Repetitive Loss | Number of Losses |
|---------------------------|-----------------------------|------------------|---------|-----------|---------------------|----------------------------|----------------------|-----------------------------|------------------|
| Sacramento County (06067) | Elk Grove, City Of (060767) | Single Family    | Yes     | No        | No                  | No                         | Yes                  | No                          | 2                |
| <b>Total</b>              |                             |                  |         |           |                     |                            |                      |                             | <b>2</b>         |

Source: FEMA Region IX PIVOT Database

Based on this analysis of insurance coverage, the City has values at risk to the 1% annual chance and greater floods. Of the 1,150 improved parcels within the 1% annual chance flood zone, 17 (or 1.5%) of those parcels maintain flood insurance. This can be seen on Table B-35.

*Table B-34 City of Elk Grove – Percentage of Policy Holders to Improved Parcels in the 1% Annual Chance Floodplain*

| Jurisdiction | Improved Parcels in SFHA (1% Annual Chance) Floodplain* | Insurance Policies in the SFHA (1% Annual Chance) Floodplain | Percentage of 1% Annual Chance Floodplain Parcels Currently Insured |
|--------------|---------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------|
| Elk Grove    | 1,150                                                   | 17                                                           | 1.5%                                                                |

Source: FEMA DFIRM 02/2024, FEMA CIS 2025, 2025 Sacramento County Parcel/Assessor's Data

### *Critical Facilities and Infrastructure*

1%, 0.5%, and 0.2% annual chance flooding presents a threat to critical facilities and infrastructure. Critical facilities and infrastructure play an immensely important role in communities. Damage to any one of these systems can threaten public safety, wreak havoc on daily life, impact properties far from flood zones, and result in economic impacts to the City.

The following analysis was performed on the critical facility inventory in the City to determine which critical facilities fall into each FEMA DFIRM flood zone. Using GIS, the FEMA DFIRM flood zones were overlayed on the critical facility GIS layer. This is shown on Figure B-31 for the FEMA DFIRM flood zones. Table B-52 details which critical facilities fall in which FEMA DFIRM flood zones.

Figure B-31 City of Elk Grove – Critical Facilities in FEMA DFIRM Flood Zones

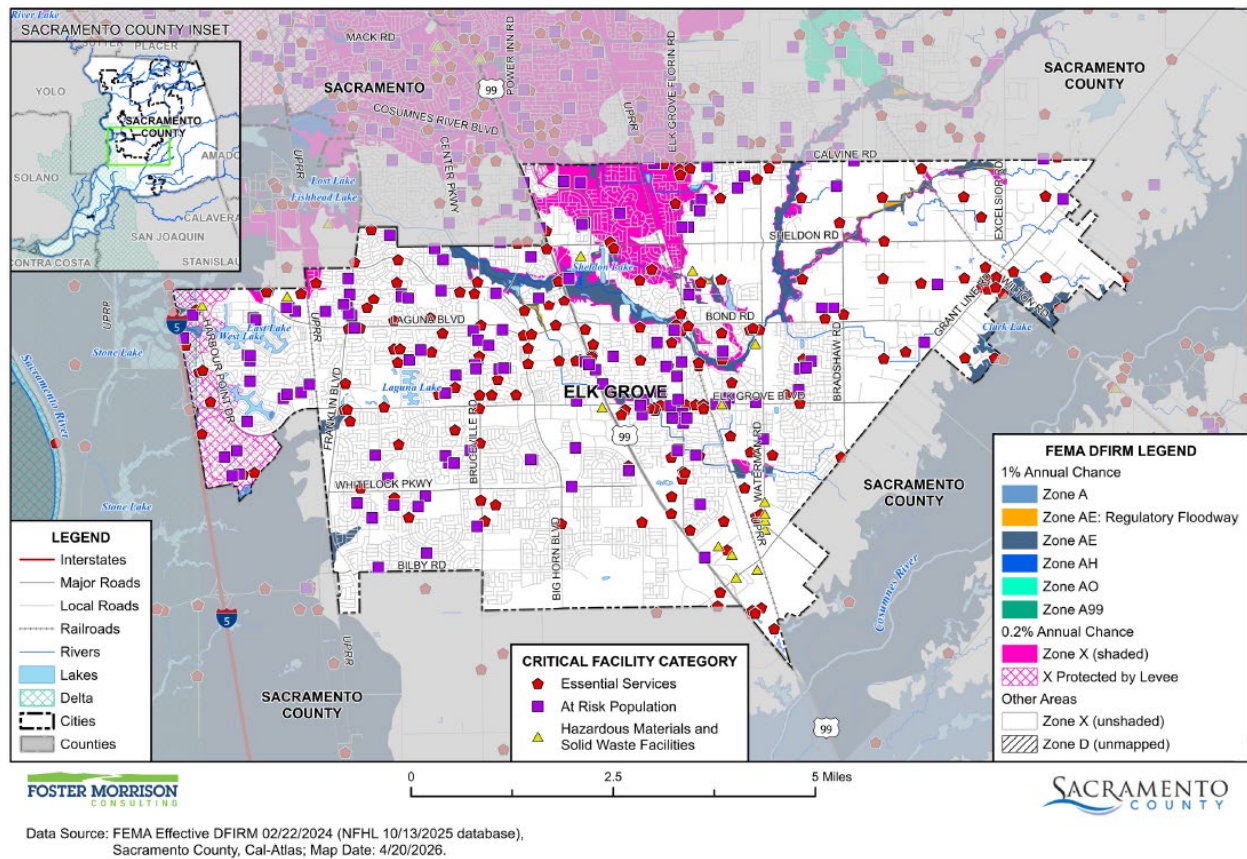


Table B-35 City of Elk Grove – Critical Facilities by Category and Type in FEMA DFIRM Flood Zones\*

| Flood Zone                      | Critical Facility Category                     | Facility Count |
|---------------------------------|------------------------------------------------|----------------|
| 1% Annual Chance Flood Hazard   | Essential Services Facilities                  | 3              |
|                                 | At Risk Population Facilities                  | 1              |
|                                 | <b>1% Annual Chance Flood Hazard Total</b>     | <b>4</b>       |
| 0.2% Annual Chance Flood Hazard | Essential Services Facilities                  | 38             |
|                                 | At Risk Population Facilities                  | 15             |
|                                 | Hazardous Materials and Solid Waste Facilities | 1              |
|                                 | <b>0.2% Annual Chance Flood Hazard Total</b>   | <b>54</b>      |
| Other Areas                     | Essential Services Facilities                  | 277            |
|                                 | At Risk Population Facilities                  | 156            |
|                                 | Hazardous Materials and Solid Waste Facilities | 17             |
|                                 | <b>Other Areas Total</b>                       | <b>450</b>     |

| Flood Zone      | Critical Facility Category | Facility Count |
|-----------------|----------------------------|----------------|
| Elk Grove Total |                            | 508            |

Source: FEMA DFIRM 02/2024, City of Elk Grove

\*The City noted that it took exception to some of the data in this table. The City recommends an updated database be created with input from local stakeholders.

### *Natural, Historic, and Cultural Resources*

Large flood events can affect natural, historic, and cultural resources. There are a number of ways floodwaters can impact natural resources and the environment. Wildlife habitats can be destroyed by floodwaters. Contaminated floodwater can pollute rivers and habitats. Silt and sediment can destroy natural areas. Riverbanks and natural levees can be eliminated as rivers reach bankfull capacity. Rivers can be widened, and deposition can increase downstream. Trees can be uprooted by high-velocity water flow. Plants that survived the initial flood may die due to being inundated with water. Historic and cultural resources may also be affected. Generally, the impacts are associated with damage to structures within the flooded areas, but other cultural resources such as those associated with Native Americans and old tribal areas can also be disturbed, damaged and lost during extreme flood events. Any of these that fall in the flood zones shown on Figure B-28 would be vulnerable.

### **Impacts from Flood: 1%, 0.5%, and 0.2% Annual Chance**

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Large flood events, including those associated with 1%, 0.5%, and 0.2% annual chance floods, can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. People may be swept away in floodwaters, causing injuries or deaths. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Floodwaters can transport large objects downstream which can damage or remove stationary structures. Structures can be damaged directly from floodwaters and can also be damaged from trees falling as a result of water-saturated soils. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services causing power outages. The interruption of power causes major problems and can result in the closure of governmental offices and community businesses. Public schools may also be required to close or be placed on a delayed start schedule. Roads can be damaged and closed, causing safety and evacuation issues.

Standing water can cause damage to crops, roads, foundations, and electrical circuits. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, loss of environmental resources, and economic impacts.

Impacts that are not quantified, but can be anticipated in large future events, include:

- Injury and loss of life;
- Commercial and residential structural and property damage;
- Disruption of and damage to public infrastructure, utilities, and services;
- Damage to roads/bridges resulting in loss of mobility;

- Significant economic impact (jobs, sales, tax revenue) to the community; and
- Negative impact on commercial and residential property values

### *Health Hazards from Flooding*

Certain health hazards are also common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where cattle and hogs are kept or their wastes are stored can contribute polluted waters to the receiving streams.

Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as e. coli and other disease-causing agents.

The second type of health problems arise after most of the water has gone. Stagnant pools can become breeding grounds for mosquitoes, and wet areas of a building that have not been properly cleaned breed mold and mildew. A building that is not thoroughly cleaned becomes a health hazard, especially for small children and the elderly.

Another health hazard occurs when heating ducts in a forced air system are not properly cleaned after inundation. When the furnace or air conditioner is turned on, the sediments left in the ducts are circulated throughout the building and breathed in by the occupants. If a city or county water system loses pressure, a boil order may be issued to protect people and animals from contaminated water.

The third problem is the long-term psychological impact of having been through a flood and seeing one's home damaged and irreplaceable keepsakes destroyed. The cost and labor needed to repair a flood-damaged home puts a severe strain on people, especially the unprepared and uninsured. There is also a long-term problem for those who know that their homes can be flooded again. The resulting stress on floodplain residents takes its toll in the form of aggravated physical and mental health problems.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed further below.

### **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

## Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to exacerbate future flood conditions and associated impacts and vulnerability of the City to 1%, 0.5%, and 0.2% annual chance flooding. This was discussed in greater detail in the Climate Change and Flood section of the Hazard Profile above.
- Future population growth should be considered, as having more or less people in a community affects the overall hazard vulnerability to the City. There are 51 areas the City is planning to develop over the next five years. These developments, would place additional population in the flood zones. Additional population growth would likely bring continued diversity to the County. Vulnerable population groups could face disproportionate effects from flooding and should be planned for. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location of future flood events.
- Land use planning should be proactive to address future hazard conditions. There are 51 areas (9 in the 1% and 11 in the 0.2% annual chance flood zones) the City is planning to develop over the next five years. However, City building codes including the City's floodplain ordinance are in effect to reduce this risk and should be updated as necessary to continue to address future flood conditions. As such, changes in land use and future development may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location of future flood events.

## Future Development

This section provides an analysis of the flood hazard and proposed future development within the City based on FEMA floodplains and also discusses considerations in evaluating future flooding conditions.

### *Future Development: General Considerations*

Communities that participate in the NFIP adopt regulations and codes that govern development in special flood hazard areas (SFHAs) and enforce those requirements through their local floodplain management ordinances through the issuance of permits. The City's floodplain management ordinance provides standards for development, subdivision of land, construction of buildings, and improvements and repairs to buildings that meet or exceed the minimum requirements of the NFIP.

The International Residential Code (IRC) and International Building Code (IBC), by reference to ASCE 24, include requirements that govern the design and construction of buildings and structures in flood hazard areas. FEMA has determined that the flood provisions of the I-Codes are consistent with the requirements of the NFIP (the I-Code requirements either meet or exceed NFIP requirements). ASCE 7 and ASCE 24, design standards developed by the American Society of Civil Engineers, expands on the minimum NFIP requirements with more specificity, additional requirements, and some limitations. Adoption of latest edition of the California Building Standards Code (CBSC), the 2025 triennial edition is based on the 2024 IBC and 2024 IRC, with and effective dated of January 1, 2026. The previous edition was the 2022 triennial

edition, based on the 2021 IBC and 2021 IRC and was effective from 1/1/2023 until 12/31/2025. CA DWR has also developed a California State Model Flood Damage Prevention Ordinance to work with the flood provisions of the CBSC (CCR Title 24) for buildings and structures in special flood hazard areas. CA DWR has also prepared sample language to modify local floodplain management regulations. With the adoption of the CBSC and the International Codes, communities are moving towards a more stringent approach to regulatory floodplain management, beyond the minimum requirements of the NFIP. The adoption and enforcement of disaster-resistant building codes is a core community action to promote effective mitigation. When communities ensure that new buildings and infrastructure are designed and constructed in accordance with national building codes and construction standards, they significantly increase local resilience now and in the future. With continued advancements in building codes, local ordinances should be reviewed and updated to meet and exceed standards as practicable to protect new development from future flood events and to further promote disaster resiliency.

One of the most effective ways to reduce vulnerability to potential flood damage is through careful land use planning that fully considers applicable flood management information and practices. Master planning will also be necessary to assure that open channel flood flow conveyances serving the smaller internal streams and drainage areas are adequately prepared to accommodate the flows. Preservation and maintenance of natural and riparian areas should also be an ongoing priority to realize the flood control benefits of the natural and beneficial functions of these areas.

The potential for flooding may increase as floodwaters are channeled due to land development. Such changes can exacerbate flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. Floodplain modeling and master planning should be based on built out property use to ensure that all new development remains safe from future flooding. While local floodplain management, stormwater management, and water quality regulations and policies address these changes on a site-by-site basis, their cumulative effects can have a negative impact on the overall floodplain.

The City enforces its floodplain management ordinance. If any development is to occur in the floodplain, it would have to conform to the elevation and other standards of the floodplain ordinance. More detail on the specifics of the floodplain ordinance can be found in the Capability section below.

Future development areas and their vulnerability to 1% and 0.2% annual chance flood are discussed further in the below GIS analysis.

### **GIS Analysis**

The City provided 51 future development areas which were used as the basis for the inventory of future development for the City. These areas were mapped in GIS. Utilizing the future development area spatial layer, the parcel polygon data was intersected to determine the future development areas within each DFIRM flood zone. Figure B-32 shows the locations of the future development area overlayed on the DFIRM flood zones. Some of these future development areas fall within the mapped flood areas as shown on Table B-37. As shown in the map and table, 9 of these future development areas sit in the 1% annual chance flood zone, while 11 more sit in the 0.2% annual chance flood zone.

Figure B-32 City of Elk Grove – Future Development Areas in FEMA DFIRM Flood Zones

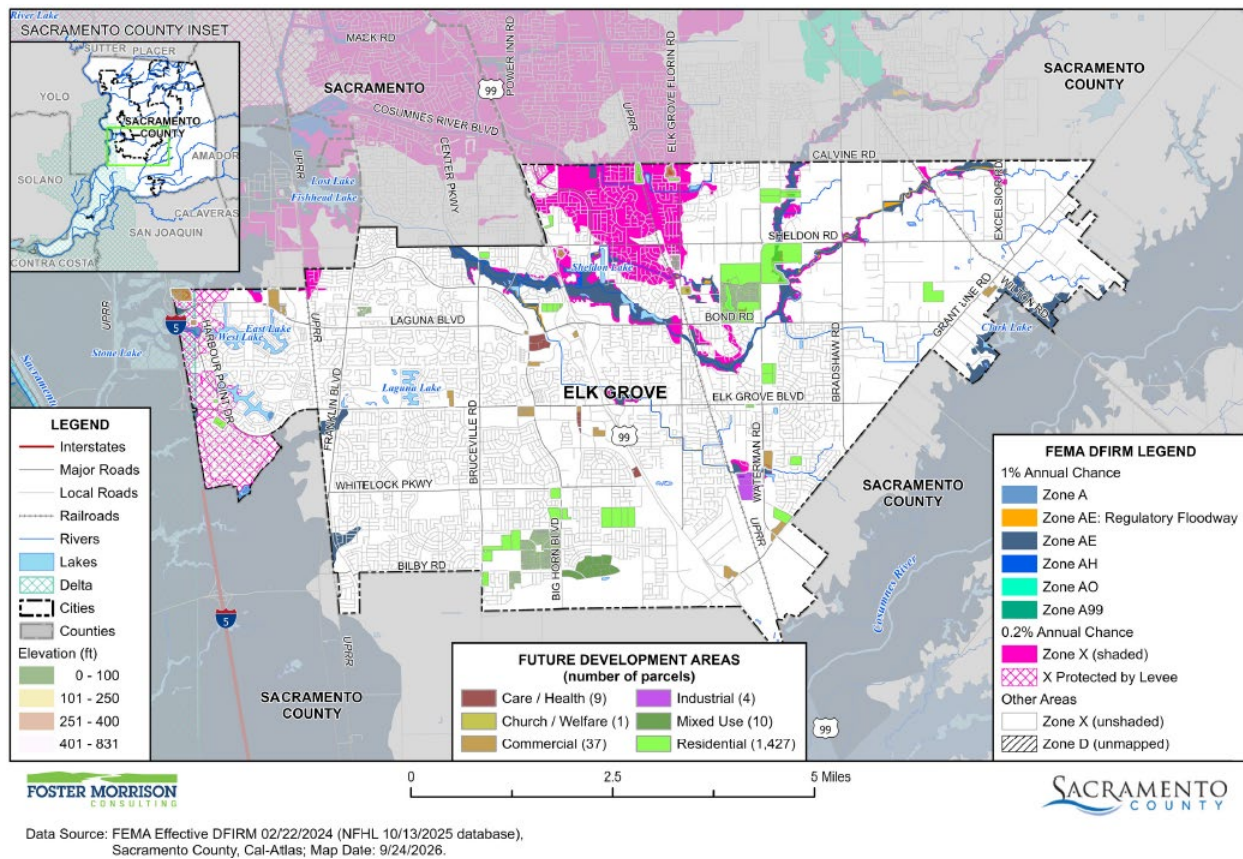


Table B-36 City of Elk Grove – Future Development Area by Development Type and Status with Acres and Parcels in FEMA DFIRM Flood Zones

| Flood Zones / Future Development Type and Status | Site/Location Name              | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|--------------------------------------------------|---------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>1% Annual Chance Flood Hazard</b>             |                                 |                    |                       |                         |             |                      |                        |
| <b>Commercial</b>                                |                                 |                    |                       |                         |             |                      |                        |
| In Planning Review                               | Grant Line Commercial Center    | 1                  | 0                     | 1                       | 3.3         | 0.0                  | 3.3                    |
|                                                  | Slakey Brother Expansion        | 2                  | 1                     | 1                       | 15.3        | 11.4                 | 3.9                    |
|                                                  | <b>In Planning Review Total</b> | <b>3</b>           | <b>1</b>              | <b>2</b>                | <b>18.6</b> | <b>11.4</b>          | <b>7.2</b>             |
| Under Construction                               | M2 Waterman RV Storage          | 1                  | 1                     | 0                       | 14.1        | 14.1                 | 0.0                    |

| Flood Zones / Future Development Type and Status | Site/Location Name                 | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres  | Total Improved Acres | Total Unimproved Acres |
|--------------------------------------------------|------------------------------------|--------------------|-----------------------|-------------------------|--------------|----------------------|------------------------|
|                                                  | <b>Under Construction Total</b>    | <b>1</b>           | <b>1</b>              | <b>0</b>                | <b>14.1</b>  | <b>14.1</b>          | <b>0.0</b>             |
| <b>Commercial Total</b>                          |                                    | <b>4</b>           | <b>2</b>              | <b>2</b>                | <b>32.7</b>  | <b>25.5</b>          | <b>7.2</b>             |
| <b>Church / Welfare</b>                          |                                    |                    |                       |                         |              |                      |                        |
| Under Construction                               | Elk Grove Muslim Center            | 2                  | 2                     | 0                       | 6.8          | 6.8                  | 0.0                    |
|                                                  | <b>Under Construction Total</b>    | <b>2</b>           | <b>2</b>              | <b>0</b>                | <b>6.8</b>   | <b>6.8</b>           | <b>0.0</b>             |
| <b>Church / Welfare Total</b>                    |                                    | <b>2</b>           | <b>2</b>              | <b>0</b>                | <b>6.8</b>   | <b>6.8</b>           | <b>0.0</b>             |
| <b>Industrial</b>                                |                                    |                    |                       |                         |              |                      |                        |
| Under Construction                               | Waterman Brinkman Logistics Center | 2                  | 0                     | 2                       | 19.5         | 0.0                  | 19.5                   |
|                                                  | <b>Under Construction Total</b>    | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>19.5</b>  | <b>0.0</b>           | <b>19.5</b>            |
| <b>Industrial Total</b>                          |                                    | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>19.5</b>  | <b>0.0</b>           | <b>19.5</b>            |
| <b>Residential</b>                               |                                    |                    |                       |                         |              |                      |                        |
| Approved                                         | Sage Glen Map                      | 1                  | 1                     | 0                       | 3.5          | 3.5                  | 0.0                    |
|                                                  | <b>Approved Total</b>              | <b>1</b>           | <b>1</b>              | <b>0</b>                | <b>3.5</b>   | <b>3.5</b>           | <b>0.0</b>             |
| In Planning Review                               | Jordan Ranch Rezone & Map          | 2                  | 1                     | 1                       | 15.1         | 5.0                  | 10.0                   |
|                                                  | Summer Villas at Sheldon Road      | 1                  | 0                     | 1                       | 113.5        | 0.0                  | 113.5                  |
|                                                  | <b>In Planning Review Total</b>    | <b>3</b>           | <b>1</b>              | <b>2</b>                | <b>128.5</b> | <b>5.0</b>           | <b>123.5</b>           |
| Under Construction                               | Elliott Springs                    | 4                  | 0                     | 4                       | 4.9          | 0.0                  | 4.9                    |
|                                                  | <b>Under Construction Total</b>    | <b>4</b>           | <b>0</b>              | <b>4</b>                | <b>4.9</b>   | <b>0.0</b>           | <b>4.9</b>             |
| <b>Residential Total</b>                         |                                    | <b>8</b>           | <b>2</b>              | <b>6</b>                | <b>137.0</b> | <b>8.6</b>           | <b>128.4</b>           |
| <b>1% Annual Chance Flood Hazard Total</b>       |                                    | <b>16</b>          | <b>6</b>              | <b>10</b>               | <b>196.1</b> | <b>41.0</b>          | <b>155.1</b>           |
| <b>0.2% Annual Chance Flood Hazard</b>           |                                    |                    |                       |                         |              |                      |                        |
| <b>Commercial</b>                                |                                    |                    |                       |                         |              |                      |                        |

| Flood Zones / Future Development Type and Status | Site/Location Name                                  | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres  | Total Improved Acres | Total Unimproved Acres |
|--------------------------------------------------|-----------------------------------------------------|--------------------|-----------------------|-------------------------|--------------|----------------------|------------------------|
| Approved                                         | Calvine Pointe Major 3 Mixed Use Retail and Storage | 1                  | 1                     | 0                       | 7.1          | 7.1                  | 0.0                    |
|                                                  | Hotel at Sheldon Place                              | 2                  | 0                     | 2                       | 3.6          | 0.0                  | 3.6                    |
|                                                  | <b>Approved Total</b>                               | <b>3</b>           | <b>1</b>              | <b>2</b>                | <b>10.7</b>  | <b>7.1</b>           | <b>3.6</b>             |
| In Planning Review                               | Slakey Brother Expansion                            | 2                  | 0                     | 2                       | 4.3          | 0.0                  | 4.3                    |
|                                                  | <b>In Planning Review Total</b>                     | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>4.3</b>   | <b>0.0</b>           | <b>4.3</b>             |
| <b>Commercial Total</b>                          |                                                     | <b>5</b>           | <b>1</b>              | <b>4</b>                | <b>15.1</b>  | <b>7.1</b>           | <b>7.9</b>             |
| <b>Residential</b>                               |                                                     |                    |                       |                         |              |                      |                        |
| Approved                                         | Elk Grove Apartments                                | 1                  | 0                     | 1                       | 1.3          | 0.0                  | 1.3                    |
|                                                  | Sheldon Farms North Apartments                      | 1                  | 0                     | 1                       | 6.1          | 0.0                  | 6.1                    |
|                                                  | Wellington Crossing Amendment                       | 1                  | 0                     | 1                       | 7.5          | 0.0                  | 7.5                    |
|                                                  | <b>Approved Total</b>                               | <b>3</b>           | <b>0</b>              | <b>3</b>                | <b>14.9</b>  | <b>0.0</b>           | <b>14.9</b>            |
| Under Construction                               | Coral Blossom Apartments                            | 1                  | 0                     | 1                       | 2.4          | 0.0                  | 2.4                    |
|                                                  | Elliott Springs                                     | 18                 | 2                     | 16                      | 133.7        | 0.4                  | 133.3                  |
|                                                  | Hamilton Park at Elk Grove Landing                  | 85                 | 6                     | 79                      | 6.5          | 0.4                  | 6.1                    |
|                                                  | Sage Glen Map                                       | 1                  | 1                     | 0                       | 6.4          | 6.4                  | 0.0                    |
|                                                  | <b>Under Construction Total</b>                     | <b>105</b>         | <b>9</b>              | <b>96</b>               | <b>149.0</b> | <b>7.2</b>           | <b>141.8</b>           |
| <b>Residential Total</b>                         |                                                     | <b>108</b>         | <b>9</b>              | <b>99</b>               | <b>163.8</b> | <b>7.1</b>           | <b>156.6</b>           |
| <b>0.2% Annual Chance Flood Hazard Total</b>     |                                                     | <b>113</b>         | <b>10</b>             | <b>103</b>              | <b>168.9</b> | <b>14.2</b>          | <b>166.5</b>           |

Source: FEMA DFIRM 02/2024, City of Elk Grove

## *Flood: Localized Stormwater Flooding*

**Likelihood of Future Occurrence**–Likely

**Vulnerability**–Medium

### **Hazard Profile**

Flooding occurs in areas other than the FEMA mapped 1%, 0.5%, and 0.2% annual chance floodplains. Flooding may be from drainages not studied by FEMA, lack of or inadequate drainage infrastructure, or inadequate maintenance. Localized, stormwater flooding occurs throughout the City, during the rainy season from November through April. Prolonged heavy rainfall (including that from atmospheric river events) contributes to a large volume of runoff resulting in high peak flows of moderate duration. Rain on snow events occurring in the upper elevations can also be significant and contribute to greater downstream runoff and flooding during large storm events.

### **Location and Extent**

The City of Elk Grove is subject to localized flooding throughout the City. Areas prone to localized flooding are included in Table B-38 below. Flood extents are usually measured in areas affected, velocity of flooding, and depths of flooding. Expected flood depths in the City vary by location. Flood durations in the City tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Localized flooding in the City tends to have a shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture.

### **Past Occurrences**

#### *Disaster Declaration History*

There have been no state or federal disaster declarations from localized floods. There would most likely have been localized flood events during the disaster declarations from flood as shown in the previous 1%/0.5%/0.2% annual chance flood section.

#### *NCDC Events*

The NCDC occurrences of localized flooding are included in the 1%, 0.5%, and 0.2% annual chance flood hazard profile above where past flood events were noted.

#### *City of Elk Grove Events*

The City noted that the times of flooding and localized flooding have coincided. The following events occurred.

Specifically, the City noted that in December of 2022, a heavy winter storm caused localized flooding for the City. The increased precipitation caused a breaching of levees on the Cosumnes River and Deer Creek. This event also caused fallen trees, downed power lines, traffic signal outages, damaged light poles, and other hazardous events.

The City noted that localized flooding is an annual occurrence and affects those areas described above. There have been only minor localized flooding issues since the previous LHMP. Both the travel lane and the shoulder of the road have seen impacts.

### **Climate Change and Localized Flood**

It is likely that climate change will increase the chance of future occurrence as well as future impacts from localized flood. More information on future impacts to the City can be found in the Future Conditions/Future Development section of the Vulnerability Assessment below.

Even if average annual rainfall may decrease slightly, the intensity of individual rainfall events is likely to increase during the 21<sup>st</sup> century, increasing the likelihood of overwhelming stormwater systems built to historical rainfall averages. This makes localized flooding more likely.

### **Vulnerability to Localized Flood**

Flood vulnerability and their impacts vary by location and severity of any given flood event and will likely only affect certain areas of the City during specific times. Based on the risk assessment, it is evident that floods will continue to have potentially significant impacts to certain areas of the City. However, while flooding can cause significant impacts, depending on the duration and volume of precipitation and the drainage in any given area, many of the floods in the City are minor, localized flood events that are more of a nuisance than a disaster.

Many areas of the City are at some measure of vulnerability to localized flooding. An assessment of a community's vulnerability to localized flooding begins with an understanding of local exposure to localized flooding. This is included in the Local Concerns section below followed by a discussion of the City's Assets at Risk to this hazard.

### **Local Concerns**

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Historically, the City has experienced flooding along tributary streams and creeks during heavy rainfall events, including atmospheric river events, particularly in the rural areas. These areas rely on roadside ditches, as well as streams and creeks that traverse private properties, to convey stormwater. Obstructions within these drainage features, combined with localized depressions, can exacerbate flooding. Continued development in the rural community can also increase impervious surfaces and stormwater runoff.

To mitigate these impacts, City development standards require new development to incorporate peak flow attenuation, low impact development (LID) measures, and hydromodification controls. These requirements help minimize increases in stormwater runoff and reduce the potential for localized flooding associated with new development. Operations and Maintenance have a proactive role in maintaining roadside ditches and culverts. Public Works will work with residents to identify obstructions in the drainage feature and provide actions.

One of the biggest concerns with major flooding is timely evacuation and access to vulnerable populations. The City experiences localized flooding along roadways in the City that is caused by either undeveloped drainage structures in the City's rural regions or blockages in the stormwater drainage system related to debris and leaf buildup. City staff have observed during intense rainfall, major streets in the City experience localized flooding because inlets are blocked with leaves, resulting in standing water in one or more lanes in the roadway. Major streets of primary concern that are monitored during rain events are Big Horn Boulevard, Laguna Boulevard, Bruceville Road, Elk Grove Boulevard, Kammerer Road, and Franklin Boulevard. The City is currently working on evacuation plans for hazardous events.

The City's Storm Drain Master Plan update will help better identify these system deficiencies and propose capital improvement projects if there are areas that do not meet current improvement standards. As part of the Storm Drain Master Plan update, the City will update the hydrology and hydraulics models for the creek systems within the study area. This includes utilizing QLI LiDAR and model calibration based on recent storms.

### **Assets at Risk**

Assets at risk from localized flood include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

#### *People and Populations*

People and populations (including vulnerable populations) are traditionally not highly vulnerable to localized flooding, but their structures and contents can be at risk. Localized flooding may also cause transportation issues as roads and lanes are impacted or closed and affect the ability for people to travel throughout the City.

#### *Structures*

Structures in areas with localized flooding can be affected if floodwaters intrude into the structure. Structures in low lying areas, or those with basements can be at greater risk. Buildings with older foundations that are prone to water intrusion are also at greater risk. Once water finds its way into a structure, it tends to continue to do so until the path that brings water into a structure is mitigated. Structures can also be damaged by trees that have become uprooted and fall during rain and storm events. Large trees falling onto structures can cause significant damage.

#### *Critical Facilities and Infrastructure*

Localized flooding, while often more of a nuisance, can cause damage to critical facilities and infrastructure during a heavy rain and storm event. Any facility that experiences localized flooding can be impacted. Utilities and other critical infrastructure can all be affected, causing interruptions in service until repairs can be made. For example, water and wastewater systems can be vulnerable to heavy rains and flood events. Rainfall creates a high water table, surging streams and creeks, and saturates soil. Infiltration of stormwater into water and wastewater systems may occur and presents a threat to public health and safety, when the infrastructure is no longer able to meet operational needs and local demands. Other critical facilities such as roads, bridges and other transportation facilities can also experience localized flooding

causing road closures and other impacts until storm waters recede. This can result in extended road closures requiring alternate routes.

### *Natural, Historic, and Cultural Resources*

Natural resource assets may have some vulnerabilities to localized flood during major storm events, but can benefit from floodwaters, often by design. Many parks and green spaces are designed to take overflow water and release it into the underlying soils and natural areas. Wetland areas in the City actually help reduce the risk of flooding, as they can absorb excess rainfall that would have to be drained away from impervious surfaces. Flooding can provide many benefits to the natural environment, including recharging wetlands and groundwater, increasing fish production, creating wildlife habitat, and rejuvenating soil fertility. These smaller localized flooding events often provide more benefits to the environment in comparison to negative impacts associated with large flood events. Historic and cultural resources may be at some measure of vulnerability if they are located in areas subject to repeated localized flooding.

### **Impacts from Localized Flood**

Primary concerns associated with stormwater flooding include impacts to infrastructure that provide a means of ingress and egress throughout the community. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Objects can also be buried or destroyed through sediment deposition. Floodwaters can break utility lines and interrupt services. Standing water can cause damage to crops, roads, and foundations. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

Life safety issues from localized flooding would be more limited. The amount and type of damage or flooding that occurs varies from year to year and from storm to storm, depending on the quantity of precipitation and runoff.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the Likelihood of Future Occurrence discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed below.

### **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

#### **Future Conditions**

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to exacerbate future heavy rain conditions and associated impacts and vulnerability of the City to localized flood. This was discussed in greater detail in the Climate Change and Localized Flood section of the Hazard Profile above.
- The City is expected to see slow and steady growth. The City has 51 areas planned for development in the next five years. Additional population growth would likely bring continued diversity to the City. This can also impact the vulnerable populations, like low-income individuals and households living in areas that are typically more hazardous. Vulnerable population groups such as low-income individuals and households living in flood prone areas could face disproportionate effects from localized flood and should be planned for. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location of future flood events.
- Land use planning should be proactive to address future hazard conditions. The City has 51 areas planned for development in the next five years. Development in more urban areas causes an increase in peak flow and stormwater runoff. Such growth will consume previously undeveloped acres, and the impacts may overwhelm existing drainage and flood control facilities. Locating new development, structures and critical facilities and infrastructure within or near areas of localized flooding risk may put additional development at risk. However, City building codes, including the City's Floodplain Management Ordinance, are in effect to reduce this risk and should be updated as necessary to continue to address future localized flood conditions. Depending on the location of new development and adherence to protective building codes, changes in land use and development may or may not increase the impacts and associated vulnerabilities of the City to this hazard.

### **Future Development**

The City will need to be proactive to ensure that increased development has proper siting and drainage for stormwaters. The risk of localized flooding to future development can also be minimized by accurate recordkeeping of repetitive localized storm activity. Mitigating the root causes of the localized stormwater flooding will reduce future risks of losses.

### **Levee Failure**

**Likelihood of Future Occurrence**—Occasional

**Vulnerability**—Medium

### **Hazard Profile**

A levee is a raised area that runs along the banks of a stream or canal. Levees reinforce the banks and help prevent flooding by containing higher flow events to the main stream channel. By confining the flow to a narrower stream channel, levees can also increase the speed of the water. Levees can be natural or man-made. A natural levee is formed when sediment settles on the streambank, raising the level of the land around the stream.

Levees provide strong flood protection, but they are not failsafe. Levees are designed to protect against a specific flood level and could be overtopped during severe weather events or a release or failure of a dam. Levees reduce, not eliminate, the risk to individuals and structures located behind them. A levee system failure or overtopping can create severe flooding and high-water velocities. It is important to remember

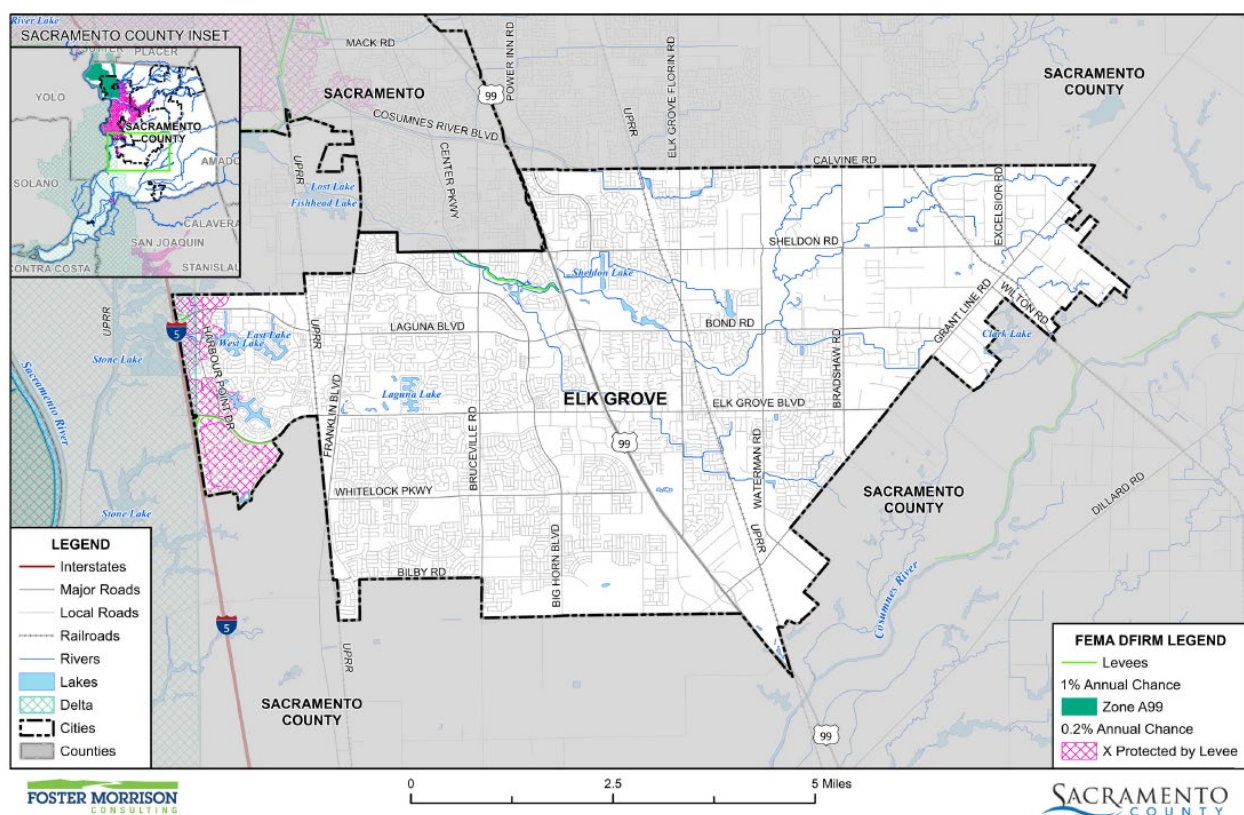
that no levee provides protection from events for which it was not designed, and proper operation and maintenance are necessary to reduce the probability of failure.

Over 518 miles of levees are located throughout the Sacramento County Planning Area. These include both accredited and unaccredited levees, as discussed in Section 4.3.14 of the Base Plan, all which pose a risk to adjacent communities should a levee fail or overtop. While the levee analysis included in this section focuses on the accredited levees and those with improvements in process based on the DFIRM A99 and X-Protected by Levee flood zones, there are many older, unaccredited levees located throughout the County Planning Area that may have a greater potential for overtopping or breaching and pose a significant risk to communities should they fail.

### **Location and Extent**

Certain areas of the City are at risk to levee failure flooding. There is not a scientific scale or measurement system in place for levee failure. It is usually measured in area covered and depth of flooding. A map of the 518 miles of levees located in the Sacramento County Planning Area is shown in Section 4.3.14 of the Base Plan. A Levee Flood Protection Zone, developed by CA DWR map showing estimated inundation depths due to a levee failure in the County is also shown in the Base Plan. There are no LFPZ shown in the City of Elk Grove. Generally, with levee failure flooding, the speed of onset is slow as the river rises, but if a levee fails the warning times are short for those in the inundation area. The duration of levee failure risk times can be hours to weeks, depending on the river flows that the levee holds back. Those levees accredited as providing protection against the 1% or greater annual chance flood and those in levees in the certification process are identified in the FEMA DFIRMs which also include those areas protected by the levees as shown in Figure B-33. Geographical DFIRM A99 and X Protected by Levee flood zone extent from the FEMA DFIRMs is detailed in Table B-39. As shown, the City only has areas that fall within the X Protected by Levee flood zone. No A99 flood zones exist in the Elk Grove. Thus, no additional tabular analysis is provided for the A99 flood zone for the City.

Figure B-33 City of Elk Grove– FEMA DFIRM A99 and X Protected by Levee Flood Zones



Data Source: FEMA Effective DFIRM 02/22/2024 (NFHL 10/13/2025 database),  
Sacramento County, Cal-Atlas; Map Date: 3/27/2026.

Table B-37 Sacramento County Planning Area – Geographical Flood Hazard Extents in FEMA DFIRM X Protected by Levee Flood Zones

| DFIRM Flood Zone/<br>Jurisdiction | Total Acres | % of Total Acres* | Improved Acres | % of Total Improved Acres* | Unimproved Acres | % of Total Unimproved Acres* |
|-----------------------------------|-------------|-------------------|----------------|----------------------------|------------------|------------------------------|
| <b>A99</b>                        |             |                   |                |                            |                  |                              |
| Elk Grove                         | 0           | 0.00%             | 0              | 0.00%                      | 0                | 0.00%                        |
| <b>X Protected by Levee</b>       |             |                   |                |                            |                  |                              |
| Elk Grove                         | 685         | 0.116%            | 501            | 0.16%                      | 184              | 0.066%                       |

Source: 02/2024 DFIRM

## Past Occurrences

### Disaster Declaration History

There have been two state and two federal disasters declarations directly related to levee failure in Sacramento County, as shown on Table B-40. Also it is important to note that many of the flood disaster declarations included in Section 4.3.11 of the Base Plan also may include flooding associated with levee breach or failure events.

*Table B-38 Sacramento County – State and Federal Disaster Declarations Summary 1950-2025*

| Disaster Type | State Declarations |            | Federal Declarations |            |
|---------------|--------------------|------------|----------------------|------------|
|               | Count              | Years      | Count                | Years      |
| Levee Break   | 2                  | 1972, 1980 | 2                    | 1972, 1980 |

Source: Cal OES, FEMA

### *NCDC Events*

There have been no NCDC levee failure events in Sacramento County, as the NCDC does not track levee failure flooding as a stand-alone hazard.

### *City of Elk Grove Events*

The City noted that in December of 2022, a heavy winter storm caused localized flooding for the City. The increased precipitation also caused a breaching of levees on the Cosumnes River and Deer Creek. This event also caused fallen trees, downed power lines, traffic signal outages, damaged light poles, and other hazardous events.

### **Climate Change and Levee Failure**

The 2024 Sacramento County CAP noted that climate change is likely to lead to changes in the frequency, intensity, and duration of extreme weather events. The County is projected to experience a steady increase in average annual precipitation through the end of the century, with much of that precipitation likely to occur during extreme precipitation events, which can lead to flood impacts. According to Cal-Adapt, the historic average annual precipitation in Sacramento County is 18.3 inches, and the historic average annual number of extreme precipitation events is four. The average annual precipitation across the County may rise upwards of 22 inches, with the number of extreme precipitation events potentially exceeding 7 per year by the end of the century, depending on the level of current and future GHG emissions.

In general, California exhibits “booms and busts,” which refers to the existence of both very wet years and very dry years. The amount of precipitation that falls in any particular year is largely influenced by occurrences of large, discrete winter storms, also known as atmospheric rivers, which often provide a substantial fraction of the region’s annual precipitation, inclusive of the county. In California, atmospheric rivers vary in intensity; some are beneficial for water supply and replenish snowpack that naturally melts during the summer, serving as the water supply for people and agriculture, while others are responsible for widespread and adverse impacts (NOAA 2023). Extreme precipitation from these atmospheric rivers in the future may prove to be more variable, volatile, and potentially more severe. These extremes are most likely to occur during storm events, leading to more severe damage from waves and floods, thus possibly leading to more levee failure events.

### **Vulnerability to Levee Failure**

According to historical hazard data and levee mapping, levee failures can occur in or near the City. Portions of the City are at some measure of vulnerability to levee failure floods, including failure of accredited levees, those in the certification process, and unaccredited levees. An assessment of a community’s

vulnerability to levee failure flooding begins with an understanding of local exposure to levees. This is included in the Local Concerns section below followed by a discussion of the City's Assets at Risk to this hazard.

## Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

The City of Elk Grove 2019 General Plan (amended 2023) noted that the existing levee system in areas surrounding Elk Grove was initially constructed by hand labor, and later by dredging to hold back river floods and tidal influences, to obtain additional lands for grazing and crop growing. Constant maintenance is necessary to hold these levees against the river floods that threaten surrounding areas. Because levees are vulnerable to peat oxidation as well as sand, silt, and peat erosion, new material is continually added to maintain them. Subsiding farmlands adjacent to levees may increase water pressure against the levees, adding to the potential for levee failure. In addition, many levees, known as non-project levees, are not maintained to any specified standard, which can increase the likelihood of failure and inundation.

The City has a levee system around the Laguna West and Stonelake community, to protect it from backwater effects from the Consumnes River and Mokelumne River. The levee also provides protection from a potential breach in the rural levee along the Sacramento River east levee. The current levee system can meet the FEMA 100-year floodplain, but will overtop in the case of the 200-year floodplain. The City is looking for funding opportunities to address this deficiency.

A major overtopping of a levee may result in severe erosion of the levee crowns on the landward side and cause levee failure over a period of minutes to several hours. A severe levee overtopping can, therefore, be considered as a levee break for the purpose of determining the extent of flooding that any area will suffer. Generally, overtopping can be predicted based on river stages and the warning given depending on the source of the flood waters. On the Sacramento River system, depending on which dams are releasing the flows, advance warning of river stages may be as much as 24 hours.

The area potentially affected by a 200-year flood event in Elk Grove is in the southeast portion of the City, along Deer Creek and the Cosumnes River. Much of this land is preserved for agricultural use and would be at limited risk of damage from flood hazard zones. However, a 200-year flood event caused by levee breaks along the Sacramento River could result in flooding in small portions of Laguna West, an existing residential neighborhood on the western side of the City. If, in the future, the City were to consider expanding beyond its existing Planning Area north or south along Interstate 5, development in these areas would also be at risk in a 200-year flood event.

## Assets at Risk

Assets at risk from levee failure include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

## People and Populations

All people and populations located in leveed areas are at some risk to flooding. Certain vulnerable populations located within areas prone to levee failure flooding may be at increased risk to this hazard, especially during a large event with minimal advance notice. These vulnerable populations include: the unsheltered, those with limited mobility, and those that lack the resources to leave the area.

City residents that live in the X Protected by Levee flood zone , as well as in areas adjacent to and downstream of unaccredited levees, are the most vulnerable. Not only are the residents at risk, but their homes and contents are all at risk, compounding the impacts associated with significant hazard events. To further evaluate the impact to the City of Elk Grove’s residential population residing within these hazard areas, the DFIRM X Protected by Levee flood zone was overlayed on the parcel layer. Those residential parcels that intersect the flood zone was counted and multiplied by the 2023 Census Bureau average household factors for the City of Elk Grove – 3.27. According to this analysis, there is a total population of 0 and 8,246 residents of the City at risk to levee failure flooding in the A99 and X Protected by Levee floodplains, respectively. This is shown in Table B-41. In addition, residents in areas adjacent to and downstream of unaccredited levees would also be at risk, but due to data limitations, are not included in this analysis.

*Table B-39 City of Elk Grove – Improved Residential Parcels and Populations in FEMA DFIRM A99 and X Protected by Levee Flood Zones*

| Jurisdiction | A99                          |                    | X Protected by Levee         |                    |
|--------------|------------------------------|--------------------|------------------------------|--------------------|
|              | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk |
| Elk Grove    | 0                            | 0                  | 2,577                        | 8,246              |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/Assessor Data, 2020 US Census Bureau Average Household Size –City of Elk Grove (3.27)

The City noted that the Critical Facilities and Infrastructure section below includes the facilities used by At-Risk populations that are threatened by this hazard. While this is not specific to what special populations reside in the City, it does speak to facilities that area used to serve (portions) of this population.

## Structures

Levee failure events can affect the built environment of the City. Certain structures in the City are at risk of levee failure flooding and include those structures located within the X Protected by Levee flood zone as well as in areas adjacent to and downstream of unaccredited levees. The vulnerability of structures depends on flood depths and can range from slight damage to totally inundated in extreme events.

GIS was used to determine the possible impacts of flooding on parcels and structures within the City of Elk Grove. The methodology described in Section 4.3.11 of the Base Plan was followed in determining structures and values at risk to X Protected by Levee flood zone. Table B-42 shows parcel counts, land and improved values (i.e., those with a structure improvement on the parcel), estimated content replacement values, and total values in the City are shown for the X Protected by Levee flood zone. In addition, structures

in areas adjacent to and downstream of unaccredited levees would also be at risk, but due to data limitations, are not included in this analysis.

*Table B-40 City of Elk Grove – Count and Value of Parcels and Structures in FEMA DFIRM X Protected by Levee Flood Zone by Property Use*

| Flood Zone / Property Use                                   | Total Parcel Count | Improved Parcel Count | Total Land Value     | Structure Value        | Estimated Contents Value | Total Value            |
|-------------------------------------------------------------|--------------------|-----------------------|----------------------|------------------------|--------------------------|------------------------|
| <b>X Protected by Levee Flood Zone (0.2% Annual Chance)</b> |                    |                       |                      |                        |                          |                        |
| Agricultural                                                | 0                  | 0                     | \$0                  | \$0                    | \$0                      | \$0                    |
| Care / Health                                               | 1                  | 1                     | \$1,200,000          | \$2,000,000            | \$2,000,000              | \$5,200,000            |
| Church / Welfare                                            | 4                  | 4                     | \$4,500,675          | \$17,247,405           | \$17,247,405             | \$38,995,485           |
| Industrial                                                  | 5                  | 3                     | \$5,886,854          | \$27,752,991           | \$41,629,487             | \$75,269,332           |
| Miscellaneous                                               | 59                 | 0                     | \$564                | \$0                    | \$0                      | \$564                  |
| Office                                                      | 45                 | 38                    | \$16,582,390         | \$111,819,475          | \$111,819,475            | \$240,221,340          |
| Public / Utilities                                          | 0                  | 0                     | \$0                  | \$0                    | \$0                      | \$0                    |
| Recreational                                                | 1                  | 1                     | \$568,913            | \$2,187,291            | \$2,187,291              | \$4,943,495            |
| Residential                                                 | 2,598              | 2,577                 | \$299,547,304        | \$989,577,052          | \$494,788,526            | \$1,783,912,882        |
| Retail / Commercial                                         | 33                 | 30                    | \$26,350,736         | \$44,045,155           | \$44,045,155             | \$114,441,046          |
| Unknown                                                     | 0                  | 0                     | \$0                  | \$0                    | \$0                      | \$0                    |
| Vacant                                                      | 24                 | 0                     | \$19,744,059         | \$0                    | \$0                      | \$19,744,059           |
| <b>X Protected by Levee Total</b>                           | <b>2,770</b>       | <b>2,654</b>          | <b>\$374,381,495</b> | <b>\$1,194,629,369</b> | <b>\$713,717,339</b>     | <b>\$2,282,728,203</b> |

Source: FEMA DFIRM 02/2024, 2025 Sacramento County Parcel/Assessor Data

\*With respect to improve parcels within the floodplain, the actual structures on the parcels may not be located within the actual floodplain, may be elevated and or otherwise outside of the identified flood zone

### *Critical Facilities and Infrastructure*

Levee failure flooding present a threat to critical facilities and infrastructure. Critical facilities and infrastructure play an immensely important role in communities. Damage to any one of these systems can threaten public safety, wreak havoc on daily life, impact properties far from flood zones, and result in economic impacts to the City.

A separate analysis was performed on the critical facility inventory in the City to determine which critical facilities fall into the FEMA DFIRM A99 or X Protected by Levee flood zone. Using GIS, the FEMA DFIRM flood zones were overlayed on the critical facility GIS layer. This is shown on Figure B-34 for the FEMA DFIRM flood zones. Table B-43 details which critical facilities fall in which FEMA DFIRM flood

zones. In addition, critical facilities and infrastructure located in areas adjacent to and downstream of unaccredited levees would also be at risk, but due to data limitations, are not included in this analysis

*Figure B-34 City of Elk Grove – Critical Facilities in FEMA DFIRM A99 and X Protected by Levee Flood Zones*

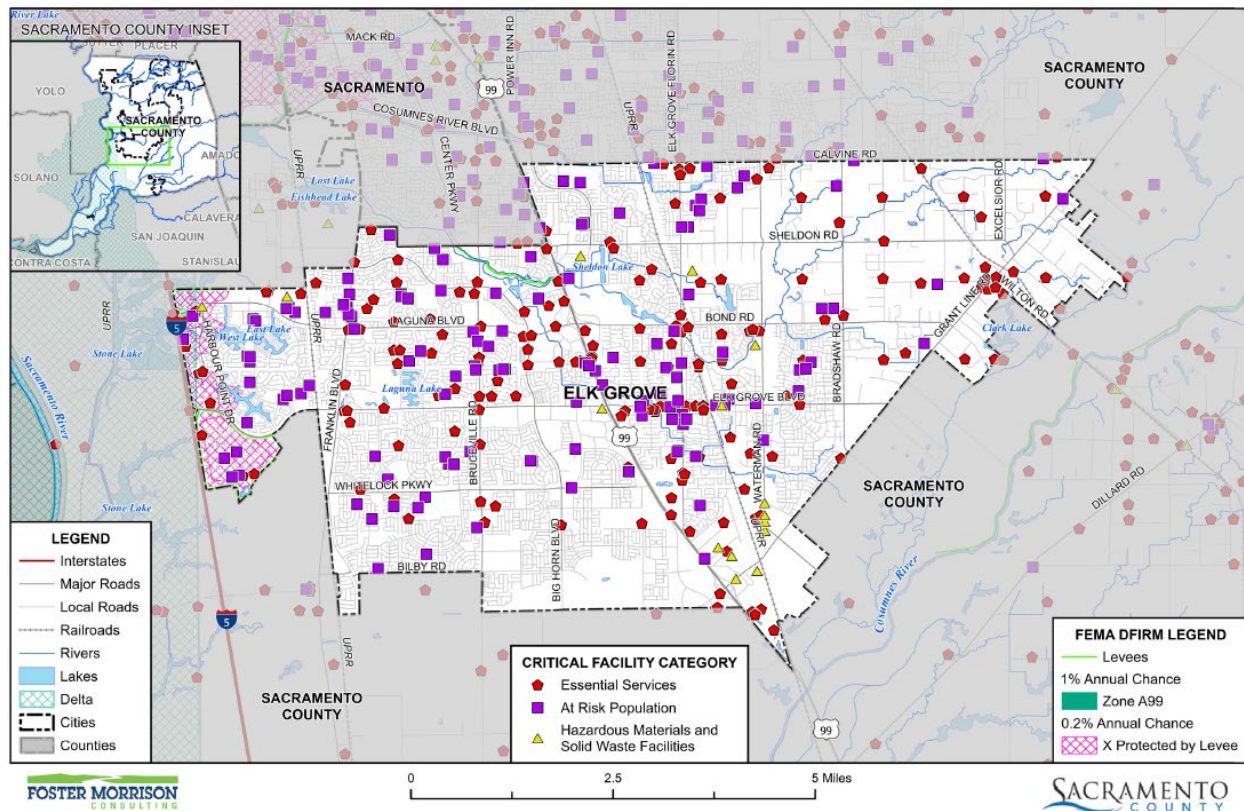


*Table B-41 City of Elk Grove – Critical Facilities by Category and Type in FEMA DFIRM A99 and X Protected by Levee Flood Zones*

| Flood Zone                             | Critical Facility Category                     | Facility Count |
|----------------------------------------|------------------------------------------------|----------------|
| <b>0.2% Annual Chance Flood Hazard</b> |                                                |                |
| X Protected by Levee                   | Essential Services Facilities                  | 11             |
|                                        | At Risk Population Facilities                  | 7              |
|                                        | Hazardous Materials and Solid Waste Facilities | 1              |
|                                        | <b>X Protected by Levee Total</b>              | <b>19</b>      |
| <b>Elk Grove Total</b>                 |                                                | <b>19</b>      |

Source: FEMA DFIRM 02/2024, City of Elk Grove

### *Natural, Historic, and Cultural Resources*

Large flood events can affect natural, historic, and cultural resources. There are a number of ways floodwaters can impact natural resources and the environment. Wildlife habitats can be destroyed by floodwaters. Contaminated floodwater can pollute rivers and habitats. Silt and sediment can destroy natural areas. Riverbanks and natural levees can be eliminated as rivers reach bankfull capacity. Rivers can be widened, and deposition can increase downstream. Trees can be uprooted by high-velocity water flow. Plants that survived the initial flood may die due to being inundated with water. Historic and cultural resources may also be affected. Generally, the impacts are associated with damage to structures within the flooded areas, but other cultural resources such as those associated with Native Americans and old tribal areas can also be disturbed, damaged and lost during extreme flood events. Any of these that fall in the X Protected by Levee flood zones shown on Figure B-33 as well as those resources located in areas adjacent to or downstream of unaccredited levees would be vulnerable.

### **Impacts from Levee Failure**

Floods and their impacts vary by location, including impacts associated with a levee failure flood event, and will only affect certain areas of the City that are in areas with both accredited and unaccredited levees. Based on the areas of the City with levees, it is evident that levee failure floods could potentially have significant impacts to the City, depending on the severity of the event. Impacts that are not quantified, but could be anticipated in large levee failure event, include:

- Injury and loss of life.
- Commercial and residential structural and property damage.
- Crop damage.
- Disruption of and damage to public critical infrastructure and services.
- Health hazards associated with mold and mildew, contamination of drinking water, etc.
- Impacts to natural resource areas, including stream bank erosion.
- Damage to roads/bridges resulting in loss of mobility.

In addition to flood related levee failures, the levees in the City are at risk to failure during an earthquake event. Levee failure flooding could accompany an earthquake and could be compounded further if a dam or storage reservoir fails. Channels and water courses with earthen banks and levees are particularly vulnerable and could collapse in a major earthquake resulting in partial or complete blockage of channels causing flooding upstream of the impoundment. Levees are especially susceptible to rapid settlement due to liquefaction or horizontal spreading of underlying soils, often occurring during an earthquake event.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile section above), changes in population patterns, and changes in land use and development. The influencing effects of these factors on this hazard are discussed further in the Future Conditions/Future Development discussion below.

### **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

## Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to exacerbate future flood and levee failure conditions and associated impacts and vulnerability of the City to levee failure flooding. This was discussed in greater detail in the Climate Change and Levee Failure section of the Hazard Profile above.
- Future population growth should be considered, as having more or less people in a community affects the overall hazard vulnerability to the City. The City is expected to see slow and steady growth; therefore, any additional growth within the levee protected areas of the City could place additional populations at risk to a levee failure flood. There are 51 locations where the City plans to develop over the next five years. Additional population growth would likely bring continued diversity to the City. Vulnerable population groups could face disproportionate effects from flooding and should be planned for. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location of future levee failure flood events.
- Land use planning should be proactive to address future hazard conditions. There are 51 locations where the City plans to develop over the next five years. However, City building codes and the City's floodplain ordinance are in effect to reduce this risk and should be updated as necessary to continue to address future flood conditions. As such, changes in land use and future development may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location of future levee failure flood events.

## Future Development

Future development considerations should be ongoing and proactive. Ensuring that comprehensive land use planning is conducted, regulatory requirements, such as building codes and the floodplain ordinance, are followed, and varying needs for different demographic groups with intersecting identities that reside within the City are considered can help to make for a more resilient community. The City's levee system is located in the Laguna West/Stonelake communities is a specific area of future development. These communities are built-out and only infill projects are anticipated to occur in these areas. Any future development will be required to meet the City's development standards, policies and ordinances.

## *GIS Analysis*

The City provided 51 future development areas which were used as the basis for the inventory of future development for the Elk Grove. These areas were mapped in GIS. Utilizing the future development area spatial layer, the parcel polygon data was intersected to determine the future development areas within the X Protected by Levee flood zone. Figure B-35 shows the locations of the future development area overlayed on the DFIRM X Protected by Levee flood zone. Four of these future development areas fall within the mapped X Protected by Levee flood zone as shown in the map and Table B-44. These four futured development areas as well as any future development areas located adjacent or downstream of unaccredited levees would be vulnerable.

*Figure B-35 City of Elk Grove – Future Development Areas in FEMA DFIRM A99 and X Protected by Levee Flood Zones*

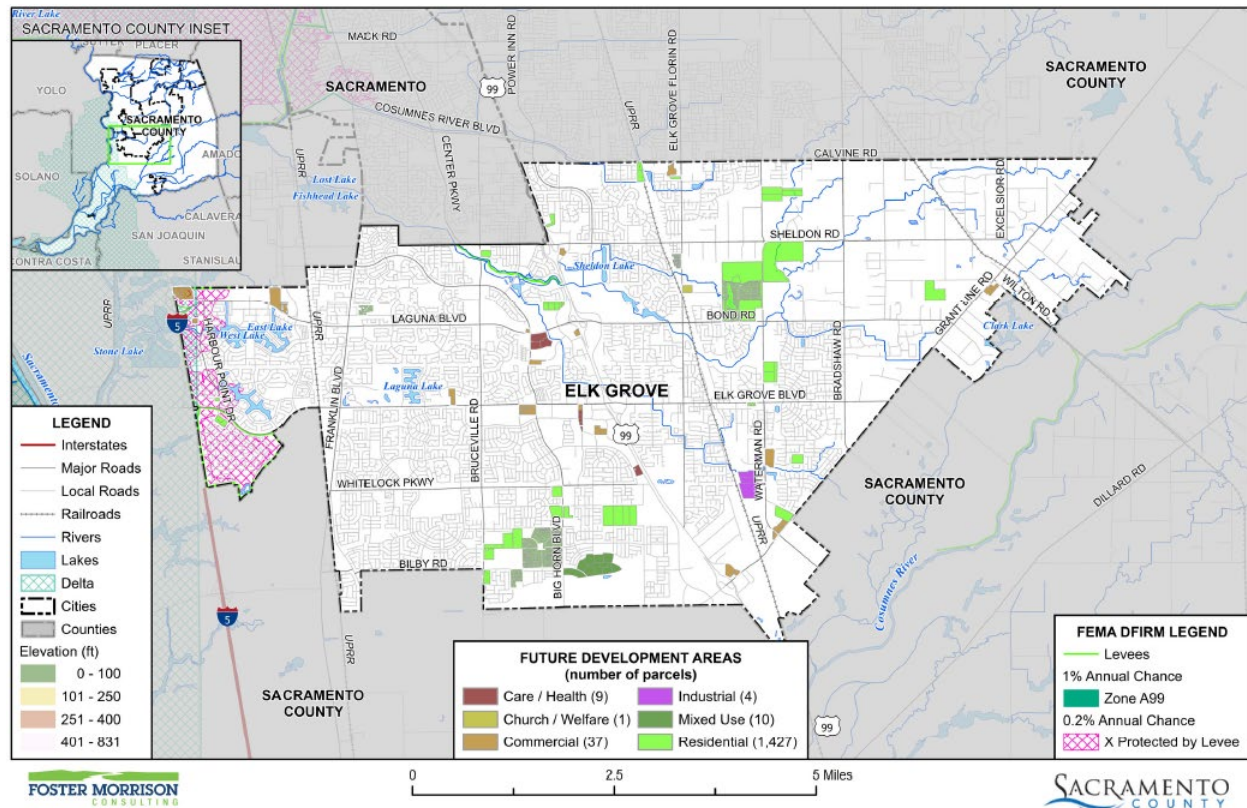


*Table B-42 City of Elk Grove – Future Development Area by Development Type and Status with Acres and Parcels in FEMA DFIRM X Protected by Levee Flood Zone*

| Flood Zones / Future Development Type and Status | Site/Location Name              | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|--------------------------------------------------|---------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>X Protected by Levee (0.2% Annual Chance)</b> |                                 |                    |                       |                         |             |                      |                        |
| <b>Commercial</b>                                |                                 |                    |                       |                         |             |                      |                        |
| In Planning Review                               | Slakey Brother Expansion        | 2                  | 0                     | 2                       | 4.3         | 0.0                  | 4.3                    |
|                                                  | <b>In Planning Review Total</b> | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>4.3</b>  | <b>0.0</b>           | <b>4.3</b>             |
| <b>Commercial Total</b>                          |                                 | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>4.3</b>  | <b>0.0</b>           | <b>4.3</b>             |
| <b>Residential</b>                               |                                 |                    |                       |                         |             |                      |                        |
| Approved                                         | Elk Grove Apartments            | 1                  | 0                     | 1                       | 1.3         | 0.0                  | 1.3                    |

| Flood Zones / Future Development Type and Status | Site/Location Name            | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|--------------------------------------------------|-------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
|                                                  | Wellington Crossing Amendment | 1                  | 0                     | 1                       | 7.5         | 0.0                  | 7.5                    |
|                                                  | <b>Approved Total</b>         | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>8.7</b>  | <b>0.0</b>           | <b>8.7</b>             |
| <b>Residential Total</b>                         |                               | <b>2</b>           | <b>0</b>              | <b>2</b>                | <b>8.7</b>  | <b>0.0</b>           | <b>8.7</b>             |
| <b>0.2% Annual Chance Flood Hazard Total</b>     |                               | <b>4</b>           | <b>0</b>              | <b>4</b>                | <b>13.0</b> | <b>0.0</b>           | <b>13.0</b>            |

Source: FEMA DFIRM 02/2024, City of Elk Grove

## *Severe Weather: Extreme Cold and Freeze*

**Likelihood of Future Occurrence**–Likely

**Vulnerability**–Medium

### **Hazard Profile**

According to the National Weather Service (NWS) and the Western Regional Climate Center (WRCC), extreme cold often accompanies a winter storm or is left in its wake. Prolonged exposure to cold can cause frostbite or hypothermia and can be life-threatening. Infants and the elderly are most susceptible. Pipes may freeze and burst in homes or buildings that are poorly insulated or without heat. Freezing temperatures can cause significant damage to agricultural industry.

### **Location and Extent**

Extreme cold and freeze events occur on a regional basis. Extreme cold can occur in any location of the City. All portions of the City are at risk to extreme cold. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, temperature data for the County from the WRCC indicates that there are 8.3 days that fall below 32°F. Freeze has a slow onset and can generally be predicted in advance for the City. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Extreme cold can occur in any location of the City. All portions of the City and County are at risk to extreme cold and freeze.

### **Past Occurrences**

#### *Disaster Declaration History*

The County has had no past federal or state disaster declarations for extreme cold and freeze. There have been USDA Secretarial Disaster declarations. As shown in Table 4 6, there have been 3 freeze declarations in Sacramento County since 2012. All 3 freeze declarations have occurred since 2021, as discussed in Section 4.3.2 of the Base Plan. Some of these events may have affected the City.

### *NCDC Events*

The NCDC data shows 16 extreme cold and freeze incidents for Sacramento County since 1993, some of which likely affected the City.

### *City of Elk Grove Events*

The City averages 1-2 warming center activations per year for extreme cold and freeze but no specific, large-scale events could be recalled. It was noted that events that affected the greater County that were discussed in Section 4.3.2 of the Base Plan also likely affected the City.

## **Climate Change and Extreme Cold and Freeze**

According to the 2024 CAS, freezing spells are likely to become less frequent in California as climate temperatures increase; if emissions increase, freezing events could occur only once per decade in large portion of the State by the second half of the 21<sup>st</sup> century. According to a California Natural Resources Report in 2014, it was determined that while fewer freezing spells would decrease cold related health effects, too few freezes could lead to increased incidence of disease as vectors and pathogens do not die off.

According to the 2024 CAP, which utilized Cal Adapt to model potential climate change impacts to Sacramento County, annual average low temperatures in Sacramento County of 48.4°F (from 1961-1990) would increase under the medium admissions scenario by 3.8°F to 52.2°F in the mid-century, and by 5.0°F to 53.4°F in the late century. Under the high emissions scenario, the average annual low temperature is projected to increase by 4.8°F to 53.2°F in the mid-century, and by 8.4°F to 56.8°F in the late century. This can be seen in Section 4.3.2 of the Base Plan.

## **Vulnerability to Extreme Cold and Freeze**

Extreme cold and freeze events happen in the City each year. Cold and freeze can impact both structures and populations in the City. The whole of the City and County Planning Area has some measure of vulnerability to extreme cold and freeze.

An assessment of a community's vulnerability to this hazard begins with an understanding of local exposure to City. This is included in the Local Concerns section below. After that, vulnerability is discussed in multiple sections that detail how this hazard can affect the City. These sections include assets at risk, impacts, and how future development and future conditions can be affected by this hazard.

## **Local Concerns**

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Freeze can cause injury or in extreme situations, loss of life to residents of the City. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed buildings can be damaged during

periods of extreme cold. Extreme cold and freeze can affect facilities and infrastructure, down trees, break pipes, and can be a life safety issue. When extreme cold is coupled with high winds or ice storms, power lines may be downed, resulting in an interruption of utilities and critical services. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets in the City. The elderly and young population is most vulnerable to temperature extremes. The residents of nursing homes and elder care facilities, as well as transient and homeless populations are especially vulnerable to extreme cold events. In response to this concern, the City will activate an overnight warming center to provide shelter to the community's most vulnerable residents. In 2025, the City activated an overnight warming center for a three-day period due to extreme temperatures in the region.

### **Assets at Risk**

Assets at risk from extreme cold and freeze include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

#### ***People and Populations***

All populations within the City are vulnerable to extreme cold and freeze, but this hazard generally affects vulnerable populations and those spending large amounts of time outside. Prolonged exposure to cold can cause frostbite or hypothermia and can be life-threatening. Vulnerable populations to cold and freeze include the unhoused; individuals who exercise or train outdoors; outdoor workers; individuals that lack the resources to afford heat; and the young, old, or medically fragile individuals that are more susceptible to cold related impacts. In addition to vulnerable populations, pets and livestock are at risk to freeze and cold.

#### ***Structures***

Structures in the City have some measure of risk from extreme cold and freeze. Buildings can be affected directly by freeze, pipes that feed buildings can be damaged during periods of extreme cold and cause water damage and other related impacts to a structure. Structures can also be damaged by downed trees during freeze and winter storm events.

#### ***Critical Facilities and Infrastructure***

Extreme cold and freeze, occasionally accompanied by high winds, 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. Depending on the facility type and function, critical facilities and infrastructure may be affected directly by freeze. Damage to pipes that feed buildings can be damaged during periods of extreme cold. Other equipment may also be affected. Infrastructure such as roads, highways, and bridges can become slippery, causing accidents and road closures.

## *Natural, Historic, and Cultural Resources*

Depending on how low the temperatures go and the duration of an extreme cold and freeze event, natural resources in the City may be affected. During periods of freeze, trees in the City may be damaged. This is especially true if a freeze occurs during a winter storm with winds and precipitation. Other natural resources like wildlife may be at risk during a period of freeze. While it is rare for historic buildings to be affected directly by freeze, damages to pipes that feed historic buildings can be damaged during periods of extreme cold and cause additional impacts to the structures.

### **Impacts from Severe Weather: Extreme Cold and Freeze**

Extreme cold and freeze can affect critical facilities and infrastructure, down trees, break pipes, and can be a life safety issue. Transportation networks, communications, and utilities infrastructure are often the most vulnerable physical assets in the City. Infrastructure such as roads and utilities are at risk to freezing temperatures causing failures and hazardous road conditions. When extreme cold is coupled with high winds and freezing storms, power lines may be downed, resulting in power outages and an interruption of utilities and critical services. During periods of extremely low or prolonged cold temperatures, other impacts to the City can include interruption in business and school activities.

The elderly, the young, and those experiencing medical issues are often more vulnerable to temperature extremes, but anyone can be affected. Exposure to cold temperatures can cause hypothermia and frostbite. Those exercising or recreating outdoors, outdoor workers, and the unhoused may be at a higher risk.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the Likelihood of Future Occurrence discussion above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed in the Future Conditions/Future Development discussion below.

## **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

### **Future Conditions**

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on these factors for the City include the following:

- Climate change is unlikely to exacerbate extreme cold and freeze and their associated impacts to the City. This was discussed in greater detail in the Climate Change and Extreme Cold and Freeze section of the Hazard Profile above.
- The City is expected to see slow and steady growth. Additionally, the City has 51 areas planned for development in the next five years. Future population growth should be considered, as having more or less people in a community affects the overall hazard vulnerability to the City. Changes in populations

patterns should also be considered. Especially vulnerable individuals to this hazard include older adults, children, those below the poverty line, the unhoused, and those that work and recreate outdoors. During hazard events, existing inequities can get worse, and these groups are the most likely to be affected and may require extra assistance. Planning for population changes will help to decrease the City's overall vulnerability to this hazard. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of population growth and continued planning for future hazard conditions.

- Land use planning should be proactive to address future hazard conditions. 51 developments are expected to be built in the next five years. City building codes are in effect to reduce this risk and should be updated as necessary to continue to address future freeze and extreme cold conditions. Due to adherence to protective building codes, changes in land use and development will likely not increase the impacts and associated vulnerabilities of the City to this hazard.

### **Future Development**

Future development built to code should be able to withstand extreme cold and freeze. Current building codes provide such provisions for new construction. New and existing critical facilities and infrastructure should also consider adding backup power systems to limit impacts associated with power outages. Older buildings and infrastructure should be evaluated to ensure that extreme cold and freeze will not cause negative impacts. Future development considerations should be ongoing and proactive. Ensuring that comprehensive land use planning is conducted, regulatory requirements such as building codes are followed, and varying needs for different demographic groups that reside within the City are considered can help make for a more resilient community.

### ***Severe Weather: Extreme Heat***

**Likelihood of Future Occurrence**—Highly Likely

**Vulnerability**—Medium

### **Hazard Profile**

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and lasts for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature.” Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, those who are sick or overweight, and those that work or recreate outdoors are more likely to experience heat exhaustion or succumb to extreme heat.

In addition to the risks faced by populations in the City, there are risks to the built environment from extreme heat. While extreme heat on its own does not usually affect structures, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat can lead to interruptions in power, power outages, and when combined with high winds, to Public Safety Power Shutdown (PSPS) events, creating significant issues in the City.

### *Urban Heat Island*

Large, urbanized areas can experience higher temperatures, greater pollution and more negative health impacts during hot summer months when compared to more rural communities. This phenomenon is known as an urban heat island. Heat islands are created by a combination of heat-absorptive surfaces (such as dark pavement and roofing), heat-generating activities (such as engines and generators) and the absence of vegetation (which provides evaporative cooling). According to the Sacramento County Air Quality Management District (SCAQMD) and the U.S. Environmental Protection Agency, daytime temperatures in urban areas are on average 1-6°F higher than in rural areas, while nighttime temperatures can be as much as 22°F higher as the heat is gradually released from buildings and pavement. The Urban Heat Island Index, developed by the California Environmental Protection Agency and adapted by SCAQMD, quantifies the extent and severity of urban heat islands for individual cities, including urban heat island interactive maps that show the urban heat island effect for each census tract in and around most urban areas throughout the State. This was shown in Section 4.3.3 of the Base Plan.

### **Location and Extent**

Heat is a regional phenomenon and affects the whole of the City. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect general and vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more “typical” disaster scenarios. The City experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.3.3 of the Base Plan.

### **Past Occurrences**

#### *Disaster Declaration History*

There have been no federal or state disaster declarations from extreme heat.

#### *NCDC Events*

The NCDC data shows 68 extreme heat incidents for Sacramento County since 1993, some of which likely affected the City.

### *City of Elk Grove Events*

The City Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the City. In the summer of 2024, the City had 4 Cooling Center activations. The cooling center was activated for a total of 15 days. In past years, the City averages 1-2 cooling center openings per year.

There have been no previous reported heat-related damages, injuries or deaths.

### **Climate Change and Extreme Heat**

The 2024 CAS, citing a California Energy Commission study, states that “over the past 15 years, heat waves have claimed more lives in California than all other declared disaster events combined.” This study shows that California is getting warmer, leading to an increased frequency, magnitude, and duration of heat waves. These factors may lead to increased mortality from excessive heat.

As temperatures increase, California and Sacramento County will face increased risk of death from dehydration, heat stroke, heat exhaustion, heart attack, stroke and respiratory distress caused by extreme heat. According to the 2024 CAS, report and the 2023 State of California Hazard Mitigation Plan, by 2100, hotter temperatures are expected throughout the state, with projected increases of 3-5.5°F (under a lower emissions scenario) to 8-10.5°F (under a higher emissions scenario). These changes could lead to an increase in deaths related to extreme heat in Sacramento County and the City.

According to the 2024 CAP, the County has experienced, and is projected to continue experiencing, increases in average annual temperature and extreme heat, which could lead to an array of potential impacts. According to Cal-Adapt, the average annual maximum and minimum temperature across Sacramento County are both projected to rise between 5 and 9 degrees Fahrenheit (°F) from their respective historic averages by the end of the century as a result of climate change.

As discussed in the City’s Climate Compass, the urban heat island effect is an issue in the area. Efforts to expand the urban tree canopy, design features of buildings to limit heat increases, and cooling materials for rooftops are all actions the City is looking to implement to help with decreasing the number of extreme heat days experienced.

### **Vulnerability to Severe Weather: Extreme Heat**

Extreme heat is becoming more frequent, intense, longer lasting and geographically widespread. Extreme heat occurs on an annual basis in the County and the City. In recent years, compounded by climate change conditions, summer months continue to get a bit hotter. The whole of the City is at some measure of vulnerability to extreme heat. An assessment of a community’s vulnerability to extreme heat begins with an understanding of local exposure to extreme heat. This is included in the Local Concerns section below followed by a discussion of the City’s Assets at Risk to this hazard.

## Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Heat emergencies are unlike other natural disasters as they can often be slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat related mortality has increased significantly over the past two decades.. Vulnerable populations, including older adults, young children, those who are sick, and unhoused individuals, along with those who work outdoors, are particularly at risk of succumbing to extreme heat. In addition to the risks faced by citizens of the City, there are risks to the built environment from extreme heat. While extreme heat on its own does not usually affect structures, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat can lead to power outages and when combined with high winds, to PSPS events, creating significant issues in the City.

The City opens “Cooling centers” during the occasional periods of extreme heat. In the past, the cooling centers were opened and have had very low attendance. Churches and schools can be opened in the event there is a need to expand the cooling centers throughout the City. If long term or widespread heat conditions continue, County Emergency Operation Services would declare a local emergency or the possibility of a state emergency would be activated. Those being served at the City cooling centers could be transferred to larger Red Cross centers opened within the County.

Expected increases in extreme heat, with average annual temperatures increasing in addition to the duration and frequency of heat wave events, are a concern for the City. These conditions are intensified due to urban heat island effects. Of paramount concern is resident health and wellbeing during heat related events, particularly vulnerable populations, including the young, old, those with medical conditions, the unhoused and those who work and recreate outdoors. In addition, impacts on infrastructure due to extreme heat is also a concern. Power outages can occur during an extreme heat event, and prolonged periods of extreme heat can lead to an increase in wildfire conditions.

## Assets at Risk

Assets at risk from extreme heat include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

### *People and Populations*

All populations within the City are vulnerable to extreme heat, but it generally affects people spending large amounts of time outside or without means of cooling indoor structures and other vulnerable populations. During extended periods of high temperatures, extreme heat may overload the demands for electricity to run air conditioners and can present health concerns to individuals. When interruptions in power occur during extreme heat, the risk of heat related illnesses and deaths increases. Extreme heat is a significant concern to vulnerable populations. The unhoused; individuals who exercise or train outdoors; outdoor workers; individuals that lack the resources to afford air conditioning; and the young, old, or medically

fragile individuals are generally more susceptible to heat related impacts. In addition to vulnerable populations, pets and livestock are at risk to extreme heat conditions.

### *Structures*

Extreme heat normally does not generally impact structures, but individuals working in structures may be affected during periods of extended heat, especially in structures that might not be equipped with air conditioning or other means of cooling. The City noted that extreme heat has caused interruptions to power in the past. Also depending on the structure, sensitive contents such as IT equipment can be impacted, especially if a power outage occurs.

### *Critical Facilities and Infrastructure*

Depending on their type and function, critical facilities and infrastructure can also be affected by extreme heat. Extreme heat conditions can cause interruptions in power and other operational issues that can lead to system failures. Schools without air conditioning may have to close or operate on a reduced schedule.

### *Natural, Historic, and Cultural Resources*

Natural resource assets, including those located in City park and open space areas, may be vulnerable during periods of extreme heat. These include turf areas; landscapes, City trees, wildlife and habitat areas, and wetlands and marsh lands. The City prioritizes tree irrigation during drought and did not incur significant losses due to drought restrictions. Extreme heat may also cause drought-like conditions, contributing to other issues. For example, several weeks of extreme heat increases evapotranspiration and reduces moisture content in vegetation, leading to higher wildfire vulnerability in the region for that time period, even if the rest of the season is relatively moist. Historic and cultural resources are not expected to be affected by extreme heat.

### **Impacts from Severe Weather: Extreme Heat**

The City experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations. During these times, drought conditions may worsen, and the City may see an increase in dry fuels and tree dieback. Power outages may occur during these times as well. Health issues are a primary concern with this hazard, especially to vulnerable populations, although economic impacts can also occur.

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile section above), changes in population patterns, and changes in land use and development. The influencing effects of these factors on this hazard are discussed further in the Future Conditions/Future Development discussion below.

### **Future Conditions/Future Development**

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

## Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for City include the following:

- Climate change is likely to exacerbate future extreme heat conditions and associated impacts and vulnerability of the City. This was discussed in greater detail in the Climate Change and Extreme Heat section of the Hazard Profile above.
- Future population growth should be considered, as having more or less people in a community affects the overall hazard vulnerability to the City. The City is expected to see slow and steady growth. The City has 51 areas where growth is expected over the next five years. Any additional growth in the City would place additional populations at risk to extreme heat. As such, the vulnerability to this hazard is expected to increase. Any future low income and the unhoused populations are at risk to extreme heat which can put strain on emergency services and shelters. Changes in population and population patterns is likely to increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the nature and intensity of future extreme heat events.
- Land use planning should be proactive to address future hazard conditions. The City has 51 areas where growth is expected over the next five years. City building codes are in effect to reduce this risk and should be updated as necessary to continue to address future extreme heat conditions. Due to adherence to protective building codes, changes in land use and development will likely not increase the impacts and associated vulnerabilities of the City to this hazard.

## Future Development

Future development of new buildings in the City will likely not be affected by extreme heat. Extreme heat is more likely to affect vulnerable populations. Vulnerability to extreme heat will increase as the average age of the population shifts. It is encouraged that nursing homes and elder care facilities have emergency plans or backup power to address power failure during times of extreme heat.. Low-income residents and unhoused populations are also more vulnerable and should be considered in future growth plans for the City. Cooling centers for these populations should be utilized when necessary. New and existing critical facilities and infrastructure should also consider adding backup power systems to limit impacts associated with power outages.

### *Wildfire (with smoke and air quality)*

**Likelihood of Future Occurrence**—Highly Likely

**Vulnerability**—High

## Hazard Profile

Wildland fire and the risk of a conflagration is an ongoing concern for the City of Elk Grove. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of fire regimes. Wildland fires affect grass, forest, and brushlands, as well as structures. Where there is human

access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern.

Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. These weather conditions can result in red flag (e.g., fire weather) days, and, while rare, may result in PSPS events in the City. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urbanized areas. There is also the concern of wildfires occurring in these more remote, forested areas that under certain weather conditions, can extend into areas not generally considered at a high risk to wildfire. Smoke and air quality also become an issue, both from fires occurring inside and outside of the Sacramento County Planning Area and the City.

### **Wildfire Smoke and Air Quality**

Smoke from wildfires is made up of gas and particulate matter, which can be easily observed in the air. Air quality standards have been established to protect human health with the pollutant referred to as PM<sub>2.5</sub> which consists of particles 2.5 microns or less in diameter. These smaller sizes of particles are responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract.

Wildfire smoke can have negative effects to those who live in or near a fire burn area. Smoke and air pollution from wildfires can be a severe health hazard. Significant wildfires occurring in both Sacramento County and nearby northern California communities since the 2021 LHMP Update have created significant air pollution affecting area residents. These were discussed in Section 4.3.17 of the Base Plan.

### **Location and Extent**

Wildfire can affect all areas of the City. CAL FIRE has estimated that the risk varies across the City and has created updated wildfire maps showing risk variance across the City and the Sacramento County Planning Area. Following the methodology described in Section 4.3.15 of the Base Plan, wildfire maps for the City of Elk Grove were created. Figure B-36 shows the CAL FIRE State Responsibility Areas (SRA) and Federal Responsibility Areas (FRA) and their associated Fire Hazard Severity Zones (FHSZ) in the City. Figure B-37 shows the CAL FIRE Local Responsibility Areas (LRA) and their associated Fire Hazard Severity Zones (FHSZ) in the City. As shown on the maps, SRA/FRA FHSZs within the City fall outside of the state and federal mapped areas; most LRA FHSZs in the City are classified as Non-Wildland with a small portion on the west side of the City classified as Moderate, and an even smaller area classified as High.

Figure B-36 City of Elk Grove – CAL FIRE SRA/FRA Fire Hazard Severity Zones

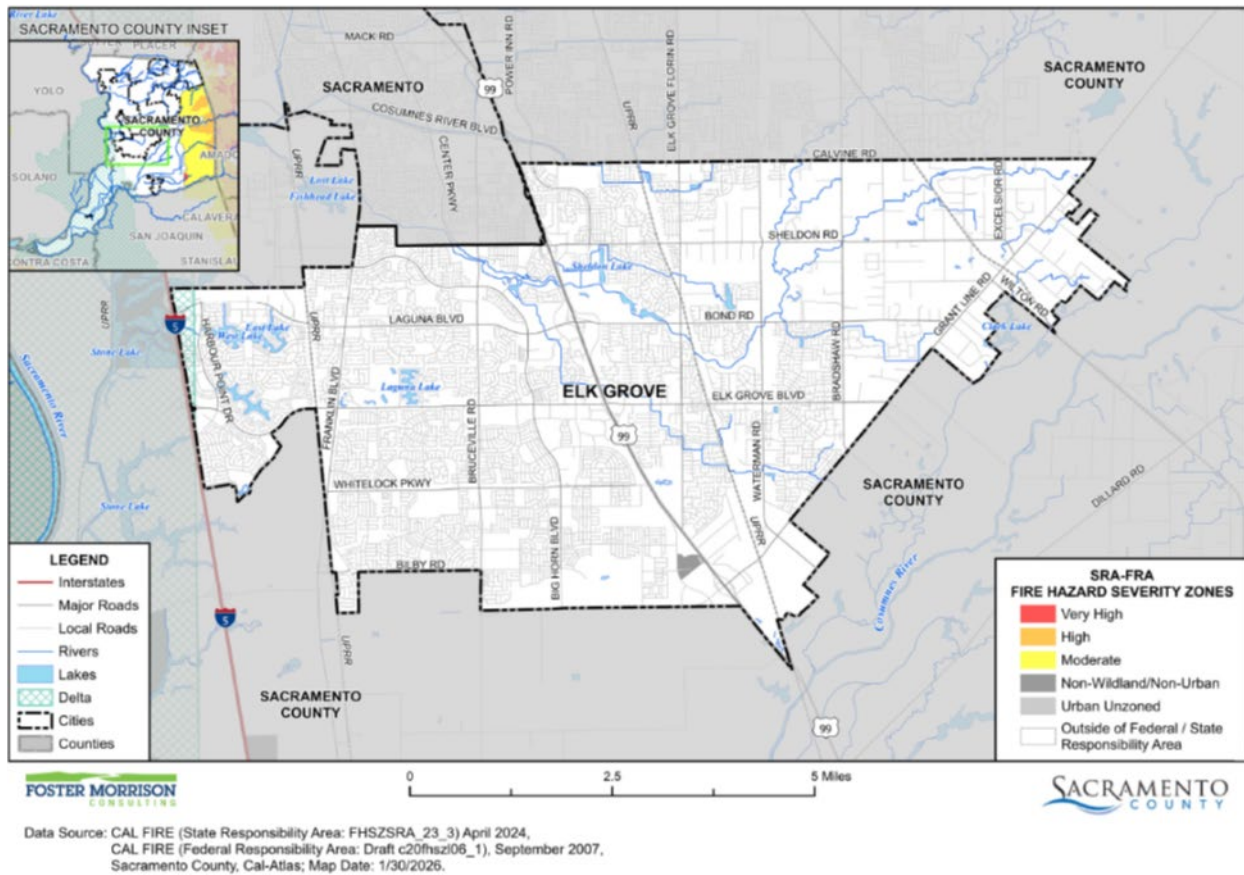
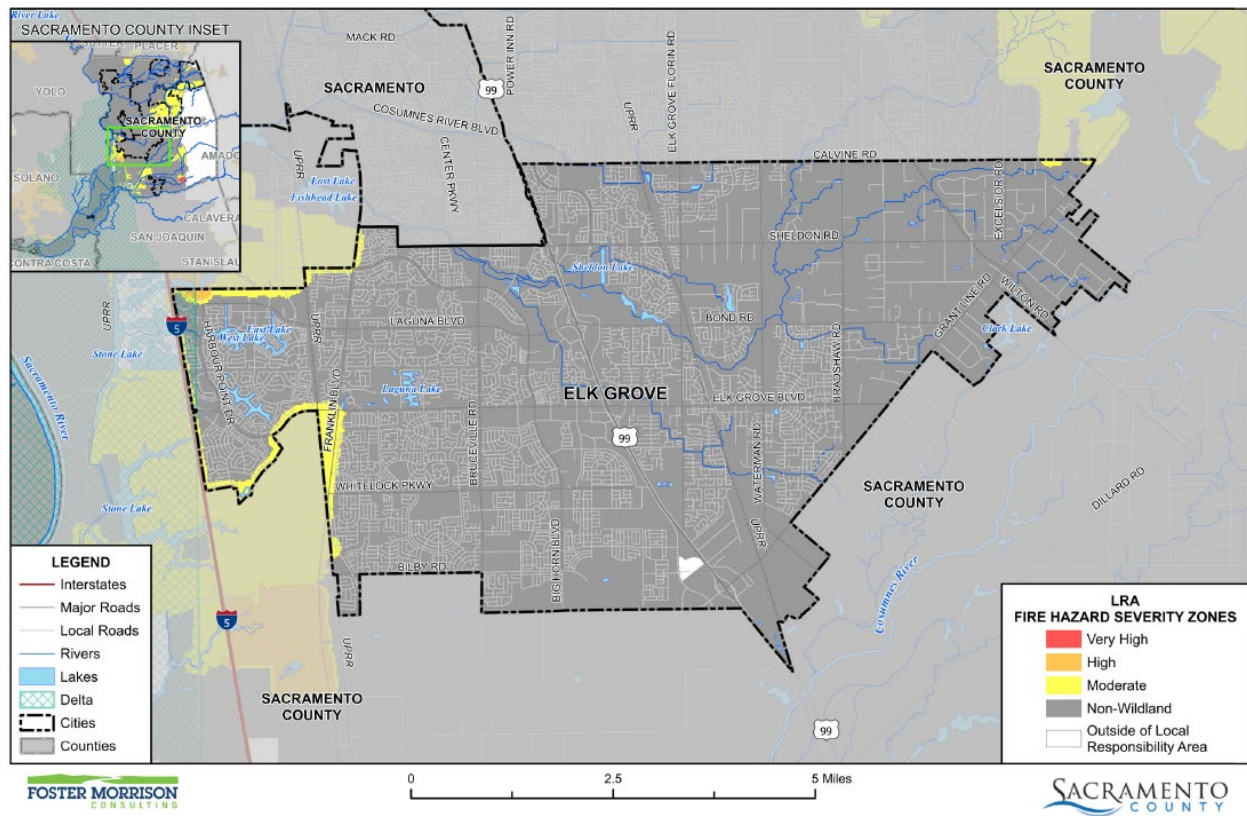


*Figure B-37 City of Elk Grove – CAL FIRE LRA Fire Hazard Severity Zones*



Data Source: CAL FIRE (Local Responsibility Area FHSZ 3/2025 FHSZLRA25\_v1\_All), Sacramento County, Cal-Atlas; Map Date: 1/30/2026.

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time or may have durations lasting for a week or more. Geographical FHSZ extents in the SRA/FRA are shown in Table B-45, while extents in the LRA are shown on Table B-46. As shown, the City sits outside of the SRA/FRA and fully inside the LRA. In the LRA, the FHSZs predominantly include the Non-Wildland zone, along with a few limited areas of Moderate and High FHSZs.

*Table B-43 City of Elk Grove – CAL FIRE SRA/FRA Fire Hazard Severity Zone Geographical Extents*

| Fire Hazard Severity Zone | Total Acres | % of Total Acres | Improved Acres | % of Total Improved Acres | Unimproved Acres | % of Total Unimproved Acres |
|---------------------------|-------------|------------------|----------------|---------------------------|------------------|-----------------------------|
| Very High                 | 0           | 0%               | 0              | 0%                        | 0                | 0%                          |
| High                      | 0           | 0%               | 0              | 0%                        | 0                | 0%                          |
| Moderate                  | 0           | 0%               | 0              | 0%                        | 0                | 0%                          |
| Non-Wildland/Non-Urban    | 36          | 0.2%             | 0              | 0%                        | 36               | 1%                          |

| Fire Hazard Severity Zone                      | Total Acres   | % of Total Acres | Improved Acres | % of Total Improved Acres | Unimproved Acres | % of Total Unimproved Acres |
|------------------------------------------------|---------------|------------------|----------------|---------------------------|------------------|-----------------------------|
| Urban Unzoned                                  | 2             | 0.01%            | 0              | 0%                        | 2                | 0.03%                       |
| Outside of Federal / State Responsibility Area | 23,566        | 100%             | 16,387         | 100%                      | 7,179            | 99%                         |
| <b>Total</b>                                   | <b>23,604</b> | <b>100%</b>      | <b>16,387</b>  | <b>100%</b>               | <b>7,217</b>     | <b>100%</b>                 |

Source: CAL FIRE

*Table B-44 City of Elk Grove – CAL FIRE LRA Fire Hazard Severity Zone Geographical Extents*

| Fire Hazard Severity Zone            | Total Acres   | % of Total Acres | Improved Acres | % of Total Improved Acres | Unimproved Acres | % of Total Unimproved Acres |
|--------------------------------------|---------------|------------------|----------------|---------------------------|------------------|-----------------------------|
| Very High                            | 0             | 0%               | 0              | 0%                        | 0                | 0%                          |
| High                                 | 25            | 0.1%             | 19             | 0.1%                      | 6                | 0.1%                        |
| Moderate                             | 479           | 2%               | 236            | 1%                        | 242              | 3%                          |
| Non-Wildland                         | 23,062        | 98%              | 16,132         | 98%                       | 6,930            | 96%                         |
| Outside of Local Responsibility Area | 38            | 0.2%             | 0              | 0%                        | 38               | 1%                          |
| <b>Total</b>                         | <b>23,604</b> | <b>100%</b>      | <b>16,387</b>  | <b>100%</b>               | <b>7,217</b>     | <b>100%</b>                 |

Source: CAL FIRE

## Past Occurrences

### *Disaster Declaration History*

There has been four state and three federal disaster declarations due to fire, as shown in Table B-47.

*Table B-45 Sacramento County – State and Federal Wildfire Disaster Declarations 1950-2025*

| Disaster Type | State Declarations |                          | Federal Declarations |                    |
|---------------|--------------------|--------------------------|----------------------|--------------------|
|               | Count              | Years                    | Count                | Years              |
| Fire          | 4                  | 1973, 2020 (twice), 2024 | 3                    | 2020 (twice), 2025 |

Source: Cal OES, FEMA

### *NCDC Events*

The NCDC has tracked 15 wildfire events in the County dating back to 1993.

### *City of Elk Grove Events*

The City Planning Team noted that occasionally, open field brush fires have occurred in the City:

- An over 70 acre grass fire occurred on **June 15<sup>th</sup> 2025** in Bradshaw and Bader Roads, just south of Calvin Road. No structures were burned.
- **In 2021**, a 70 acre grass fire occurred within the City limits, near Bond Rd and Waterman Rd. No structures were burned.
- On **July 12, 2016**, a grass fire burned 10 acres at a vacant lot that bordered a neighborhood, a shopping center, and an elementary school. No injuries, deaths, or building damages were reported. This fire occurred around 12:45 p.m. near Dandelion Drive in north Elk Grove.
- On **June 6, 2016**, a small grass fire broke out in an Elk Grove residential area. The fire was first reported near Sundance Lane and Auberry Drive in an empty grass field. Though no injuries were reported, the half-acre blaze did damage a backyard fence and some gardening equipment.
- A 25-acre fire occurred on **June 9 of 2015**. A grass fire that started about 1:30 p.m. at Bond and Waterman roads was driven by high, shifting winds. It quickly spread toward homes that border the field to the east and south. The fire damaged one Elk Grove home and prompted evacuation of several other residences before it was contained.

No major fires have occurred since the City was incorporated. The police department provided mutual aid resources for several large fires in California from **2016 to 2020**. The Cosumnes Fire Department also provided staff through strike team deployments during this period. These events included:

- Creek Fire, Fresno County, (CA), 2020, Cosumnes Fire Department sent firefighters to assist with the extinguishment of the fire as mutual aid.
- Glass Fire, Santa Clara (CA), 2020, Cosumnes Fire Department sent firefighters to assist with the extinguishment of the fire as mutual aid.
- Moccasin Fire, Tuolumne County (CA), August 2020. Elk Grove Police Department sent police officers for evacuation area security as mutual aid.
- Lake Napa Unit (LNU) Lightning Complex Fires, Lake and Napa Counties (CA), August 2020. Elk Grove Police Department sent police officers for evacuations and evacuation area security as mutual aid.
- North Complex Fire, Plumas and Butte Counties (CA), September 2020. Elk Grove Police Department sent police officers for evacuation area security as mutual aid.
- Kincade Fire, Sonoma County (CA), November 2019. Elk Grove Police Department sent police officers for evacuations and evacuation area security, and tactical dispatchers for Public Safety Answering Point mutual aid.
- Carr Fire, Shasta County (CA), 2018, Cosumnes Fire Department sent firefighters to assist with the extinguishment of the fire as mutual aid.
- Mendocino Fire, Colusa County, (CA), 2018, Cosumnes Fire Department sent firefighters to assist with extinguishment of the fire as mutual aid.
- Camp Fire, Butte County (CA), November 2018. Elk Grove Police Department sent police officers for evacuations and evacuation area security, tactical dispatchers for immediate field command post setup and incident command consulting, animal control officers for field deployments, and provided logistical assistance in coordinating Public Safety Dispatcher mutual aid for several months.
- Atlas Fire, Napa and Solano Counties (CA), November 2017. Elk Grove Police Department sent public safety dispatchers who provided Public Safety Answering Point mutual aid.
- Thomas Fire, Santa Barbara (CA), 2017, Cosumnes Fire Department sent firefighters to assist with the extinguishment of the fire as mutual aid.
- Tubbs Fire, Sonoma County (CA), October 2017. Elk Grove Police Department sent police officers for evacuations and evacuation area security, tactical dispatchers for field deployments, and tactical dispatchers who provided Public Safety Answering Point mutual aid.

- Cascade Fire, Yuba County (CA), October 2017. Elk Grove Police Department sent police officers to assist with evacuation area security as mutual aid.

The eight Police Department mutual aid events listed above resulted in a total cost of \$262,567.86 to the City of Elk Grove, with \$178,886.98 being reimbursed. The Cosumnes Fire Department (CFD) receives almost 100% reimbursement from the state for strike team deployments, of which there were five during the period. The impact to CFD staff during the summer months due to these deployments are largely physical and mental fatigue. Throughout Camp Fire, Kincade Fire, and LNU Lightning Complex Fire, air quality was affected by smoke within the City and Police Department buildings, including within the 9-1-1 dispatch center. Over multiple weeks during these events the general public was instructed to remain indoors due to poor air quality.

### Climate Change and Wildfire

It is likely that climate change will increase the chance of future occurrence as well as future impacts from wildfire. More information on future impacts to the City can be found in the Future Conditions/Future Development section of the Vulnerability Assessment below.

Warmer temperatures can exacerbate drought conditions. Drought often kills plants and trees, which serve as fuel for wildfires. Warmer temperatures could increase the number of wildfires and pest outbreaks, such as the western pine beetle. Cal-Adapt's wildfire tool predicts the potential increase in the amount of burned areas for the year 2090-2099, as compared to recent (2010) conditions. This is shown in Section 4.3.17 of the Base Plan. Based on this model, Cal-Adapt predicts that wildfire risk in Sacramento County will increase moderately at the end of the century. However, wildfire models can vary depending on the parameters used. Cal-Adapt does not take landscape and fuel sources into account in their model. In all likelihood, in the Sacramento County Planning Area, precipitation patterns, high levels of heat, topography, and fuel load will determine the frequency and intensity of future wildfire.

The 2024 CAP noted issues with climate change and wildfire. Historically, attention to wildfire in California has mostly focused on the Sierra Nevada region and Southern California, but recent large and destructive wildfires in other portions of the state have rapidly shifted attention to the ongoing risks statewide. Climate change is exacerbating many of the factors that contribute to wildfire risk. Increased variability in precipitation may lead to wetter winters and increased vegetative growth in the spring. Potentially longer and hotter summer periods will lead to the drying of vegetative growth, which may ultimately result in a greater amount of fuel for wildfire ignition and spread.

The 2026 American, Bear, and Cosumnes Watersheds Resilience Plan noted that a key driver of climate vulnerability, adaptive capacity, and implementation readiness in the watershed group is wildfire. An equity analysis was performed as part of this Plan. An Equity Analysis Technical Appendix demonstrates how social vulnerability aligns with the physical hazard environment across the watershed. It noted that wildfire exposure grows sharply under mid-century climate conditions, with the population exposed to high burn probability increasing from 14% today to 34% in the future, and the number of people in the highest sensitivity category increasing five-fold.

## Vulnerability to Wildfire

Risk and vulnerability to the City from wildfire, and the potential for a conflagration, is of significant concern. Wildfires in the City can occur from a variety of both natural and manmade causes. The City can be affected both by fires that start on or near City lands as well as those that start elsewhere and move into the City. In addition to burning large areas of land, air quality can be affected in the City by smoke from fires occurring inside the City as well as those from many miles away. As growth continues and populations increase in the City, the potential for wildfires will also increase.

The whole of the City is at some measure of vulnerability to wildfire. An assessment of a community's vulnerability to wildfire begins with an understanding of local exposure to wildfire. This is included in the Local Concerns section below. After that section, assets at risk are discussed.

### Local Concerns

The City has specific concerns and unique vulnerabilities regarding this hazard. These concerns form a portion of the basis for the mitigation strategy and mitigation actions that seek to reduce risk and vulnerability to this hazard.

Elk Grove 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. There are several eucalyptus groves that exist in the Wilton area, at the south-east boundary within the City, that could pose a significant fire threat.

While Elk Grove has only very limited areas, located in the northeast side of the City, identified in a moderate FHSZ, within the City there are numerous open spaces and woodland areas that are at-risk of brushfires/wildfires that could quickly spread to directly adjacent properties and pose a significant risk to loss of life and structures. As recently seen in other more urban areas of the West, the risk of conflagration is an increasing concern in the City, with structures adding to the fuel source feeding and spreading wildfires.

A significant concern from fires is the poor air quality that results from these fires. The City's location in the Sacramento Valley causes specific concerns related to air quality issues with large regional wildfire events. The smoke and toxins generally settle in the valley if there is not sufficient wind to move the toxins out of the area. The City utilizes the California Smoke Spotter and AirNow apps to alert the public about when there's a decrease in air quality in the area.

### Assets at Risk

Assets at risk from wildfire include people and populations; structures; critical facilities and infrastructure; and natural, historic, and cultural resources. These are discussed in the following sections.

## People and Populations

All populations are vulnerable to wildfire. Certain vulnerable populations are at greater risk to the effects of wildfire as well as smoke and air quality issues that wildfires bring. Vulnerable populations include:

- Unhoused
- Infants and children under age five and their caregivers
- Senior (65 and older)
- Individuals with disabilities
- Individuals' dependent on medical equipment
- Individuals who exercise, recreate, or work outdoors
- Individuals with impaired mobility

To further evaluate the impact to the residential population within the City, the CAL FIRE FHSZ dataset was overlayed on the parcel layer. Those residential parcels that intersect the FHSZs were counted and multiplied by the 2023 Census Bureau average household factors for the City of Elk Grove – 3.27. According to this analysis, there is a total population of 0 residents of the City of Elk Grove falling within the Moderate or Higher SRA/FRA and 3,286 of the total population falling with the Moderate LRA FHSZs. This is shown in Table B-48 and Table B-49, respectively.

**Table B-46 City of Elk Grove – Improved Residential Parcels and Population by CAL FIRE SRA/FRA Fire Hazard Severity Zone**

| Jurisdiction | Very High                    |                    | High                         |                    | Moderate                     |                    |
|--------------|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
|              | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk |
| Elk Grove    | 0                            | 0                  | 0                            | 0                  | 0                            | 0                  |

Source: CAL FIRE, 2025 Sacramento County Parcel/Assessor Data, 2020 US Census Bureau Average Household Size – City of Elk Grove (3.27)

**Table B-47 City of Elk Grove – Improved Residential Parcels and Population by CAL FIRE LRA Fire Hazard Severity Zone**

| Jurisdiction | Very High                    |                    | High                         |                    | Moderate                     |                    |
|--------------|------------------------------|--------------------|------------------------------|--------------------|------------------------------|--------------------|
|              | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk | Improved Residential Parcels | Population at Risk |
| Elk Grove    | 0                            | 0                  | 0                            | 0                  | 1,027                        | 3,286              |

Source: CAL FIRE, 2025 Sacramento County Parcel/Assessor Data, 2020 US Census Bureau Average Household Size – City of Elk Grove (3.27)

The City noted that the Critical Facilities and Infrastructure section below includes the facilities used by At-Risk populations that are threatened by this hazard. While this is not specific to what special populations reside in the City, it does speak to facilities that are used to serve (portions) of this population.

## Structures

Large wildfire events can affect the built environment of the City. All structures in the City have some risk to wildfire. GIS was used to determine the possible impacts of wildfire within the City of Elk Grove. The methodology described in Section 4.3.15 of the Base Plan was followed in determining structures and values at risk in both the CAL FIRE's SRA/FRA and LRA Fire Hazard Severity Zone layers. Only LRA fire hazard severity zones intersect the City; as such no SRA/FRA analysis is presented here. Analysis results for the LRA in the City of Elk Grove are shown in Table B-50, which summarizes total parcel counts, improved parcel counts and their structure values by FHSZ. This is broken out by property use for Moderate or higher FHSZ in Table B-51. As shown, most parcels fall within the Non-Wildland FHSZ, with some falling within the Moderate FHSZ, and only 8 total parcels falling within the High FHSZ.

*Table B-48 City of Elk Grove – Count and Value of Parcels and Structures by CAL FIRE LRA Fire Hazard Severity Zone*

| Fire Hazard Severity Zone            | Total Parcel Count | Improved Parcel Count | Total Land Value       | Structure Value         | Estimated Contents Value | Total Value             |
|--------------------------------------|--------------------|-----------------------|------------------------|-------------------------|--------------------------|-------------------------|
| High                                 | 8                  | 4                     | \$7,071,830            | \$83,301,318            | \$97,035,705             | \$187,408,853           |
| Moderate                             | 1,190              | 1,064                 | \$199,137,388          | \$655,222,344           | \$448,778,991            | \$1,303,138,723         |
| Non-Wildland                         | 59,166             | 54,303                | \$8,161,865,218        | \$21,777,074,606        | \$12,440,033,126         | \$42,378,972,950        |
| Outside of Local Responsibility Area | 4                  | 0                     | \$40                   | \$0                     | \$0                      | \$40                    |
| <b>Elk Grove Total</b>               | <b>60,368</b>      | <b>55,371</b>         | <b>\$8,368,074,476</b> | <b>\$22,515,598,268</b> | <b>\$12,985,847,821</b>  | <b>\$43,869,520,565</b> |

Source: CAL FIRE, Sacramento County 2025 Parcel/Assessor Data

*Table B-49 City of Elk Grove – Count and Value of Parcels and Structures by CAL FIRE LRA Moderate or Higher Fire Hazard Severity Zone and Property Use*

| Fire Hazard Severity Zone | Total Parcel Count | Improved Parcel Count | Total Land Value   | Structure Value     | Estimated Contents Value | Total Value          |
|---------------------------|--------------------|-----------------------|--------------------|---------------------|--------------------------|----------------------|
| <b>Very High</b>          |                    |                       |                    |                     |                          |                      |
| –                         | –                  | –                     | –                  | –                   | –                        | –                    |
| <b>High</b>               |                    |                       |                    |                     |                          |                      |
| Industrial                | 3                  | 2                     | \$4,098,517        | \$27,468,773        | \$41,203,160             | \$72,770,450         |
| Miscellaneous             | 1                  | 0                     | \$9                | \$0                 | \$0                      | \$9                  |
| Office                    | 2                  | 2                     | \$2,251,683        | \$55,832,545        | \$55,832,545             | \$113,916,773        |
| Retail / Commercial       | 1                  | 0                     | \$0                | \$0                 | \$0                      | \$0                  |
| Vacant                    | 1                  | 0                     | \$721,621          | \$0                 | \$0                      | \$721,621            |
| <b>High Total</b>         | <b>8</b>           | <b>4</b>              | <b>\$7,071,830</b> | <b>\$83,301,318</b> | <b>\$97,035,705</b>      | <b>\$187,408,853</b> |

| Fire Hazard Severity Zone | Total Parcel Count | Improved Parcel Count | Total Land Value     | Structure Value      | Estimated Contents Value | Total Value            |
|---------------------------|--------------------|-----------------------|----------------------|----------------------|--------------------------|------------------------|
| <b>Moderate</b>           |                    |                       |                      |                      |                          |                        |
| Church / Welfare          | 1                  | 1                     | \$2,562,353          | \$7,193,300          | \$7,193,300              | \$16,948,953           |
| Industrial                | 7                  | 7                     | \$12,808,892         | \$67,509,481         | \$101,264,222            | \$181,582,595          |
| Miscellaneous             | 81                 | 0                     | \$789                | \$0                  | \$0                      | \$789                  |
| Office                    | 19                 | 17                    | \$9,653,072          | \$33,941,225         | \$33,941,225             | \$77,535,522           |
| Public / Utilities        | 5                  | 0                     | \$0                  | \$0                  | \$0                      | \$0                    |
| Recreational              | 3                  | 3                     | \$3,868,913          | \$21,406,619         | \$21,406,619             | \$46,682,151           |
| Residential               | 1,045              | 1,027                 | \$151,081,289        | \$480,396,188        | \$240,198,094            | \$871,675,571          |
| Retail / Commercial       | 11                 | 9                     | \$12,179,258         | \$44,775,531         | \$44,775,531             | \$101,730,320          |
| Vacant                    | 18                 | 0                     | \$6,982,822          | \$0                  | \$0                      | \$6,982,822            |
| <b>Moderate Total</b>     | <b>1,190</b>       | <b>1,064</b>          | <b>\$199,137,388</b> | <b>\$655,222,344</b> | <b>\$448,778,991</b>     | <b>\$1,303,138,723</b> |

Source: CAL FIRE, Sacramento County 2025 Parcel/Assessor Data

### *Critical Facilities and Infrastructure*

Wildfire presents a threat to critical facilities and infrastructure. Critical facilities and infrastructure play an immensely important role in communities. Damage to any one of these systems can threaten public safety, wreak havoc on daily life, impact properties far from the wildfire, and result in economic impacts to the City.

A separate analysis was performed on the critical facility inventory in the City to determine which critical facilities fall into each fire hazard severity zone. Using GIS, the SRA/FRA and LRA fire hazard severity zone layers were overlayed on the critical facility GIS layer. Only LRA fire hazard severity zones intersect the City; as such no SRA/FRA analysis is presented here. Only LRA analysis is presented. This is shown on Figure B-38 for the LRA fire hazard severity zones. Table B-52 details which critical facilities fall in which LRA fire hazard severity zone. Most fall into the Non-Wildland FHSZ while some fall into the Moderate FHSZ.

Figure B-38 City of Elk Grove – Critical Facilities in LRA Fire Hazard Severity Zones

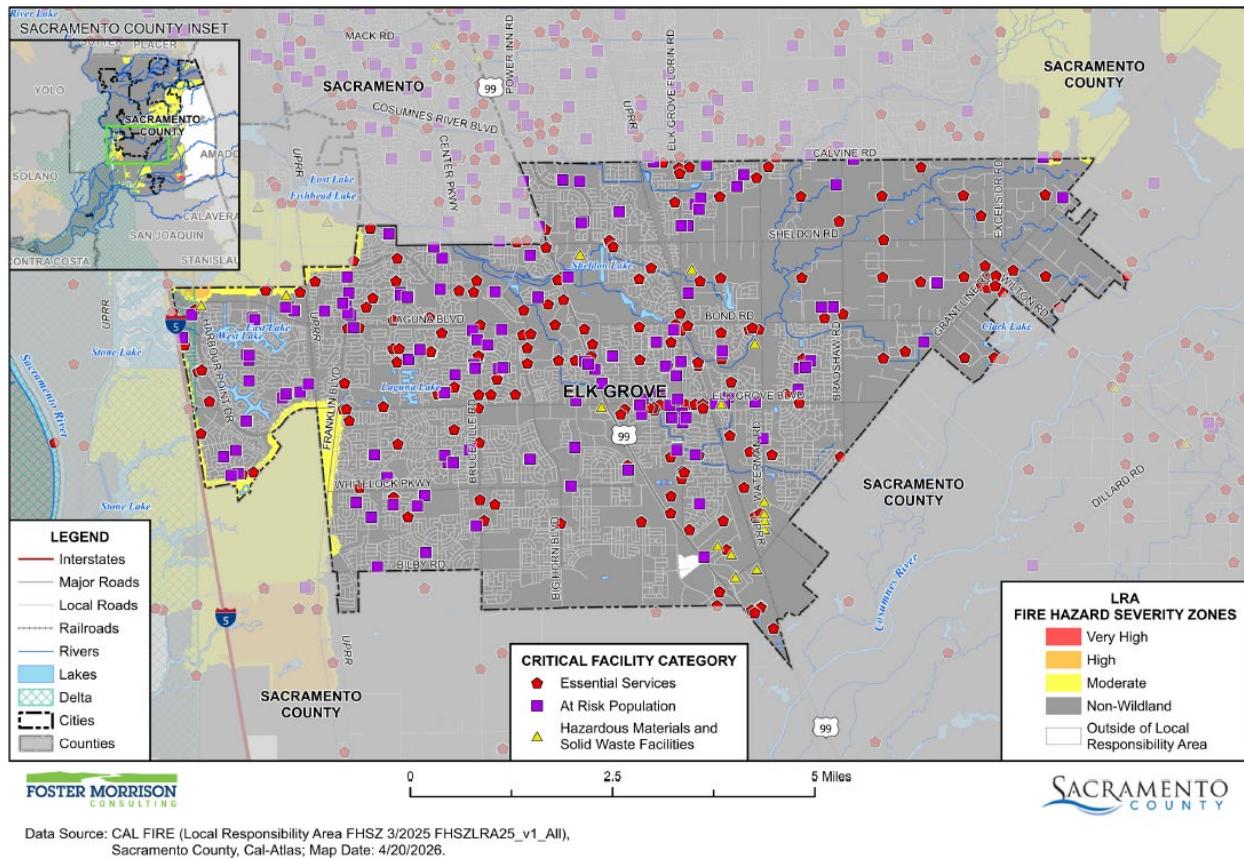


Table B-50 City of Elk Grove – Critical Facilities by Category and Type in LRA Fire Hazard Severity Zones\*

| Fire Hazard Severity Zones | Critical Facility Category                     | Facility Count |
|----------------------------|------------------------------------------------|----------------|
| Moderate                   | Essential Services Facilities                  | 7              |
|                            | At Risk Population Facilities                  | 1              |
|                            | Hazardous Materials and Solid Waste Facilities | 1              |
|                            | <b>Total</b>                                   | <b>9</b>       |
| Non-Wildland               | Essential Services Facilities                  | 311            |
|                            | At Risk Population Facilities                  | 171            |
|                            | Hazardous Materials and Solid Waste Facilities | 17             |
|                            | <b>Total</b>                                   | <b>499</b>     |
| <b>Elk Grove Total</b>     |                                                | <b>508</b>     |

Source: CGS, City of Elk Grove

\*The City noted that it took exception to some of the data in this table. The City recommends an updated database be created with input from local stakeholders.

### *Natural, Historic, and Cultural Resources*

Natural, historic, and cultural resources located within areas at risk to wildfire would be vulnerable. Should a wildfire occur in the City, the impacts to natural, historic and cultural resources could be extensive and include air pollution, contamination from water runoff containing toxic products, and other environmental discharges or releases from burned materials affecting soils, habitat areas, wildlife, and aquatic resources. Historic and cultural resources can be damaged or destroyed and are often more vulnerable due to their older age, construction type, and lack of fire prevention infrastructure such as sprinklers.

### **Impacts from Wildfire**

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and timber; and loss of recreational opportunities. Out of control wildfires can have catastrophic impacts. Wildfires can cause short-term and long-term disruption to the City. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the City by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the City; smoke and air pollution from wildfires can be a severe health hazard. Smoke impacts may come from wildfires outside the City, as well as from within.

Although the physical damages and casualties arising from wildland-urban interface or conflagration fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

The impacts of a fire are felt long after the fire is extinguished. In addition to the loss of property in fires, the loss in vegetation and changes in surface soils alters the environment. When supporting vegetation is burned, hillsides become destabilized and prone to erosion. The burnt surface soils are harder and absorb less water. When winter rains come, this leads to increased runoff, erosion, and landslides in hilly areas.

Impacts that are not quantified, but can be anticipated in large future events, include:

- Injury and loss of life;
- Commercial and residential structural and property damage;
- Disruption of and damage to public infrastructure, utilities, and services;
- Damage to roads/bridges resulting in loss of mobility;
- Significant economic impact (jobs, sales, tax revenue) to the community; and
- Negative impact on commercial and residential property values

Impacts to identified assets at risk to this hazard and the overall vulnerability of the City may be affected in the future by climate change (which was discussed in the hazard profile above), changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These are discussed in the Future Conditions/Future Development discussion below.

## Future Conditions/Future Development

This section provides a discussion of how future conditions will influence or affect the hazard over time and also discusses future development relative to each hazard.

### Future Conditions

Future conditions may be affected by climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. Findings on this for the City of Elk Grove include the following:

- Climate change is likely to exacerbate future wildfire conditions and associated impacts and vulnerability of the City to wildfire. This was discussed in greater detail in the Climate Change and Wildfire section of the Hazard Profile above.
- The City is expected to see slow and steady growth. The City has 51 areas where growth is expected over the next five years. Additional population growth would likely bring continued diversity to the City. Vulnerable population groups could face disproportionate effects from wildfire and should be planned for. Changes in population and population patterns may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location, magnitude, and severity of future wildfire events.
- Land use planning should be proactive to address future hazard conditions. Locating new development, structures and critical facilities and infrastructure within or near areas of wildfire risk may put additional development at risk. The City has 51 areas where growth is expected over the next five years. Most of these (49) are located in the Non-Wildland FHSZ which reduces risk. 2 of the development areas are located within the Moderate FHSZ and 1 area within the High FHSZ. Additionally, City building codes are in effect to reduce this risk and should be updated as necessary to continue to address future wildfire conditions. Specifically, with the release of the new 2025 LRA mapping for Sacramento County, wildfire building codes should be evaluated and updated as required to include enhanced measures to reduce wildfire impacts on new construction, and including the formal adoption of the new LRA maps. Changes in land use and future development may or may not increase the impacts and vulnerability of the City to this hazard depending on the location and nature of growth and continued planning for future hazard conditions and the location, magnitude, and severity of future wildfire events.

### Future Development

Additional growth and development within moderate or higher fire hazard severity zones in the City would normally place additional values at risk to wildfire. City building codes are in effect and should continue to be updated as appropriate to reduce future impacts.

Future development areas and their vulnerability to wildfire are discussed further in the below GIS analysis.

### *GIS Analysis*

The City provided 51 future development areas which were used as the basis for the inventory of future development for the City. These areas were mapped in GIS. Utilizing the future development area spatial layer, the parcel polygon data was intersected to determine the future development areas within each LRA

fire hazard severity zone. No facilities fell in the SRA/FRA fire hazard severity zones; as such, no maps or tabular analysis is presented for the SRA/FRA. Figure B-39 shows the locations of the future development area overlayed on the LRA fire hazard severity zones. As shown in Table B-53, only 2 developments fall in the Moderate FHSZ, with one falling in the High FHSZ. The other 49 future development areas all fall within the Non-Wildland FHSZ, as such they are not included in the analysis table.

*Figure B-39 City of Elk Grove – Future Development Areas in LRA Fire Hazard Severity Zones*

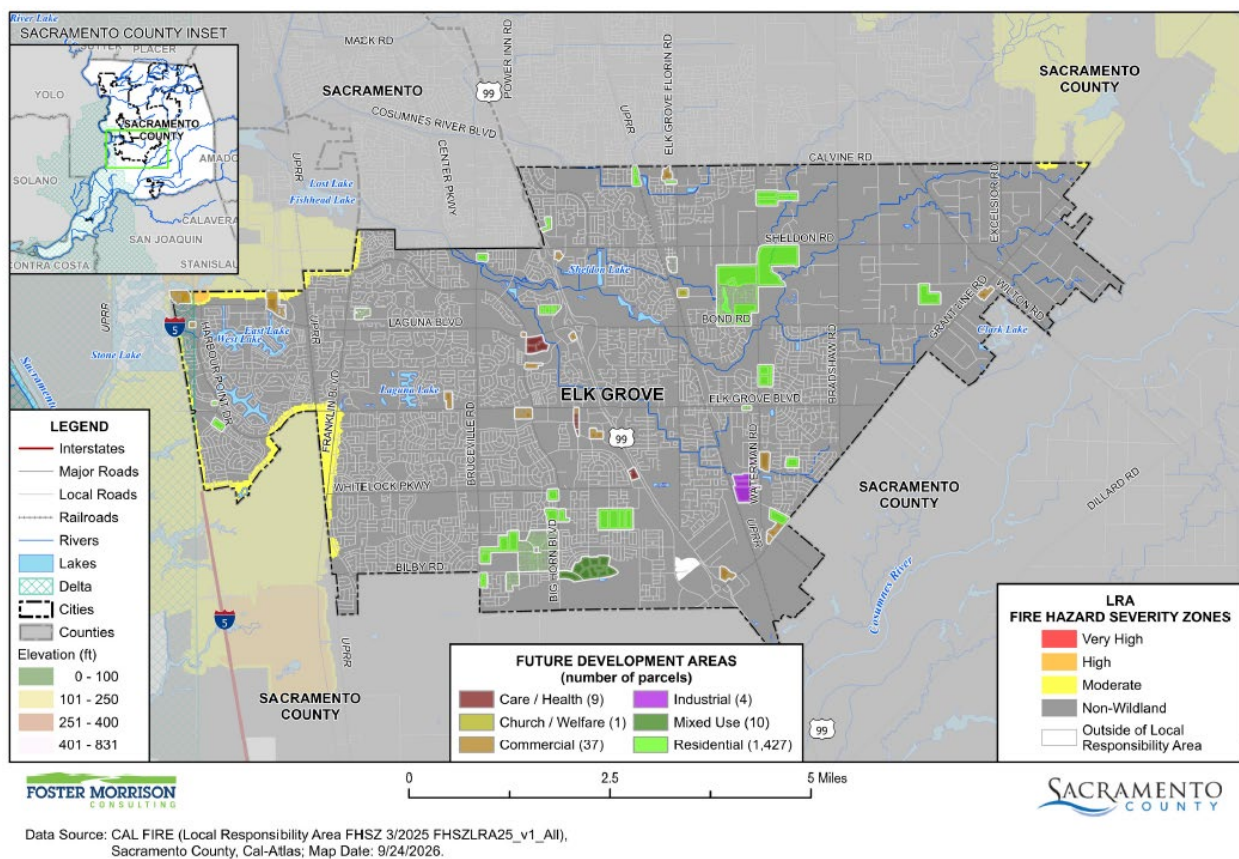


*Table B-51 City of Elk Grove – Future Development Areas by Development Type and Status with Parcels and Acres in Moderate and High LRA Fire Hazard Severity Zones*

| Fire Hazard Severity Zone / Future Development Type and Status | Site/Location Name       | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|----------------------------------------------------------------|--------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
| <b>High</b>                                                    |                          |                    |                       |                         |             |                      |                        |
| <b>Commercial</b>                                              |                          |                    |                       |                         |             |                      |                        |
| In Planning Review                                             | Slakey Brother Expansion | 2                  | 1                     | 1                       | 15.3        | 11.4                 | 3.9                    |

| Fire Hazard Severity Zone / Future Development Type and Status | Site/Location Name                             | Total Parcel Count | Improved Parcel Count | Unimproved Parcel Count | Total Acres | Total Improved Acres | Total Unimproved Acres |
|----------------------------------------------------------------|------------------------------------------------|--------------------|-----------------------|-------------------------|-------------|----------------------|------------------------|
|                                                                | <b>In Planning Review Total</b>                | 2                  | 1                     | 1                       | 15.3        | 11.4                 | 3.9                    |
| <b>Commercial Total</b>                                        |                                                | 2                  | 1                     | 1                       | 15.3        | 11.4                 | 3.9                    |
| <b>High Total</b>                                              |                                                | 2                  | 1                     | 1                       | 15.3        | 11.4                 | 3.9                    |
| <b>Moderate</b>                                                |                                                |                    |                       |                         |             |                      |                        |
| <b>Commercial</b>                                              |                                                |                    |                       |                         |             |                      |                        |
| Approved                                                       | Elk Grove Sports Center Retail & Tech Building | 1                  | 1                     | 0                       | 19.4        | 19.4                 | 0.0                    |
|                                                                | <b>Approved Total</b>                          | 1                  | 1                     | 0                       | 19.4        | 19.4                 | 0.0                    |
| In Planning Review                                             | Slakey Brother Expansion                       | 2                  | 0                     | 2                       | 4.3         | 0.0                  | 4.3                    |
|                                                                | <b>In Planning Review Total</b>                | 2                  | 0                     | 2                       | 4.3         | 0.0                  | 4.3                    |
| <b>Commercial Total</b>                                        |                                                | 3                  | 1                     | 2                       | 23.7        | 19.4                 | 4.3                    |
| <b>Moderate Total</b>                                          |                                                | 3                  | 1                     | 2                       | 23.7        | 19.4                 | 4.3                    |

Source: CAL FIRE, City of Elk Grove

## B.5 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 education, outreach, and partnerships, and other mitigation efforts.

### B.5.1. Regulatory Mitigation Capabilities

Table B-54 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 Elk Grove.

*Table B-52 City of Elk Grove's Regulatory Mitigation Capabilities*

| Plans                              | In Place<br>Y/N | Does the plan address hazards? Can the plan be used to carry out mitigation actions? When was it last updated??                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capital Improvements Plan          | Y               | <p>Capital Improvement Program</p> <p>The Capital Improvement Program is adopted annually by the City Council and identifies capital construction projects to be completed by the City over the coming five years. Several of the projects identified in the plan address potential hazards, such as air pollution. The Plan is an excellent approach to implementing mitigation actions.</p> <p>Title 21 Plans/Capital Improvement Program</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Climate Change Adaptation Plan     | Y               | <p>The Community Mobility Resilience Plan was adopted by the City in 2021. The document provides a comprehensive set of strategies to mitigate and adapt to the impacts of climate change on our transportation network.</p> <p>The Climate Compass is the City's plan for mitigating and adapting to climate change for the community and as an organization, and was adopted in 2026.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Community Wildfire Protection Plan | N               | The City is not in a wildfire hazard area; therefore no plan is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Comprehensive/Master Plan          | Y               | <p>General Plan</p> <p>The City's General Plan was first adopted in 2003 and was most recently updated in 2019. The Plan as currently adopted identifies a number of safety issues and concerns for the community and includes policies for addressing these issues. Implementation of the policies is deferred to subsequent plans.</p> <p>Storm Drainage Master Plan</p> <p>The City also has a Storm Drainage Master Plan, adopted in 2011 with a minor update completed in 2019, which identifies candidate stormwater drainage projects to address the existing deficiencies and future growth impacts on area drainage. These projects implement the mitigation strategy identified in this LHMP. An update to the Storm Drain Master Plan is underway to update drainage models with 2D modeling and calibration data. This effort will better represent any hydraulic deficiencies within the City limits and create a capital improvement plan to address these deficiencies.</p> |
| Continuity of Operations Plan      | Y               | <p>The Emergency Operations Plan adopted in 2018 contains section 2.4 (Continuity of Government (COG) Operations, and 2.5 (Continuity of Operations (COOP). Both sections contain comprehensive information related to COG and COOP to ensure operations are continued during and after a disaster.</p> <p>The EOP was updated in spring 2026.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Economic Development Plan          | N               | <p>The City Council reviewed the Economic Development Work Plan at its regular meeting on June 22, 2016. Annually, an Economic Development report is presented to City Council. The Work Plan and the annual reports do not address hazards and are not an appropriate location to address mitigation actions.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Land Use Plan                      | Y               | The City's land use plan is include in the General Plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                              |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Emergency Operations Plan                              | Y   | The Emergency Operations Plan adopted in 2018 and updated in spring 2026 contains a hazard analysis summary and capability assessment. Six products from the capability assessment emerged which were: Participation in County Evacuation Planning, Investment in the Disaster Information Management System (WebEOC), Training and Exercises for Staff, Emergency Operations Center Annex, Recovery Guidance, and Debris removal. The first priority listed in the operational goals section of this plan is to mitigate hazards.                                                                                              |
| Stormwater Management Plan                                   | Y   | The City's Storm Drainage Master Plan explains the City's Stormwater Management program, stormwater regulations and it includes flood mitigation projects<br>The City's Municipal Code Chapter 15.12 Stormwater Management and Discharge Control establishes and enforces stormwater quality controls to comply with the City's NPDES permit                                                                                                                                                                                                                                                                                    |
| Transportation Plan                                          | Y   | The City's transportation plan is comprised of the maps and policies in the General Plan, along with other planning documents such as the Bicycle, Pedestrian, and Trails Master Plan. Most of these plans do not address hazards as they are focused on the delivery of transportation infrastructure for the movement of goods, services, and people around and through the City. However, as this infrastructure is designed, best planning and engineering practices are applied to ensure that the improvements do not impact drainage ways, increase fire severity, or otherwise create a hazard to persons and property. |
| Other                                                        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                              |     | Is the ordinance an effective way to reduce hazard impacts?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Land Use Planning and Ordinances                             | Y/N | Is the ordinance adequately administered and enforced?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Acquisition of land for open space and public recreation use | Y   | A number of City documents address land for open space and public recreation use, including the General Plan; EGMC 22.40; Bicycle, Pedestrian, and Trail Master Plan; Storm Drainage Master Plan; Laguna Ridge Specific Plan, the Southeast Policy Area, and the Livable Employment Area.                                                                                                                                                                                                                                                                                                                                       |
| Building code                                                | Y   | The City's Building code regulations are included in Title 16 of the Municipal Code. This includes information on erosion control (Chapter 16.44) and flood prevention (Chapter 16.50).                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Flood insurance rate maps                                    | Y   | FEMA, recorded parcel maps and the City's GIS data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Floodplain ordinance                                         | Y   | The City adopted Chapter 16.50 - Flood Damage Prevention regulations as part of its Municipal Code. The regulations are modeled after the State's model ordinance for non-coastal communities. The regulation implements policies in the General Plan relative to limiting development in the floodplain                                                                                                                                                                                                                                                                                                                        |

|                                                                            |   |                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural hazard-specific ordinance (stormwater, steep slope, wildfire)      | Y | Included in:<br>Chapter 15.12 Stormwater Management and Discharge Control<br>Chapter 16.44 Land Grading and Erosion Control<br>Chapter 16.50 Flood Damage Prevention<br>Title 23 Zoning – Division III-Chapter 23.42                                                                                                |
| Subdivision ordinance                                                      | Y | The City adopted Flood Damage Prevention regulations as part of its Municipal Code, included in Title 22. The regulations are modeled after the State’s model ordinance for non-coastal communities. The regulation will implement policies in the General Plan relative to limiting development in the floodplain. |
| Zoning ordinance                                                           | Y | The City’s Zoning regulations are included in Title 23 of the Municipal Code. A comprehensive update was completed in 2006. The code is regularly reviewed and updated.                                                                                                                                             |
| Other                                                                      | Y | Chapter 17.04 Uniform Fire Code was adopted in 2025 which in turn adopts the California Fire Code.                                                                                                                                                                                                                  |
| <b>How can these capabilities be expanded and improved to reduce risk?</b> |   |                                                                                                                                                                                                                                                                                                                     |
| Continue to implement programs and update/enforce regulations.             |   |                                                                                                                                                                                                                                                                                                                     |

Source: City of Elk Grove

## B.5.2. Administrative/Technical Mitigation Capabilities

Table B-55 identifies the City department(s) responsible for activities related to mitigation and loss prevention in the City of Elk Grove.

*Table B-53 City of Elk Grove’s Administrative and Technical Mitigation Capabilities*

| Administration                                 | In Place<br>Y/N | Describe capability<br>Is coordination effective?                                                                                                            |
|------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Staff</b>                                   |                 | Is staffing adequate to enforce regulations?<br>Is staff trained on hazards and mitigation?<br>Is coordination between agencies and staff effective?         |
| Chief Building Official                        | Y               | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective. |
| Civil Engineer, including dam and levee safety | Y               | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective. |
| Community Planner                              | Y               | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective. |
| Emergency Manager                              | Y               | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective. |
| Floodplain Administrator                       | Y               | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GIS Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                            | Y          | Staff is adequate to enforce regulations. Staff is trained on hazards and mitigations. There is coordination between agencies and staff and it is effective.                                                                                                                                                                                                        |
| Planning Commission                                                                                                                                                                                                                                                                                                                                                                                                                        | Y          |                                                                                                                                                                                                                                                                                                                                                                     |
| Other                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Technical</b>                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Y/N</b> | <b>Has capability been used to assess/mitigate risk in the past?</b>                                                                                                                                                                                                                                                                                                |
| Grant writing                                                                                                                                                                                                                                                                                                                                                                                                                              | Y          | Various departments provide grant writing efforts. Past grant opportunities have provided funding to support local hazard risk assessment and mitigation efforts.                                                                                                                                                                                                   |
| Hazard data and information                                                                                                                                                                                                                                                                                                                                                                                                                | Y          | FEMA Floodplain maps, localized flooding maps, white paper on extreme heat. Data has been used to further assess risk and provide strategies for improved risk mitigation.                                                                                                                                                                                          |
| GIS analysis                                                                                                                                                                                                                                                                                                                                                                                                                               | Y          | GIS analysis has been used for local hazard risk assessment and identification of mitigation opportunities.                                                                                                                                                                                                                                                         |
| Mutual aid agreements                                                                                                                                                                                                                                                                                                                                                                                                                      | Y          | California Master Mutual Aid Agreement, Law Enforcement Mutual Aid Agreement, Fire and Rescue Mutual Aid Agreement (via Cosumnes Fire District), Public Works Mutual Aid Agreement, County of Sacramento Operational Area Council, U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program, NFIP, County of Sacramento OES, County of Sacramento EMD |
| Other                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                                                                                                                                                                                                                                                                                                                                                                     |
| <b>How can these capabilities be expanded and improved to reduce risk?</b>                                                                                                                                                                                                                                                                                                                                                                 |            |                                                                                                                                                                                                                                                                                                                                                                     |
| The City's Community Development Department has been converting four positions, currently filled by consultants, to full-time City employees in the Development Engineering Division. These positions review and provide input on development applications, supporting improvements in private development related to risk reduction. Conversion to full-time City employees will ensure consistency and improved institutional knowledge. |            |                                                                                                                                                                                                                                                                                                                                                                     |

Source: City of Elk Grove

### B.5.3. Fiscal Mitigation Capabilities

Table B-56 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

*Table B-54 City of Elk Grove's Fiscal Mitigation Capabilities*

| <b>Funding Resource</b>              | <b>In Place<br/>Y/N</b> | <b>Has the funding resource been used in past and for what type of activities?<br/>Could the resource be used to fund future mitigation actions?</b> |
|--------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capital improvements project funding | Y                       | There are funding resources that have been used in the past and can be used in the future.                                                           |
| Community Development Block Grant    | Y                       | There are funding resources that have been used in the past and can be used in the future.                                                           |

| Funding Resource                                                           | In Place<br>Y/N | Has the funding resource been used in past<br>and for what type of activities?<br>Could the resource be used to fund future<br>mitigation actions? |
|----------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Federal funding programs (non-FEMA)                                        | Y               | U.S. Army Corps of Engineers Rehabilitation<br>Inspection PL84-99 Program                                                                          |
| Fees for water, sewer, gas, or electric services                           | N               |                                                                                                                                                    |
| Impact fees for new development                                            | Y               | There are funding resources that have been<br>used in the past and can be used in the future.                                                      |
| State funding programs                                                     | Y               | Stormwater Grant                                                                                                                                   |
| Stormwater utility fee                                                     | Y               | There are funding resources that have been<br>used in the past and can be used in the future.                                                      |
| Other                                                                      |                 |                                                                                                                                                    |
| <b>How can these capabilities be expanded and improved to reduce risk?</b> |                 |                                                                                                                                                    |
| Continue to train staff, implement programs and enforce regulations.       |                 |                                                                                                                                                    |

Source: City of Elk Grove

#### B.5.4. Mitigation Education, Outreach, and Partnerships

Table B-57 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

*Table B-55 City of Elk Grove's Mitigation Education, Outreach, and Partnerships*

| Program/Organization                                                                                                             | In Place<br>Y/N | How widespread are each of these in your<br>community?                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community newsletters                                                                                                            | Y               |                                                                                                                                                                      |
| Hazard awareness campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, school programs, public events)        | Y               | Public meetings to address emergency<br>preparedness and flood control operations.<br>Information is also provided at local outreach<br>events and via social media. |
| Local news                                                                                                                       | Y               |                                                                                                                                                                      |
| Organizations that interact with underserved and<br>vulnerable communities                                                       |                 |                                                                                                                                                                      |
| Social media                                                                                                                     | Y               | Social media pages are used to provide disaster<br>preparedness information.                                                                                         |
| <b>How can these capabilities be expanded and improved to reduce risk?</b>                                                       |                 |                                                                                                                                                                      |
| Continue to train staff, implement programs and enforce regulations. Look for additional outreach and partnership opportunities. |                 |                                                                                                                                                                      |

Source: City of Elk Grove

#### B.5.5. Other Mitigation Efforts

The City has many other completed or ongoing mitigation projects/efforts that include the following:

- The City has participated in FEMA's Map Modernization Project and the requirements of Title 44 of the Federal Code of Regulations (CFR), Section 65.10 of the National Flood Insurance Program (NFIP) regulations to certify the Laguna West levee system. The Laguna West levee system meets the design, operation and maintenance criteria set forth 44 CFR Section 65.10. The City also participates in the U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program for non-federal levees and non-project levees.
- The City implements levee operation and maintenance activities, which provide maintenance recommendations and requirements for specific levee inspections and maintenance operations. Levee inspections and maintenance activities include vegetation control, rutting/depressions, erosion control, slope stability, cracking, rodent control, encroachments/excavation, riprap revetments/banks, closure structures, debris removal, roadway crown, utilities, minor structures, and mosquito abatement.
- Certified the Laguna West levees to participate in the Map Moderation Program and to be in compliance with FEMA's 44 CFR Section 65.10 of the National Flood Insurance Program so that the federally subsidized flood insurance is available to the residents of the City;
- Adoption of resolution (#2007-189) that includes the City as an active member of the Sacramento Operational Area Council;
- Adoption of resolution (#25-2010) for compliance with SEMS/NIMS and certifies us as an "Accredited Disaster Council" to comply with the requirements of Cal OES;
- Mutual Aid Agreements with the following:
  - ✓ California Master Mutual Aid Agreement
  - ✓ Law Enforcement Mutual Aid Agreement
  - ✓ Fire and Rescue Mutual Aid Agreement (via Cosumnes Fire District)
  - ✓ Public Works Mutual Aid Agreement
  - ✓ Sacramento Operational Plan
- Social Media updates to inform the public of dangers and preventative steps to consider to mitigate any threats to their safety;
- Activated cooling and warming centers during extreme weather, as necessary;
- The Police Department's Problem Oriented Police Unit provides disaster education through neighborhood meetings or the Citizens Academy;
- Police Officers receive annual training on emergency response, including responses to local hazards or naturally created hazards;
- Disaster responses from the Police Department to Suburban Propane or the Sacramento Wastewater Treatment Plant;
- Development of a Disaster Debris Management Plan;
- Levee inspections through the U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program to ensure the City's levees are being properly maintained;
- Floodplain studies and LOMRs for new development projects and existing properties to be removed from the FEMA 100-year floodplain;
- Inspect and clean pump stations annual to ensure system resiliency;
- Inspect and clean storm drainpipe on an annual basis to ensure system is operating in an efficient manner;
- Annual update of Storm Response and Flood Fighting Operation Plan to provide emergency information and support to City staff responding to both forecasted and actual storm events, and emergency information;
- Beaver Management Program to effectively address the challenges presented by beaver activity within the City's network of creeks, channels and storm drainage infrastructure to help prevent flooding;
- Requests and inquiries from the City's residents, businesses and insurance agents for flood zone information;
- Maintaining asset data in GIS to assist the City with planning, design, operation and maintenance efforts;

- Sandbag distribution during severe events to assist residents to protect their properties from flooding
- Drainage and floodplain easement information maintained in a GIS to assist the City with planning, design, operation and maintenance efforts;
- Public outreach efforts and education on emergency preparedness;
- Identification of new and existing programs and activities that lay out a program level approach to holistically address vital function and values of drainage conveyance, flood control, aquatic resources and water quality that benefit public health and safety, minimize property damage and protect the environment; and
- The following flood mitigation projects were completed:
  - ✓ Southeast Industrial Area Storm Drain Improvements
  - ✓ Adams Tract No.2 Drainage Improvements
  - ✓ Drainage Shed A Channel Landscaping Enhancement
  - ✓ Drainage Shed A Ehrhardt Channel Slope Stabilization
  - ✓ Sleepy Hollow Detention Basin Retrofit Project

## **B.6 Mitigation Strategy**

### **B.6.1. Mitigation Goals and Objectives**

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

### **B.6.2. NFIP Mitigation Strategy**

The City of Elk Grove joined the National Flood Insurance Program (NFIP) on March 15, 1979. As a participant of the NFIP, the City of Elk Grove 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 Elk Grove will continue to comply with the requirements of the NFIP in the future.

In addition, the City of Elk Grove actively participates with Sacramento County to address local NFIP issues through a regional approach. Many of the program activities are the same for the City of Elk Grove as for Sacramento County since participation at the County level includes all local jurisdictions.

The City of Elk Grove Public Works 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 flood mapping. In addition, the Public Works Department provides information about the stormwater management program and up-to-date information related to the maintenance of the City's drainage system.

The NFIP's 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 Elk Grove is not a current participant in the CRS program.

More information about the floodplain administration in the City of Elk Grove can be found in Table B-58.

*Table B-56 City of Elk Grove Compliance with NFIP*

| NFIP Topic                                                                                                                                                             | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Staff Resources</b>                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Who is responsible for floodplain management in your community? Provide Department/Title. Do they serve any roles other than Community Floodplain Administrator (FPA)? | Jeff Werner, Public Works Director, serves in other roles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Is the Community FPA or NFIP Coordinator a Certified Floodplain Manager?                                                                                               | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Is floodplain management an auxiliary function?                                                                                                                        | No. *Note: various roles involved in floodplain administration are delegated by the Public Works Director to the Engineering Services Manager and Senior Civil Engineer for drainage.                                                                                                                                                                                                                                                                                                                                              |
| Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)                          | New development applications are routed to drainage staff for review. Staff reviews plans and also confirms that proposed developments are not located within SFHAs and meet City standards. FEMA floodplain information has been incorporated into the City's GIS database in addition to floodplain easement information. The City manages the flood control and flood preparedness webpages, which include a variety of flood related information. In addition, outreach information is provided at various events in the City. |
| What are the barriers to running an effective NFIP program in the community, if any?                                                                                   | There are minimal barriers to running an effective NFIP program. The community is fairly informed and educated regarding flooding concerns and the City has conducted various neighborhood workshops in the past. Education is key and the City will continue to educate the community regarding existing and potential flooding concerns.                                                                                                                                                                                         |
| <b>Insurance Summary</b>                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| How many NFIP policies are in the community? What is the total premium and coverage?                                                                                   | There are 489 total policies.<br>\$356,339 in total premiums and \$171,283,000 in insurance.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?                          | 6 paid claims<br>\$100,048 in paid claims<br>0 for substantial damage                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| How many structures (residential and non-residential) are exposed to flood risk within the community?                                                                  | 1,150 in the 1% Annual Chance<br>7,123 in the 0.2% Annual Chance                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Are there Repetitive Loss (RL) and Severe Repetitive Loss Properties (SRL) structures in the community?                                                                | 1 RL (single family)<br>0 SRL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Describe any areas of flood risk with limited NFIP policy coverage                                                                                                     | Based on FEMA's CIS data, there are 1,150 improved parcels located in the SFHA. Only 17 of these or 1.5% carry flood insurance which leaves those without flood insurance extremely vulnerable in this high risk flood zone                                                                                                                                                                                                                                                                                                        |

| NFIP Topic                                                                                                                                                                                                                                                 | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How does the community teach property owners or other stakeholders about the importance of flood insurance?                                                                                                                                                | City participates in multiple stormwater outreach events and residents are encouraged to discuss any stormwater related topics, including flood insurance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| What digital sources (like the FEMA Map Service Center, National Flood Hazard Layer) or non-regulatory tools does the community use?                                                                                                                       | Flood preparedness information such as FIRM maps, are available through the City's website                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Compliance History</b>                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Is the community in good standing with the NFIP?                                                                                                                                                                                                           | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Are there any outstanding compliance issues (i.e., current violations)?                                                                                                                                                                                    | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Who is responsible (Department, Title) for making substantial damage/improvement determinations? How does the community identify substantially damaged/improved structures? What is the process to make sure these structures are brought into compliance? | <p>The Community Development Department, Chief Building Official is responsible, through subordinate staff, for making substantial damage/improvement determinations.</p> <p>When a remodel, repair, or tenant improvement building permit application is received for a structure on a parcel within the floodplain, the valuation of the existing improvements (structure) is verified in Sacramento County Assessor's Parcel Viewer, and the valuation of the permitted work is identified in the permit application. If the value of the work exceeds 50% of the valuation of the existing improvements (structure) then the existing structure is required to be brought into compliance with NFIP requirements for new construction. Building Division staff is provided access to the "Substantial Improvement/Substantial Damage Desk Reference" (FEMA P-758) to aid in making such determinations.</p> |
| When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?                                                                                                                                                           | 7/27/2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Is a CAV or CAC scheduled or needed?                                                                                                                                                                                                                       | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Regulation</b>                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| When did the community enter the NFIP?                                                                                                                                                                                                                     | March 15, 1979                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Are the FIRMs digital or paper?                                                                                                                                                                                                                            | Digital                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Has the community adopted the NFIP minimum floodplain management criteria via local regulation? Date of current local regulation?                                                                                                                          | City has adopted floodplain ordinance under municipal code 16.50. This section with last updates occurred in 2025.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Has the community adopted the latest effective FIRM? Date adopted?                                                                                                                                                                                         | Yes. Last updated in 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| How does the community enforce local floodplain regulations and monitor compliance?                                                                                                                                                                        | The City's municipal code references floodplain regulation. This is enforced through development services or code enforcement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?                                                                                                                                              | Yes, the regulations are modeled after the State's model ordinance for non-coastal communities. The regulation implements policies in the General Plan relative to limiting development in the floodplain. In addition, habitable structures are not allowed to be constructed in the SFHA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| NFIP Topic                                                                               | Comments                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| How are Letters of Map Change (LOMCs) tracked and compiled?                              | LOMCs are tracked by Public Works and Development Services.                                                                                                                                                                                                                                                                               |
| Provide an explanation of the permitting process.                                        | New development applications are submitted to the Development Services Division, and applications are then routed to various Divisions in the City, including Public Works. PW staff reviews plans, confirms that proposed developments are not located within SFHAs and provides comments as necessary. Staff also tracks these reviews. |
| <b>Community Rating System</b>                                                           |                                                                                                                                                                                                                                                                                                                                           |
| Does the community participate in CRS? If so, what is the community's CRS Class Ranking? | No                                                                                                                                                                                                                                                                                                                                        |
| What categories and activities provide CRS points and how can the class be improved?     | N/A                                                                                                                                                                                                                                                                                                                                       |
| Does the plan include CRS planning requirements?                                         | Y                                                                                                                                                                                                                                                                                                                                         |

Source: City of Elk Grove, FEMA CIS, FEMA PIVOT

### B.6.3. Mitigation Actions

The Planning Team for the City of Elk Grove identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Dam Failure
- Drought & Water Shortage (w/tree mortality)
- Earthquake (w/subhazards)
- Flood: 1%/0.5%/0.2% annual chance
- Flood: Localized Stormwater
- Levee Failure
- Severe Weather: Extreme Cold and Freeze
- Severe Weather: Extreme Heat
- Wildfire (with smoke and air quality)

Low priority hazards for mitigation planning include:

- Aquatic Nuisance Species (plant/animal)
- Landslide, Mudslide, Debris Flow
- Sea Level Rise
- Severe Weather: Heavy Rains and Storms (Hail, Lightning, Wind)
- Severe Weather: High Winds and Tornadoes
- Subsidence

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide and the City public outreach action, as well as many of the emergency services actions, apply to all hazards and jurisdictions regardless of hazard priority. Collectively, this LHMP's multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5 years covered by this Plan. It should further be noted, that each jurisdiction has focused on identifying those mitigation actions and projects to address their priority hazards, which are both realistic and reasonable for them to implement for this 5-year planning process, and would like to preserve their right to modify hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement. The participating jurisdictions are not obligated by this document to implement any or all of these projects. Rather this mitigation strategy represents the desires of the jurisdictions to mitigate the risks and vulnerabilities from identified hazards. The actual selection, prioritization, and implementation of these actions will also be further evaluated in accordance with the mitigation categories and criteria contained in Appendix C.

### *Mitigation Actions*

The City has put forward the actions as shown in Table B-59. Details of the actions can be found below the table.

*Table B-57 City of Elk Grove Mitigation Actions*

| Action Title                                                                                                                                                                       | New Action/<br>Previous<br>Action | Address<br>Current<br>Development | Address<br>Future<br>Development | Continued<br>NFIP<br>Compliance | Mitigation Type                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|--------------------------------------------------------------------------------------------|
| Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan                                                                                               | Previous Action                   | X                                 | X                                |                                 | Prevention                                                                                 |
| Action 2. Develop and implement a public education campaign focused on hazard awareness, household preparedness, emergency supply kits, family communication plans, etc.           | New Action                        | X                                 | X                                | X                               | Prevention<br>Public Information                                                           |
| Action 3. Improve public understanding of evacuation procedures, evacuation zones, routes, transportation assistance options, potential shelter locations, and re-entry procedures | New Action                        | X                                 | X                                | X                               | Prevention<br>Emergency Services<br>Public Information                                     |
| Action 4. Mutual Aid Agreements                                                                                                                                                    | Previous Action                   | X                                 | X                                | X                               | Prevention<br>Emergency Services                                                           |
| Action 5. Update and Implement City of Elk Grove Storm Drainage Master Plan (SDMP)                                                                                                 | Previous Action                   | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Structural Projects<br>Natural Resource<br>Protection |

| Action Title                                                                                            | New Action/<br>Previous<br>Action | Address<br>Current<br>Development | Address<br>Future<br>Development | Continued<br>NFIP<br>Compliance | Mitigation Type                                                                            |
|---------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|--------------------------------------------------------------------------------------------|
| Action 6. Create a Climate-Smart Stormwater Management System                                           | Previous Action                   | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Structural Projects<br>Natural Resource<br>Protection |
| Action 7. Implement a Comprehensive and Climate-Smart Green Infrastructure Strategy                     | Previous Action                   | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Natural Resource<br>Protection                        |
| Action 8. Upgrade the City's Laguna West Levee System to Mitigate Climate-Related Flood Impacts         | Previous Action                   | X                                 | X                                | X                               | Property Protection<br>Structural Projects                                                 |
| Action 9. Establish a Resilient Pedestrian and Bicycle Infrastructure Network                           | Previous Action                   | X                                 | X                                |                                 | Structural Projects<br>Emergency Services                                                  |
| Action 10. Adopt an Ordinance for Post-Disaster Recovery and Reconstruction                             | New Action                        | X                                 | X                                | X                               | Prevention                                                                                 |
| Action 11. Identify Locations for and Implement Large-Scale, Low-Maintenance Rain or Pollinator Gardens | New Action                        | X                                 | X                                |                                 | Prevention<br>Property Protection<br>Natural Resource<br>Protection                        |
| Action 12. Reduce Exposure to Extreme Heat and Mitigate the Urban Heat Island Effect                    | New Action                        | X                                 | X                                |                                 | Prevention<br>Property Protection<br>Natural Resource<br>Protection                        |
| Action 13. Expand the Urban Tree Canopy                                                                 | New Action                        | X                                 | X                                |                                 | Prevention<br>Property Protection<br>Natural Resource<br>Protection                        |
| Action 14. Annual Storm Drain System Repair and Upgrade                                                 | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Structural Projects<br>Natural Resource<br>Protection |
| Action 15. Whitelock Parkway/State Route 99 Interchange Project (WTR009)                                | New Action                        | X                                 | X                                |                                 | Structural Projects<br>Emergency Services                                                  |
| Action 16. Lotz and Promenade Parkway Project (WTR096)                                                  | New Action                        | X                                 | X                                |                                 | Structural Projects<br>Emergency Services                                                  |
| Action 17. Laguna Creek Erosion Repairs Project                                                         | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Natural Resource<br>Protection                        |
| Action 18. Fish Hatchery Site Restoration                                                               | New Action                        | X                                 | X                                | X                               | Natural Resource<br>Protection                                                             |

| Action Title                                                                                | New Action/<br>Previous<br>Action | Address<br>Current<br>Development | Address<br>Future<br>Development | Continued<br>NFIP<br>Compliance | Mitigation Type                                                     |
|---------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------------------------------------------|
| Action 19. Updating Drainage Improvement Standards and Adopt the updated County Hydrology   | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection                                   |
| Action 20. Laguna Creek Erosion Repairs Project                                             | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Natural Resource<br>Protection |
| Action 21. Install staff gages at detention basins                                          | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection                                   |
| Action 22. Old Town Area Streetscape Phase 2                                                | New Action                        | X                                 | X                                | X                               | Prevention<br>Property Protection<br>Natural Resource<br>Protection |
| Action 23. Drone for Storm Monitoring                                                       | New Action                        | X                                 | X                                | X                               | Prevention<br>Emergency Services                                    |
| Action 24. Develop an extreme weather outreach strategy                                     | New Action                        | X                                 | X                                | X                               | Prevention<br>Emergency Services                                    |
| Action 25. Update the City Emergency Operations Plan and provide training to city personnel | New Action                        | X                                 | X                                |                                 | Prevention<br>Emergency Services                                    |

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***Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan***

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**Hazards Addressed:** Multi-Hazard (Climate Change, Dam Failure, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire (with smoke and air quality))

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (Assembly Bill (AB) 2140). For eligible Public Assistance projects, the typical local (non-federal) cost share is 25% of the total project cost. The California Disaster Assistance Act (CDAA) can allow the state to pay up to 18.75% of the non-federal share that would otherwise fall to the county or city. Upon approval of the legislature, counties and cities that are AB 2140 compliant are also eligible to be considered for the remaining 6.25% local share to be funded by the state, essentially covering the entire local-share cost for eligible Public Assistance projects.

**Project Description:** AB 2140 compliance requires that each applicable jurisdiction (counties and cities) adopt the 2026 Sacramento County Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) as part of the Safety Element of its General Plan in accordance with the CDAA and Cal OES AB 2140 guidance. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation. The current approved LHMP must be easily accessible and available to the public viewing the Safety Element.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Safety Element of the General Plan

**Responsible Office/Partners:** City of Elk Grove Community Development Department

**Project Benefits (Losses Avoided):** Incorporation of an adopted LHMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local budgets (General Funds, Development Services Fund), Staff time

**Timeline:** In conjunction with and/or within 1 year of adoption of the 2026 Sacramento County Multi-Jurisdictional LHMP Update

**Project Priority (High, Medium, Low):** High

**Action 2.**      *Develop and implement a public education campaign focused on hazard awareness, household preparedness, emergency supply kits, family communication plans, etc.*

---

**Hazards Addressed:** Climate Change, Dam Failure, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire (with smoke and air quality)

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** A comprehensive public education campaign is needed to increase community awareness of local hazards and equip residents with the knowledge and resources necessary to prepare before disasters occur. By promoting hazard awareness, encouraging the development of household emergency plans, emphasizing the importance of emergency supply kits, and educating families on communication strategies during emergencies, the campaign will empower individuals to take proactive steps that improve personal resilience and strengthen the community's overall ability to withstand, respond to, and recover from emergencies.

**Project Description:** Initial project scope will focus on the following areas: Know your Hazards, Build a Emergency Kit, Making a Family Emergency Plan, and Ways to Stay Informed. The City will work with the County and other local partners to develop messaging and attend community outreach events.

**Other Alternatives:** No Action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Existing City and County community outreach programs will be evaluated to determine if preparedness outreach is appropriate

**Responsible Office/Partners:** City of Elk Grove and Elk Grove PD (Public Affairs, Community Engagement, Emergency Preparedness), Sacramento County, Consumnes Fire

**Project Benefits (Losses Avoided):** Increased community awareness will allow for a more informed population who will be prepared for a natural disaster. Well informed populations create a resilient city.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local budgets (General Fund, Measure E Funds) Grant Funding (FEMA HMGP, CA DWR), and Staff time

**Timeline:** Within 2 years and ongoing

**Project Priority (High, Medium, Low):** Medium

**Action 3.** *Improve public understanding of evacuation procedures, evacuation zones, routes, transportation assistance options, potential shelter locations, and re-entry procedures*

---

**Hazards Addressed:** Dam Failure, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Heavy Rains and Storms, Wildfire (with smoke and air quality)

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Improve public understanding of evacuation procedures, evacuation zones, routes, transportation assistance options, potential shelter locations, and re-entry procedures.

**Project Description:** Develop a campaign specifically for evacuation procedures highlighting evacuation zones and potential routes out of different areas of the city. Additionally, this campaign will focus on those who have limited transportation options and provide information on where to stay connected for updates related to shelter locations and re-entry procedures.

**Other Alternatives:** No Action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Existing City and County community outreach programs will be evaluated to determine if preparedness outreach is appropriate

**Responsible Office/Partners:** City of Elk Grove and Elk Grove PD (Public Affairs, Community Engagement, Emergency Preparedness, Traffic), Sacramento County, Consumnes Fire

**Project Benefits (Losses Avoided):** Increased community awareness related to evacuation will lead to faster evacuations and the ability to assist those with limited transportation options

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local budgets (General Fund, Measure E Funds) Grant Funding (FEMA HMGP, CA DWR), and Staff time

**Timeline:** Within 2 years and ongoing

**Project Priority (High, Medium, Low):** Medium

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**Action 4.**      *Mutual Aid Agreements*

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**Hazards Addressed:** Climate Change, Dam Failure, Drought & Water Shortage, Earthquake, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire (with smoke and air quality)

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Mutual aid agreements are necessary to be in place if a disaster occurs to provide integration and coordination of planning efforts for multiple jurisdictions. The intent of these agreements is to provide direction on how to respond to an emergency from the initial onset, through to extended response, and into the recovery process. Disasters know no boundaries and other emergency agencies are needed to help with emergency response.

**Project Description:** Ensure that Mutual Aid Agreements are in place such as: California Master Mutual Aid Agreement, Law Enforcement Mutual Aid Agreement, Fire and Rescue Mutual Aid Agreement (via Cosumnes Fire District), Public Works Mutual Aid Agreement, County of Sacramento Operational Area Council, U.S. Army Corps of Engineers Rehabilitation Inspection PL84-99 Program, NFIP, County of Sacramento OES, and County of Sacramento EMD.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** General Plan (Safety Element), Emergency Operation Plan, Storm Drainage Master Plan

**Responsible Office/Partners:** City of Elk Grove (Police Department, Public Works Department)

**Project Benefits (Losses Avoided):** Assistance with emergency response from other agencies.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** No funding is necessary to establish Mutual Aid Agreements. However, funding sources related to mutual aid responses, associated with Mutual Aid Agreements typically come from the requesting agency or from funds at the State or Federal level.

**Timeline:** Within 1 year and ongoing

**Project Priority (High, Medium, Low):** High

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**Action 5.**      *Update and Implement City of Elk Grove Storm Drainage Master Plan (SDMP)*

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**Hazards Addressed:** Drought & Water Shortage, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Protect the value and function of the public storm drainage and flood control systems infrastructure and extend its useful life. Improve the storm drainage and flood control systems, foster awareness and stewardship of water quality and aquatic ecosystems, and comply with applicable local, state and federal laws and regulations.

**Project Description:** The SDMP was developed to provide a variety of drainage concepts for upgrading the existing storm drainage and flood control collection system (Drainage System). The SDMP identifies and analyzes the existing drainage deficiencies throughout the City; provides a range of drainage concepts for the construction of future facilities required to serve the City at buildout of the General Plan; and establishes criteria for selecting and prioritizing projects. Furthermore, the SDMP may be utilized for the development of a capital drainage financing program. The SDMP combines the demands of flood-risk reduction with ecosystem enhancements while incorporating urban development and rural residential land uses to provide an effective plan that will meet both the City's and community's vision. An update to the SDMP is underway and will be completed in early 2027. This update will calibrate existing models, convert 1-D models to 2-D models, and develop a new list of projects to address drainage deficiencies.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Storm Drainage Master Plan, Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove Public Works Department

**Project Benefits (Losses Avoided):** Avoids flooding, degradation of water quality, and impacts on groundwater supplies.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund)

**Timeline:** Within 1 year and ongoing

**Project Priority (High, Medium, Low):** High

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**Action 6.**      *Create a Climate-Smart Stormwater Management System*

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**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Need to increase stormwater infrastructure capacity as climate change is likely to result in changes in precipitation patterns, with increases in the intensity of large storm events and atmospheric river phenomenon, and other events that bring significant fractions of annual average precipitation over a brief period of time, are likely to increase. Current infrastructure standards are not updated with modeling to take into consideration these more intense storm events.

**Project Description:** This work would include several items. 1) Work with Sacramento County to conduct appropriate analysis and begin the process to update the intensity, duration, and frequency curves used in stormwater infrastructure standards used for managing localized runoff and precipitation events. Incorporate updated modeling in standards for new development in the City, including capital improvement projects and the City's Storm Drainage Master Plan. 2) Develop a comprehensive list of existing stormwater and drainage facilities that are at increased risk from failure or loss of performance from increases in the intensity of storm events. 3) Explore opportunities to add redundancy to the City's existing stormwater and flood management systems (e.g., additional detention basins) to mitigate impacts from increased storm intensities as needed. 4) Explore and identify feasible strategies (e.g., riprap, hardening) to mitigate scour for bridges. Identify critical bridges (e.g., high-volume roadways) and prioritize improvements to these bridges to prevent scour and asset failure.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Storm Drainage Master Plan, City Construction Specifications and Improvement Standards, Sacramento County Hydrology Standards

**Responsible Office/Partners:** City of Elk Grove (Community Development Department, Public Works Department)

**Project Benefits (Losses Avoided):** Increase preparedness for large flood events.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund), Sacramento County Zone 11A fee (Drainage Impact Fee Program), and Grants (FEMA HMGP, CA DWR)

**Timeline:** Within 5 years

**Project Priority (High, Medium, Low):** Medium

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**Action 7.      *Implement a Comprehensive and Climate-Smart Green Infrastructure Strategy***

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**Hazards Addressed:** Climate Change, Drought and Water Shortage, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Climate change is resulting in changes in precipitation patterns and increases in extreme heat events. Current infrastructure standards are not sufficient to mitigate the impacts of climate change and need to be updated to adapt to the realities of climate change. Climate-smart green infrastructure will improve the City's ability to reduce the impact of climate change (extreme heat and flooding) and recover following hazard events.

**Project Description:** Implement a climate-smart green infrastructure to mitigate and adapt to the impacts of climate change. This project would include several actions, including: 1) updating City Standards to

require larger land development projects to incorporate principles of green infrastructure (e.g., bioswales, permeable pavements, rain gardens, linear parks, green roofs), which help mitigate the UHI effect in the City; 2) increase tree planting with a focus on carbon sequestration and environmental justice; and 3) update the City's Municipal Code and other design guidelines to incorporate strategies to mitigate future increases in temperature and extreme heat events and mitigate the UHI effect in new development.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Municipal Code, City Improvement Standards, Heat-Ready Mobility Plan, Climate Compass

**Responsible Office/Partners:** City of Elk Grove (Community Development Department, Public Works Department, City Managers Department)

**Project Benefits (Losses Avoided):** Increase evapotranspiration and reduce heat-absorbing surfaces.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** General Funds, Measure A Transportation sales tax and mitigation fee, and Grants (FEMA HMGP, California Climate Investments)

**Timeline:** Within 3 years

**Project Priority (High, Medium, Low):** Medium

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**Action 8.**      *Upgrade the City's Laguna West Levee System to Mitigate Climate-Related Flood Impacts*

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**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** California requires the 200-year floodplain to be considered in zoning and development regulations. The current Laguna West levee system can meet the FEMA 100-year floodplain but would need upgrades to provide full protection for the 200-year floodplain. Comply with applicable local, state, and federal laws and regulations.

**Project Description:** This project would work to develop policies to finance, plan, and construct infrastructure improvements to the Laguna West levee system to increase the City's resilience to large-scale flooding events. The Laguna West levee system is accredited by FEMA as meeting 100-year storm event standards and provides protection to the Laguna West and Lakeside areas. However, the system would need to be raised an average of 3.5 feet to comply with the State 200-year flood protection standard and relieve new development of additional development obligations.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove (Public Works Department)

**Project Benefits (Losses Avoided):** Increase preparedness for large flood events.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund), Sacramento County Zone 11A fee (Drainage Impact Fee Program), and Grants (FEMA HMGP, PDM, BRIC, CA DWR)

**Timeline:** Within 5 years

**Project Priority (High, Medium, Low):** High

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***Action 9. Establish a Resilient Pedestrian and Bicycle Infrastructure Network***

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**Hazards Addressed:** Climate Change, Severe Weather: Extreme Heat

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Climate change is likely to result in changes in precipitation patterns and increases in extreme heat events. The current infrastructure network for pedestrians and cyclists is not sufficient to mitigate the impacts of climate change, in particular for extreme heat. Pedestrians and cyclists are particularly vulnerable during extreme heat and providing a network that is able to adapt to extreme heat would allow the network to continue to be utilized during heat events. The pedestrian and bicycle network could be used to assist in mitigating the impact of extreme heat through increasing tree canopy and high-albedo surfaces throughout the network.

**Project Description:** Incorporate projections of future extreme heat impacts into the design and development of pedestrian and bicycle infrastructure in the City. Identify opportunities to upgrade existing bicycle and pedestrian infrastructure to mitigate future extreme heat impacts and ensure comfort for users (e.g., tree canopy, high-albedo surfaces).

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Bicycle, Pedestrian, and Trails Master Plan, Design Standards and Protocols, Heat-Ready Mobility Plan

**Responsible Office/Partners:** City of Elk Grove (Community Development Department, Public Works Department, City Managers Department)

**Project Benefits (Losses Avoided):** Increase resilience of pedestrian and bicycle infrastructure, ensure continued ability to use pedestrian and bicycle infrastructure during heat events.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Active Transportation Fee, Local Transportation Funds, Measure A Transportation sales tax and mitigation fee, and Grants (FEMA HMGP, California Climate Investment Grants)

**Timeline:**

**Project Priority (High, Medium, Low):** Medium

***Action 10. Adopt an Ordinance for Post-Disaster Recovery and Reconstruction***

---

**Hazards Addressed:** Climate Change, Dam Failure, Earthquake, Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** A post-disaster recovery ordinance provides clear, consistent, and transparent policies for rebuilding after a disaster. It provides a legal framework for making recovery decisions before a disaster happens, eliminating the need to create these policies during a crisis. This leads to faster and fairer recovery efforts.

**Project Description:** A post-disaster recovery and reconstruction ordinance will help the City to plan and prepare for disaster recovery before a disaster happens. The ordinance will include provisions for establishing a post-disaster recovery task force that includes staff from across the organization and from partner organizations, expediting permitting and inspections, damage assessment procedures, temporary development and housing standards, debris management, and reconstruction and redevelopment policies.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Climate Action Plan, General Plan, Municipal Code update

**Responsible Office/Partners:** City of Elk Grove (Community Development Department, Public Works Department, Police Department)

**Project Benefits (Losses Avoided):** Speeds up recovery, minimizing long-term community stress and economic costs.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Staff Time, General Fund, Development Services funds, Disaster Recovery funds, Grant Funds (SB 2)

**Timeline:** 3 to 5 years

**Project Priority (High, Medium, Low):** Medium

***Action 11. Identify Locations for and Implement Large-Scale, Low-Maintenance Rain or Pollinator Gardens***

---

**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Rain gardens are a non-structural, low-maintenance hazard mitigation measure that are effective for mitigating flooding, stormwater pooling, soil erosion, and water quality degradation.

**Project Description:** Identifying additional locations throughout the city for large-scale, low-maintenance rain gardens will help to provide flood protection in different neighborhoods. Rain gardens capture and temporarily store stormwater, and can allow that water to infiltrate the soil, helping with groundwater recharge and reducing runoff into drainage systems, creeks and streams. New locations will be considered in vacant areas throughout the city and in new development areas.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Climate Action Plan, General Plan, Development Agreements, Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove (City Managers Department, Community Development Department, Public Works Department)

**Project Benefits (Losses Avoided):** Reduce localized flooding, decrease stormwater runoff, reduce pressure on stormwater infrastructure, protect critical infrastructure, enhance groundwater recharge, minimize soil erosion, improve water quality

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** General Fund, California Riparian Habitat Conservation Program, Riverine Stewardship Program, Statewide Park Development and Community Revitalization, Urban Greening Programs

**Timeline:** 1 year and ongoing

**Project Priority (High, Medium, Low):** Medium

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***Action 12. Reduce Exposure to Extreme Heat and Mitigate the Urban Heat Island Effect***

---

**Hazards Addressed:** Climate Change, Severe Weather: Extreme Heat

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Extreme heat is one of the deadliest weather-related hazards, leading to both high hospitalizations and emergency service needs. Addressing extreme heat reduces risks to public health, infrastructure, the economy, and the environment. Extreme heat is one of the primary climate change concerns in the Sacramento region.

**Project Description:** Heat mitigation projects will include a comprehensive approach to addressing the urban heat island effect and reducing exposure to extreme heat. Activities will include improvements to roadways, sidewalks, trails, transit stops, parking lots, playgrounds, parks, and other facilities in Elk Grove. Specific strategies could include installation of cool pavement treatments, cool roofs and cool walls, increased tree canopy and vegetation, artificial shading, and other newer technologies that may be

developed. The intent is to reduce localized extreme heat, improve public health, and reduce infrastructure degradation due to extreme heat.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Climate Action Plan, General Plan, Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove (City Managers Department, Community Development Department, Public Works Department)

**Project Benefits (Losses Avoided):** Reduce heat-related morbidity and mortality, protects vulnerable populations, reduces strain on emergency services and strain on energy system, enhances air quality and public health, improves infrastructure resilience

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** General Fund, Development Service Funds, Special Revenue Funds, Capital Project Funds, California Climate Investments

**Timeline:** 2 to 5 years

**Project Priority (High, Medium, Low):** High

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***Action 13. Expand the Urban Tree Canopy***

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**Hazards Addressed:** Climate Change, Drought & Water Shortage, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Rising temperatures and worsening air quality highlight the importance of a robust tree canopy. Trees offer natural cooling; improve air quality, capture carbon, manage stormwater; and create healthier outdoor environments.

**Project Description:** Tree canopy projects will include efforts to improve, expand, and maintain both the public and private trees in Elk Grove. Activities could include the development of an Urban Forestry Master Plan to sustainably manage and increase public trees, working with local organizations to increase the public and private tree canopy, and ordinances, standards, and regulations to improve private tree canopy.

**Other Alternatives:** No action.

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Climate Action Plan, General Plan, Capital Improvement Program, Development Agreements, Improvement Standards, Municipal Code updates

**Responsible Office/Partners:** City of Elk Grove (City Managers Department, Community Development Department, Public Works Department)

**Project Benefits (Losses Avoided):** Reduce flooding, minimize soil erosion, mitigate extreme heat, improve stormwater management, support drought resilience, improve air quality, protect water quality, provide wildlife habitat

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** General Fund, Development Service Funds, Tree Mitigation Fund

**Timeline:** 1 year and ongoing

**Project Priority (High, Medium, Low):** High

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***Action 14. Annual Storm Drain System Repair and Upgrade***

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**Hazards Addressed:** Floods: 1%/0.2% annual chance, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City maintains over 500 miles of storm drain pipes, constructed as early as the 1940s. As these assets reach the end of their useful life, they are more likely to have structural failures and can increase the risk of localized flooding, roadway damage, and disruptions to transportation and emergency access.

**Project Description:** This project will repair/upgrade failed components of the existing system as identified in the City's inspection program. Projects may include replacement of storm drain mains, drain inlets, manholes, flap gates, culverts, barscreens, etc.

**Other Alternatives:**

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove, Public Works Department

**Project Benefits (Losses Avoided):** Decrease probability of localized flooding

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fund (Drainage Funds), Grants (FEMA HMGP, CA DWR)

**Timeline:** 1 year and ongoing

**Project Priority (High, Medium, Low):** Medium

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***Action 15. Whitelock Parkway/State Route 99 Interchange Project (WTR009)***

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**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The existing transportation network in the southern portion of the City has limited roadway connectivity, creating potential bottlenecks and reducing evacuation route options during hazard events. Flooding, severe storms, roadway closures, utility disruptions, or other emergency incidents can limit access for residents, emergency responders, and critical services, increasing evacuation times and reducing overall community resilience. As climate change contributes to more frequent extreme weather events, including heavy rainfall, localized flooding, and extreme heat, a resilient and interconnected transportation network becomes increasingly important to support safe evacuation, emergency response, and post-disaster recovery. Expanding roadway connectivity will provide redundant transportation routes that reduce dependence on a limited number of arterial roadways and improve the City's ability to maintain mobility during emergency events.

**Project Description:** This project will construct a new interchange on State Route 99 with a bike/pedestrian crossing, realignment or modifications to East Stockton Boulevard, and widening of Whitelock Parkway (WTR009). Caltrans, in coordination with the City, have initiated the CEQA Environmental Review process and initial design. The City is targeting construction in 2030. In addition to the Interchange, Lotz Parkway will connect between Whitelock Parkway and Lodge Way, and Promenade Parkway will extend in the northwest direction to intersect with Poppy Ridge Road to accommodate the anticipated vehicle movements triggered by the interchange (WTR096).

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Southeast Policy Area (SEPA) Specific Plan, Elk Grove Roadway Fee Program

**Responsible Office/Partners:** City of Elk Grove Public Works Department, Caltrans.

**Project Benefits (Losses Avoided):** Increased flood protection for local residents. Decrease in property damage from insurance claims. Additional roadway/active transportation connections and pathways for travel during emergencies.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local Roadway Fee Program funds, potential state grants (Cal Trans), external agency reimbursement funds, and unidentified fund sources

**Timeline:** 3-4 years

**Project Priority (High, Medium, Low):** Medium

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***Action 16. Lotz and Promenade Parkway Project (WTR096)***

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**Hazards Addressed:** Dam Failure, Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The existing transportation network in the southern portion of the City has limited roadway connectivity, creating potential bottlenecks and reducing evacuation route options during hazard events. Flooding, severe storms, roadway closures, utility disruptions, or other emergency incidents can limit access for residents, emergency responders, and critical services, increasing evacuation times and reducing overall community resilience. As climate change contributes to more frequent extreme weather events, including heavy rainfall, localized flooding, and extreme heat, a resilient and interconnected transportation network becomes increasingly important to support safe evacuation, emergency response, and post-disaster recovery. Expanding roadway connectivity will provide redundant transportation routes that reduce dependence on a limited number of arterial roadways and improve the City's ability to maintain mobility during emergency events.

**Project Description:** The project will extend Lotz Parkway from Lodge Way to Whitelock Parkway and extend Promenade from north of the SMUD substation to Lotz Parkway. Work includes new roadway construction, drainage basins, storm drain facilities, utilities, bike & pedestrian facilities, traffic signals, and the abandonment of portions of West Stockton Blvd.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Southeast Policy Area (SEPA) Specific Plan, Elk Grove Roadway Fee Program

**Responsible Office/Partners:** City of Elk Grove (Community Development Department, Public Works Department), SMUD, SCWA

**Project Benefits (Losses Avoided):** Increased flood protection for local residents. Decrease in property damage from insurance claims. Additional roadway/active transportation connections and pathways for travel during emergencies.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local Roadway Fee Program funds, potential state grants (Cal Trans), external agency reimbursement funds, and unidentified fund sources

**Timeline:** 3-4 years

**Project Priority (High, Medium, Low):** Medium

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***Action 17. Laguna Creek Erosion Repairs Project***

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**Hazards Addressed:** Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** A section of the outer bank along Laguna Creek near Waterman Road has experienced progressive erosion due to high-flow events and ongoing damage from beaver burrowing. The combined effects of streambank erosion and burrow-induced instability have weakened the

integrity of the creek bank, increasing the risk of bank failure during future flood events. The erosion threatens floodways and is in close proximity to a critical Sacramento County public safety facility, where loss of bank stability could cause flooding and a risk to property and life and safety.

**Project Description:** Stabilize and restore the eroded section of Laguna Creek near Waterman Road through construction of permanent streambank protection measure.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program, Laguna Creek Restoration Management Plan

**Responsible Office/Partners:** City of Elk Grove Public Works Department

**Project Benefits (Losses Avoided):** Increased flood resiliency, reduce risk of property damage and life and safety

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund); Grants (FEMA HMGP, CA DWR)

**Timeline:** 3 year

**Project Priority (High, Medium, Low):** High

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**Action 18. Fish Hatchery Site Restoration**

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**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The former fish hatchery site is located adjacent to Laguna Creek has a failed culvert has diminished the site's ability to convey stormwater and flood flows, resulting in localized ponding, sediment accumulation, and poor water quality. As climate change increases the frequency and intensity of heavy precipitation events, these deficiencies may exacerbate localized flooding, reduce floodplain function, and limit the site's natural resilience during 1% annual chance flood events. Additionally, the site is currently underutilized and lacks infrastructure that supports public education and awareness regarding floodplain management, watershed stewardship, and climate adaptation.

**Project Description:** The project will restore the existing site to a more native condition with consideration for additional uses consistent the existing conservation easement by removal of non-native and invasive species, interpretive signage and provide pedestrian access. The project will also

include the nearby facility for the possibility of an education center. The project will also replace the failed culvert connecting the oxbow to Laguna Creek to improve hydraulic conductivity and stormwater quality. Environmental study and conceptual design are to be completed and advance to Project Design.

This project is located on the south side of Laguna Creek and west of Elk Grove-Florin Rd.

**Other Alternatives:** No Action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** City of Elk Grove's Laguna Creek Restoration Management Plan and California Department of Fish and Wildlife (CDFW)

**Responsible Office/Partners:** City of Elk Grove Public Works and Community Development Departments, CDFW

**Project Benefits (Losses Avoided):** Restore ecological function, enhance water quality, restore floodplain connectivity, and provide community access to natural open space and education center.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local Funding, California Riparian Habitat Conservation Program, Riverine Stewardship Program, Statewide Park Development and Community Revitalization, Urban Greening Program

**Timeline:** 3-5 years

**Project Priority (High, Medium, Low):** High

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***Action 19. Updating Drainage Improvement Standards and Adopt the updated County Hydrology***

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**Hazards Addressed:** Climate Change, Floods: 1%/0.2% annual chance, Floods: Localized Stormwater, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City's Drainage Improvement Standards have not undergone a comprehensive update since the incorporation of the City and no longer fully reflect current engineering practices, advances in hydrologic and hydraulic modeling, or the increasing impacts of climate change on stormwater infrastructure. Outdated improvement standards may result in inaccurate drainage system performance, increased flood risk, and infrastructure that is less resilient to future conditions. Additionally, Sacramento County is updating the regions hydrology standards. This update will be reflected in Improvement Standards.

**Project Description:** Update the City's Drainage Improvement Standards to incorporate current engineering practices, modern stormwater design criteria, and the latest regulatory requirements, including adoption of the updated Sacramento County Hydrology Standards.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Storm Drain Master Plan

**Responsible Office/Partners:** City of Elk Grove Public Works Department

**Project Benefits (Losses Avoided):** Increased flood resiliency

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund)

**Timeline:** 1 year

**Project Priority (High, Medium, Low):** High

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**Action 20.** *Laguna Creek Erosion Repairs Project*

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**Hazards Addressed:** Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City currently operates six rainfall and stream stage gages throughout its watershed and ten SmartCover monitoring devices at critical locations within the storm drain collection system. Gaps remain in monitoring coverage across key drainage facilities and flood-prone areas. Limited real-time data reduces the City's ability to accurately assess storm impacts, detect developing flood conditions, monitor the performance of critical infrastructure, and provide actionable information during major flood events. In addition, additional monitoring allows the City's to calibrate and validate hydrologic and hydraulic models, and to support future infrastructure planning and mitigation projects.

**Project Description:** Install additional rainfall and stream monitoring gages in creeks and channels in the City. Install additional SmartCovers at critical locations within the storm drain system.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program, Storm Drain Master Plan

**Responsible Office/Partners:** City of Elk Grove Public Works Department

**Project Benefits (Losses Avoided):** Increased flood resiliency, reduce risk of property damage and life and safety

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund); Grants (FEMA HMGP, CA DWR)

**Timeline:** 3 years

**Project Priority (High, Medium, Low):** Medium

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**Action 21.** *Install staff gauges at detention basins*

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**Hazards Addressed:** Floods: 1%/0.2% annual chance, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City owns and maintains over 45 stormwater detention and water quality basins that provide critical flood storage during storm events. However, these facilities lack permanent visual reference markers to easily identify sediment accumulation and water surface elevations. Without staff gauges, it is difficult to identify loss of storage capacity due to sedimentation and assess water levels during a storm.

**Project Description:** Install permanent visual staff gages at all City-owned and maintained stormwater detention and water quality basins to provide a standardized method for monitoring water surface elevations and sediment accumulation. The staff gages will serve as fixed reference points that enable City staff to quickly assess available storage capacity, identify changes in basin sediment levels over time, and document basin performance during routine inspections and storm events.

**Other Alternatives:**

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove, Public Works Department

**Project Benefits (Losses Avoided):** Decrease probability of localized flooding

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fund (Drainage Funds), Grants (FEMA HMGP, CA DWR)

**Timeline:** Within 5 years

**Project Priority (High, Medium, Low):** Medium

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***Action 22. Old Town Area Streetscape Phase 2***

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**Hazards Addressed:** Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City is constructing improvements on Elk Grove Boulevard to add drainage capacity along the roadway. These improvements will reduce the risk of localized flooding during heavy rain events. This area also has overhead utilities, which puts the area at risk of power and communication outages.

**Project Description:** The project will widen Elk Grove Boulevard to provide a two way left turn lane, two travel lanes, buffered bike lanes, drainage infrastructure, curb/gutter/sidewalk and frontage improvements. The project also includes utility undergrounding, and the installation of a traffic signal.

**Other Alternatives:**

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Capital Improvement Program

**Responsible Office/Partners:** City of Elk Grove, Public Works Department

**Project Benefits (Losses Avoided):** Decrease probability of localized flooding, increase utility resiliency,

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** The project is funded through a combination of local and federal grant (RSTP, SMAQ, CPFCDs) funding sources.

**Timeline:** 1.5 years

**Project Priority (High, Medium, Low):** Medium

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***Action 23. Drone for Storm Monitoring***

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**Hazards Addressed:** Dam Failure, Floods: 1%/0.2% annual chance, Levee Failure, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Drainage channels and flood-prone areas, as identified based on past storms and the storm drain master plan, can become inaccessible or unsafe for field personnel during high-flow conditions. This limits the City's ability to rapidly assess flood conditions, identify obstructions, and prioritize emergency response actions. In addition, inspections of drainage features for unauthorized modifications or obstructions are time-intensive and may cause flooding to other parts of the watershed. Adding to the City's ability to safely monitor flood conditions and drainage infrastructure is essential to improving emergency response, protecting public safety, and reducing flood risk.

**Project Description:** Purchase an unmanned aerial system (UAS), commonly known as drones, to enhance the City's flood monitoring, emergency response, and drainage infrastructure inspection capabilities. The drones will be equipped with high-resolution imaging technology to provide rapid aerial assessments of flood conditions, IP55 or higher weather resistance, and topographic survey capability. This project will also include purchase of relevant data processing software and FAA Part 107 drone pilot certification for City staff.

**Other Alternatives:** No action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Storm Drain Master Plan, City of Elk Grove Municipal Code Chapter 13

**Responsible Office/Partners:** City of Elk Grove Public Works Department

**Project Benefits (Losses Avoided):** Increased flood resiliency and response during a storm event. Mitigate flooding by identifying obstructions or changes to the waterway.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Storm Drainage Utility Fee (Drainage Fund), Grants (FEMA HMGP, CA DWR)

**Timeline:** Within 3 years

**Project Priority (High, Medium, Low):** Medium

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***Action 24. Develop an extreme weather outreach strategy***

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**Hazards Addressed:** Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** Provide on-going outreach during periods of extreme weather and during weather events that approach but do not meet the threshold for activating extreme weather protocols

**Project Description:** Develop a public outreach campaign informing community members of resources in the area during extreme weather events and weather events that don't meet extreme weather protocols.

**Other Alternatives:** No Action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Existing City platforms including social media sites and the city website

**Responsible Office/Partners:** City of Elk Grove (Public Affairs, Community Engagement) and Elk Grove PD (Emergency Preparedness)

**Project Benefits (Losses Avoided):** Increased community awareness related to resources available during extreme weather events or those events that approach thresholds will allow for better use of existing resources

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local budgets (General Fund, Measure E Funds) Grant Funding (EMPG), and Staff time

**Timeline:** Within 1 year and ongoing

**Project Priority (High, Medium, Low):** Low

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***Action 25. Update the City Emergency Operations Plan and provide training to city personnel***

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**Hazards Addressed:** Dam Failure, Earthquake, Floods: 1%/0.2% annual chance, Levee Failure, Wildfire (with smoke and air quality)

**Goals Addressed:** 1, 2, 3, 4, 5, 6, 7

**Issue/Background (Problem Statement):** The City of Elk Grove Emergency Operations Plan (EOP) has not been updated since 2019. The city has seen significant changes and expansion over the past 7 years. An updated plan allows for the incorporation of new city departments in the response and the coordination phase, and the updated plan will account for an increase in population and business expansion.

**Project Description:** City stakeholders will work with a consultant to update the city's current EOP including updated support and functional annexes. Once the base plan has been updated, city stakeholders will exercise the plan through training.

**Other Alternatives:** No Action

**Existing Planning Mechanism(s) through which Action Will be Implemented:** Not applicable

**Responsible Office/Partners:** City of Elk Grove (Emergency Preparedness, All Departments)

**Project Benefits (Losses Avoided):** An updated EOP acts as a reference for city stakeholders to follow during long-standing critical events. Having a reference guide and annexes will provide an efficient and more comprehensive response from city personnel.

**Potential Funding (Local Budgets, Grant Funds, etc. by specific type):** Local budgets (General Fund, Measure E Funds) and Staff time

**Timeline:** Within 1 year and ongoing

**Project Priority (High, Medium, Low):** Medium