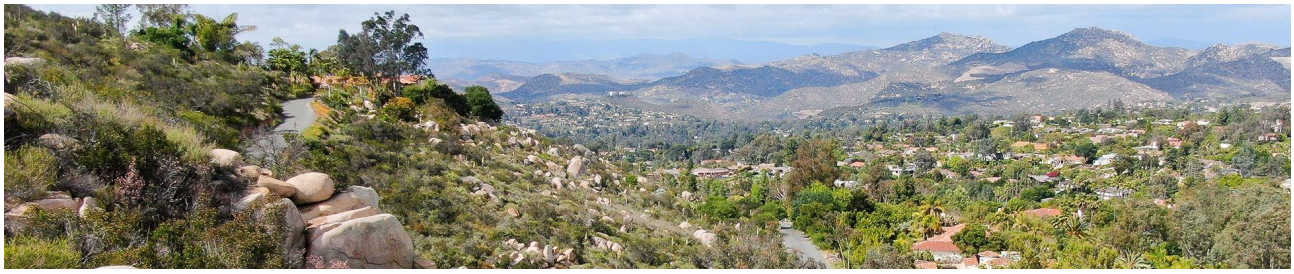
CITY OF POWAY



PUBLIC SAFETY ELEMENT

2026

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Chapter 1

Introduction

A. Purpose and Content of the Public Safety Element

The City of Poway provides for the protection of the public health, safety, and welfare of its residents and their property. The Public Safety Element, a state-mandated element of the General Plan, provides comprehensive policy guidance to mitigate risk and ensure quality public safety services. It addresses the needs of both the current and future population of Poway. The goal of the Public Safety Element is to reduce the potential risk of death, injuries, property damage, and substantial economic and social disruption resulting from fires, floods, droughts, earthquakes, landslides, climate, and other hazards affecting the City and its residents. By identifying and mitigating the risks of these hazards through actionable goals and policies, the City of Poway aims to protect public health, safety, and well-being throughout the community.

Central to the Public Safety Element is the identification and assessment of natural and human-caused hazards that could impact the community. This hazard assessment informs the goals and policies to mitigate risk. Additionally, the hazard assessment addresses climate adaptation, integrating measures to cope with the effects of drought and wildfire risk and climatic trends.

The provisions of the Public Safety Element are designed to work in coordination with existing emergency management and safety resources to provide a comprehensive approach to public safety. The Public Safety Element identifies current emergency management capabilities and improves the City of Poway's commitment to safety through proactive and comprehensive police, fire, building, and code enforcement services. These services encourage community outreach, maintain local agency partnerships, promote prevention, and enhance technical, logistical, and technological systems to prepare for and respond to public safety needs. As part of its coordinated framework with City emergency services, the Public Safety Element includes mandated evacuation planning to ensure resident safety during and after major hazard events.

No community can be fully protected against all potential natural and man-made hazards. Many hazards are difficult to predict or occur with little warning. The unpredictability of hazards can cause fear within the community due to the perceived danger they present; however, the City of Poway can be prepared for hazards and ensure the population is aware of hazard risks to minimize anxiety. By identifying risks and informing residents of safety goals and policies, the City of Poway fosters awareness of hazards and promotes public safety practices.

The City of Poway's General Plan, originally adopted in October 1983 as part of a broader Comprehensive Plan, serves as the long-range blueprint for guiding the City's physical, social, economic, and environmental development. The Comprehensive Plan initially included the General Plan, Zoning Development Code, and an Environmental Analysis Section, which together provided both policy direction and regulatory framework. A major update in 1991 refined the General Plan and replaced the Environmental Analysis Section with a Master Environmental Assessment (MEA), supported by a separate environmental impact report.

The General Plan is organized into six master elements—Community Development, Public Facilities, Transportation, Natural Resources, Public Safety, and Housing—with several elements further subdivided to address specific planning topics. The Public Safety Element, first adopted in 1983 and updated alongside the General Plan in 1991, outlines the City's approach to emergency services and hazard management. This document reflects the most current update to the Public Safety Element, continuing Poway's commitment to coordinated, comprehensive planning for community safety.

B. State Requirements

State planning law requires cities to identify hazardous conditions and to prepare and implement policies to increase public health and safety. This is mandated by Government Code 65302(g). Additionally, several state senate bills and assembly bills also govern the content and components of the Public Safety Element. Cities may choose to add additional topics to an Element beyond what is required.

The following state requirements are addressed within the Public Safety Element:

Table 1-1
State Requirements Summary

Required Public Safety Element components
GC 65302(g)(1) requires the identification of unreasonable risks and policies for the protection of the community from such risks.
GC 65302(g)(1) requires the review of slope instability leading to mudslides and landslides.
GC 65302(g)(1) requires the review of seismic risks including seismically induced service rupture, ground shaking, ground failure, tsunami, seiche, and dam failure, subsidence, liquefaction, and other seismic or geologic hazards. This includes the mapping of known seismic and other geologic hazards.
GC 65302(g)(1) requires the addressing of evacuation routes, military installations, peak load supply water requirements, and minimum road widths and clearances around structures.
GC 65302(g)(2) requires the review of flooding risks including identifying flood hazard zones, FEMA flood insurance maps, dam failure maps, areas subject to inundation, historic flood information, existing and planned development in flood hazard areas, and agencies with responsibility for flood protection.
GC 65302(g)(3) | *(Senate Bill 1241)* requires the review of wildland and urban fires including the identification of, and policies for, the protection of the community from any unreasonable risks associated with wildland and urban fires. This shall include the identification of Very High Fire Hazard Severity Zones, historical data on wildfires, existing and planned development within these areas, and agencies with responsibility for fire protection.
GC 65302(g)(4) | *(Senate Bill 1035 and Senate Bill 379)* requires the review of climate change, adaptation, and resilience including the creation of a vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction.

Required Public Safety Element components

GC 65302(g)(4) | (*Assembly Bill 2140*) authorizes local governments to adopt a Local Hazard Mitigation Plan or their jurisdictional annex of a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) with the General Plan Safety Element, through integration or incorporation by reference. The City is a participating jurisdiction of the San Diego County MJHMP and maintains the City of Poway Annex to comply with this requirement.

GC 65302(g)(5) – (g)(8) includes other considerations and requires that the Public Safety Element be updated upon each update to the Housing Element and upon each update to the Local Hazard Mitigation Plan.

GC 65302.15 | *(Senate Bill 99, Assembly Bill 747, Assembly Bill 1409)* requires the identification of evacuation locations and evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. Senate Bill 99 requires cities and counties to update the safety elements of their general plans to identify residential developments in hazard areas that lack at least two emergency evacuation routes.

GC 65302(f)(1) requires the identification and evaluation of noise problems in the community including noise from highways and freeways, primary arterials and major local streets, railroad operations and ground rapid transit systems, aviation facilities, industrial facilities, and other ground stationary noise sources.

GC 65302(f)(2) requires that noise contours be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average (Ldn).

GC 65302(f)(3) requires noise contours to be used as a guide for establishing a pattern of land use that minimizes the exposure of the community to excessive noise.

GC 65302(f)(4) requires that implementation measures and possible solutions for addressing excessive noise be developed.

C. Relationship with Other Resources

The Public Safety Element is part of a comprehensive approach to safety throughout the City of Poway. This approach includes existing planning documents, programs, and resources that address hazard mitigation, preparedness, response, and recovery. These resources include Multi-Jurisdictional Hazard Mitigation Plan (MJHMP)[1], Community Wildfire Protection Plan (CWPP)[2], City of Poway Emergency Operations Plan (EOP) (an internal city resource), County of San Diego Operational Area Emergency Operations Plan (EOP)[3], and evacuation planning measures.

[1] "Multi-Jurisdictional Hazard Mitigation Plan." County of San Diego, 2023, www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_mitplan.html.
[2] "Community Wildfire Protection Plan." County of San Diego, 2019, https://firesafesdcounty.org/wp-content/uploads/2023/09/CA_SanDiego_CNTY_2019.pdf.
[3] "San Diego County Emergency Operations Plan." Www.sandiegocounty.gov, www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_oparea.html.

1. General Plan Elements

The remaining General Plan Elements, Public Facilities, Community Development, Transportation, Natural Resources, and Housing, are all interconnected with the Public Safety Element, as outlined:

The Public Facilities Element outlines plans and policies for the development, maintenance, and improvement of public infrastructure and services within the City, including government buildings, education facilities, parks and recreation facilities, and public utilities. These facilities can both serve essential safety functions and must be resilient to known hazards. By integrating the Public Facilities and Public Safety Elements, the City ensures a coordinated approach to disaster management and development that enhances both safety and infrastructure resilience.

The Community Development Element, which outlines land use and community design standards, must incorporate safety measures in development regulations to mitigate hazards as identified in the Public Safety Element. This ensures that existing and future development within the City is not only sustainable and well-designed but also safe and resilient against the various hazards identified in the Public Safety Element.

The Transportation Element sets goals, policies, and strategies for the safe and efficient use of current transportation facilities and the development of new ones. It assesses existing conditions and plans improvements for roadways, public transit, scenic routes, bikeways, pedestrian paths, and trails. Coordinated transportation and safety planning enhance emergency response capabilities by ensuring safe and efficient evacuation routes and access for emergency services. Together, the Transportation and Public Safety Elements work to provide a safe and well-coordinated community.

The Natural Resources Element focuses on conserving and managing essential resources like land, water, air quality, biological resources, and open space. It establishes policies and strategies for sustainable development. The Public Safety Element complements this by mitigating risks from hazards. Effective resource management supports safety by reducing vulnerabilities to hazards, ensuring a resilient and sustainable community.

The Housing Element addresses the community's housing needs by setting goals and strategies for developing diverse and affordable housing. It is closely related to the Public Safety Element, which mitigates the risks from hazards to housing developments and the population. Together, they ensure housing developments are safely located, designed to withstand disasters, and include provisions for emergency preparedness and resilient infrastructure, fostering a safe and stable community. State law requires that the Public Safety Element be updated in coordination with the Housing Element update. This guarantees that both elements are coordinated and address present and future risks, including those associated with natural hazards and climate change. The City of Poway Housing Element was updated in 2024, triggering the requirement to update the Public Safety Element.

State law mandates consistency among the Elements of the General Plan. Goals and policies within the Public Safety Element should be interpreted and implemented in alignment with the goals and policies of other General Plan elements. To ensure this consistency, a thorough analysis of the entire document was conducted. The City will continue to ensure that the Public Safety Element remains consistent with other General Plan elements, so that policies introduced in one element are consistent with those in others.

2. Hazard Mitigation Plan

The City of Poway is a participating jurisdiction of the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The Public Safety Element contains hazard mitigation and risk reduction strategies in coordination with the MJHMP. The City has adopted the MJHMP and specifically, the City of Poway Annex to the MJHMP[4]. The MJHMP serves as both a countywide plan and as a local plan to identify the primary hazards threatening the City and mitigation efforts to reduce the risk and/or impact associated with each hazard. The MJHMP enhances public awareness of hazards, creates a decision tool for the City, enhances local policies for hazard mitigation, and provides inter-jurisdictional coordination for hazard mitigation.

The San Diego County MJHMP and City of Poway Annex were developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's Local Hazard Mitigation Plan guidance. The MJHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short and long-term strategies, involves planning, policy changes, programs, projects, and other activities. The MJHMP is fully integrated into the Public Safety Element.

3. Community Wildfire Protection Plan

The Community Wildfire Protection Plan (CWPP) is developed in coordination with the Poway Fire Department by the Poway Fire Safe Council. The CWPP is a blueprint for wildfire preparedness at the neighborhood level to provide a cohesive risk reduction strategy which includes educating homeowners and businesses, ensuring defensible space and structure hardening, safeguarding communities through vegetative fuel management, and protecting evacuation corridors. The process of developing a CWPP can help the City of Poway identify priorities for the protection of life, property, and critical infrastructure in the identified Very High Fire Hazard Severity Zone (VHFHSZ).

4. Emergency Operations Plan

The City of Poway maintains an internal Emergency Operations Plan (EOP) which establishes the City's emergency management organization and provides for a coordinated, effective response to ensure the protection of life, property, and the environment. The Poway EOP is based on the County of San Diego Operational Area EOP. The City's EOP complements the Public Safety Element by ensuring that emergency response measures are integrated with broader safety objectives, enhancing the City's ability to manage and mitigate risks effectively and coordinate with neighboring jurisdictions and the County of San Diego.

[4] "Multi-Jurisdictional Hazard Mitigation Plan: City of Poway Annex." County of San Diego, 2023, https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/HazMit/2023/2023%20City%20of%20Poway%20Haz%20Mit%20Annex_Final.pdf.

5. Evacuation Routes

Evacuation planning is a dynamic process subject to the complexities presented by each disaster as it unfolds. The lead agency for evacuations is the San Diego Sheriff's Department through their contract for law enforcement; all evacuation decisions are made jointly with input from both fire and law enforcement personnel. The San Diego County EOP, Annex Q: Evacuation[5] establishes a standard operating procedure for the effective evacuation of residents affected by a hazard event.

6. Public Outreach and Education

Empowering community members to prepare for hazards and take action during an emergency is a key element of emergency management. The Disaster Preparedness Coordinator has the primary responsibility for providing emergency preparedness and hazard mitigation information to the community with the support of the City of Poway Community Outreach Coordinator, the Poway Fire Prevention Division, and other public safety related organizations.

The City of Poway's website, poway.org, and social media accounts contain emergency preparedness resources for residents and businesses. The Poway Fire Department participates in community outreach and education events to increase engagement and awareness.

D. Concept of Risk

A hazard, natural or man-made, is the existence of specific conditions with the potential to cause harm. Risk is the likelihood of harm taking place over some span of time. Because risk is a function of chance, there is an inherent degree of uncertainty in using risk as a basis for land use planning. However, when a hazard has been identified, policy decisions and programs incorporating or avoiding the risk may be developed. Risk-reduction measures can be implemented, and risk can become a framework for land use decision-making.

The basic objective of identifying hazards and evaluating risk is to reduce the loss of life and property damage to an "acceptable" level. It is not possible or completely practical to eliminate all risk to life or property. The Council of Intergovernmental Relations defines acceptable risk as "the level of risk below which no specific action by local government is deemed to be necessary other than making the risk known."

Every hazard has an associated element of risk. This risk has two aspects, the chance that the hazard will occur and that the mitigation efforts will be sufficient to reduce the impact of the hazard to a predetermined acceptable level.

[5] "San Diego County Emergency Operations Plan: Annex Q Evacuations." Www.sandiegocounty.gov, https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/plans/op-area-plan/2022/EOP2022_Annex%20Q.pdf.

E. Scope and Organization

1. Safety Element Scope Area

The provisions of this Public Safety Element apply to the entire City of Poway, constituting the scope or planning area of this element. The City of Poway covers 39.4 square-miles and is centrally located in western San Diego County. The City is bordered by the City of Escondido to the north, the City of San Diego to the south and west, and unincorporated areas of San Diego County. The City is located approximately 10 miles inland from the Pacific Ocean and is characterized by broad mesas, canyons, and valleys. Notable topographic features within the City include Twin Peaks, Poway Creek, and Lake Poway, which contribute to its scenic landscape and outdoor recreational opportunities. Development within the City of Poway is primarily distributed throughout the central and western areas of the City amongst the canyons and valleys. Development in these areas are characterized by rural residential and single-family residential land uses with interspersed commercial, public facility and planned community land uses. The foothills and mountainous areas in the north and eastern areas of the City are primarily open space and rural residential land uses. Custom estate housing has emerged as a prominent trend in rural residential and single-family residential land uses throughout the City, reflecting a growing demand for personalized, high-quality residences that offer expansive lots, architectural distinction, and tailored amenities to suit individual lifestyles. Land uses in the southern portion of the City primarily include industrial, commercial and open space uses. The regional location and topographic make-up of the City expose Poway to the various natural and man-made hazards identified in this Public Safety Element including fires, floods, droughts, earthquakes, and landslides. Additionally, climate hazards have the potential to exacerbate many of these hazards.

2. Organization

This Public Safety Element relies on an analysis of existing conditions and potential natural and man-made hazards. Additionally, this analysis includes the various capacities of the City to mitigate or respond to these hazards. The analysis of hazards and capacities for mitigation and emergency response guides the goals, policies, and strategies of the Public Safety Element. Each identified topic covered throughout this document includes the following information:

- A background of existing conditions or capacities for mitigation/response
- A discussion of various topical hazard risks
- A list of goals, policies, and strategies that mitigate hazard risk or improve resilience

The following sections present this analysis in detail, along with the corresponding policy framework that guides the City of Poway's public safety planning efforts.

Chapter 2

Law Enforcement Services

A. Background

The City of Poway receives its Law Enforcement Services through a contractual agreement with the San Diego County Sheriff's Department. A single Sheriff station is centrally located near other community resources including the Poway library, Poway Community Park, and City Hall. Deputies operate under a unified command structure, allowing any deputy to respond to any situation within the City.

The Poway Sheriff's Station provides patrol, traffic, investigation, crime analysis, gang and narcotics enforcement, and crime prevention services. Ancillary services provided to the City include juvenile intervention, financial crimes, homicide, communication, information technology support, licensing, criminal intelligence and clerical support. Additional regional services provided by the Sheriff's Department include Sheriff's Bomb/Arson, Aerial Support to Regional Enforcement Agencies (ASTREA), Crime Laboratory, Property and Evidence, Search and Rescue, and the Special Enforcement Detail (SED).

The mission of the Sheriff's Department is to provide the highest quality public safety service to everyone in San Diego County. The City of Poway continues to have one of the lowest crime rates within the County of San Diego and the State of California.

B. Crime Prevention

Deputies serving the City of Poway engage in a number of crime prevention activities to help suppress criminal incidents in the community and address quality of life issues.

1. Community Oriented Policing and Quality of Life Issues

All patrol deputies are trained to implement Community Oriented Policing and address Quality of Life issues which requires regular interaction with neighborhood residents. Each patrol deputy is assigned to a geographical area allowing deputies to become familiar with the residents of their neighborhood and allowing for participation in Neighborhood Watch meetings and other educational events. This type of proactive law enforcement is essential for suppressing drug activity, vandalism, burglaries and gang development within the community.

Neighborhood Watch programs began in the City of Poway in 1987 and have been successfully instituted in many neighborhoods. Similar Business Watch programs have also been started by local merchants for the protection of commercial and industrial properties. Residents who are interested in creating a Neighborhood Watch program in their neighborhood or, are curious if one currently exists in their neighborhood, are encouraged to contact the Crime Prevention Specialist at the Poway Patrol Station.

Crime Prevention Specialists provide specific educational services to businesses, schools, senior citizens groups, religious institutions, youth organizations, and civic groups. These programs include residential and commercial security techniques, internet safety, vehicle theft prevention, robbery prevention, and keeping illegal activity out of rental property, among others.

2. Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) is recognized as an effective planning tool to help minimize or deter criminal activity. CPTED consists of four complementary strategies: natural surveillance, access control, maintenance, and territorial reinforcement which encourages owners of private spaces to exercise control over their area. CPTED does not eliminate crime within a neighborhood, but it can dramatically reduce the likelihood of theft and other crimes.

It is the open interaction, participation and communication between citizens and law enforcement personnel that has led to maintaining low levels of crime in the City of Poway. The City should continue to encourage and support community programs which open the lines of communication on a regular basis, and which act as a mechanism to enhance neighborhood cohesiveness. In addition to these efforts, the San Diego County Sheriff's Department offers CPTED evaluations and guidance to residents and businesses. Through its Crime Prevention Unit, trained specialists provide tailored strategies to improve safety, reduce opportunities for crime, and enhance quality of life.

C. Law Enforcement and Land Use

Employing crime-preventive measures through land use or building design offers an opportunity to improve safety. One of the purposes of this Public Safety Element is to formally describe the importance of integrating crime-preventive design measures and clearly illustrate the function of this concept as part of the General Plan and development process.

Examples of recommended crime-preventive features for residential design include:

- Use of solid doors without glazing or with the glazed area being less than three inches wide to prevent breakage of the door windows in order to reach the door lock.
- Windows should be located a sufficient distance from the door to prevent breakage of the glass and opening of the door from within.
- Standard exterior doors should be fitted with dead bolt locks with a minimum bolt length of one inch.
- Sliding glass windows should be secured with pointed thumb-turn locks, along with anti-lift screws or clips on both sides of the top track of the sliding section of glass.
- Buildings and their entries should be positioned to promote the feeling that the streets are an extension of the residents' territory.
- Landscaping, especially around windows, should be kept below window ledge level to prevent some from hiding while viewing or tampering with a window. Security plants with prickly leaves or thorns can be planted near windows to discourage access through windows. Tree canopies should be pruned from the ground up, creating a canopy of no lower than six feet from the ground.

- Open space or recreation areas should be centrally located so that they are visible from nearby homes.
- House numbers should be four inches in height on a contrasting background. They should be located on the house and on the curb or at the entrance to the driveway of each home. Landscaping should never obscure, either totally or partially, the numbers and should always be kept in repair so they are legible. It is important to keep the numbers illuminated at night. Multi-family units should have three-foot numerals painted on each roof for easy identification by aerial support.
- Exterior lighting should be strategically placed to illuminate entryways, pathways, driveways, and other access points. Motion-activated or dusk-to-dawn lighting can deter criminal activity by increasing visibility and reducing hiding places. Light fixtures should be maintained to ensure consistent operation and avoid creating dark zones around the property.

Examples of recommended crime-preventive features for commercial design include:

- The number of entrances and exits to commercial buildings should be kept to a minimum, be well lit and be visible to the public and deputy patrols.
- Walkways should be situated to generate enough traffic to provide a deterrent by virtue of the number of people using the path at all times.
- Avoid landscaping that might create blind spots or hiding places.
- Adequate lighting should be provided along all streets, in parking lots, in landscape areas and around interior areas.
- Parking stalls should be laid out to permit maximum observation by patrol deputies, the public and parking lot attendants.

  Business parks, places of worship and schools should have three-foot numerals painted on each roof for easy identification by aerial support.

Chapter 3
Evacuation Planning

A. Background

Effective evacuation planning is an essential component of public safety and community resilience. In compliance with Government Code 65302(g), the Public Safety Element must address evacuation routes and related considerations to support safe, orderly and timely evacuation of residents during emergencies. Evacuation planning is a dynamic process subject to the complexities presented by each disaster. In the event of a significant emergency, designated routes and evacuation procedures are essential to facilitate the safe evacuation of community members and the movement of emergency responders and supplies. The lead agency for evacuations is the San Diego Sheriff's Department through their contract for law enforcement; all evacuation decisions are made jointly with input from both fire and law enforcement personnel.

The San Diego County EOP, Annex Q: Evacuation[6], which can also be accessed here, outlines procedures, coordination protocols, and logistical strategies for a wide range of emergency scenarios throughout the County, including wildfire, dam failure, flood, earthquake, tsunami and terrorism. Additionally, the EOP provides detailed operational guidance including considerations for vulnerable populations, public communication, and training resources. Chapter 3 of the Public Safety Element references evacuation-related elements of the EOP as they pertain to the City of Poway. Although evacuation planning applies to multiple hazard scenarios, the Public Safety Element places a focused emphasis on evacuation planning related to wildfire hazards, as these represent the most likely scenarios requiring city-wide evacuation. This emphasis includes planning for the designated Very High Fire Hazard Severity Zone (VHFHSZ), where limited access, topographic constraints, and proximity to wildlands pose elevated risks.

This chapter summarizes the following key aspects of evacuation planning within the City of Poway:

- Identification of primary evacuation corridors, including potential capacity constraints;
- Evaluation of neighborhood ingress and egress, with attention to evacuation bottlenecks and emergency vehicle access;
- Minimum standards for evacuation and emergency access in residential areas, including roadway design, signage, and defensible space requirements;
- Considerations for at-risk populations, including those with limited mobility or access to transportation

Together, these components establish a foundational policy framework to support safe evacuation during wildfire and other emergency scenarios, with a focus on protecting residents in the most fire-prone areas of the City of Poway.

[6] "San Diego County Emergency Operations Plan: Annex Q Evacuations." Www.sandiegocounty.gov, https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/plans/op-area-plan/2022/EOP2022_Annex%20Q.pdf.

Primary Evacuation Corridors

To support effective emergency response and large-scale evacuations, the City of Poway has identified a network of primary evacuation corridors that serve as the backbone for a city-wide evacuation strategy. These designated evacuation corridors are the most reliable roadway facilities based on their regional connectivity, roadway capacity, and accessibility under emergency conditions. The primary evacuation corridors identified are Espola Road from its intersection with Poway Road to Rancho Bernardo Road, Twin Peaks Road, Poway Road, Scripps Poway Parkway, and Pomerado Road. Refer to **Figure 3-1** for identified evacuation routes.

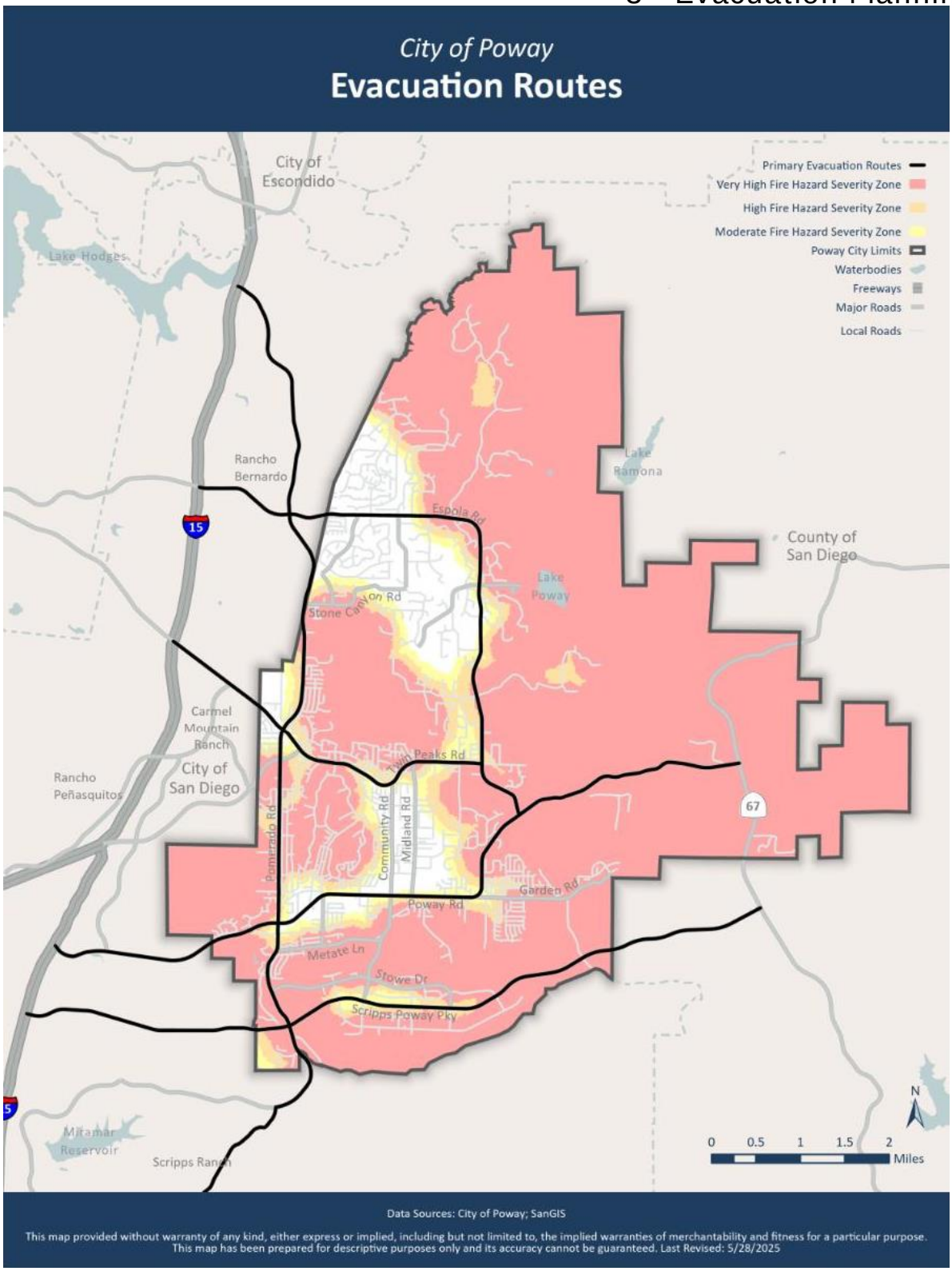
These corridors have been designated in coordination with the San Diego Sheriff's Office (SDSO), Caltrans, California Highway Patrol (CHP), and other supporting agencies as part of Annex Q of the San Diego County EOP. The selection of these routes considers various operational and physical criteria, including:

- Proximity to residential population centers;
- Shortest and most direct evacuation routes;
- Maximum roadway capacity and potential for improved traffic flow through active traffic control strategies;
- Availability of real-time communication infrastructure, such as changeable message signs and traffic monitoring;
- Minimization of bottlenecks and hazard-prone infrastructure (bridges, tunnels, and lane reductions);
- Historical use and observed performance during prior emergency events.

Evacuation routes assessments are planning-level exercises, as required by Government Code 65302(g) and Assembly Bill 747 (2019). This assessment is determined based on assumed conditions rather than dynamic or event-specific models; however, traffic conditions along evacuation routes are monitored in real-time during emergencies. Operational adjustments such as directing traffic to alternate evacuation corridors are implemented as conditions evolve. Tools such as traffic control points, law enforcement coordination, and public communication systems are employed to maximize evacuation efficiency and safety.

It is acknowledged that traffic congestion on major corridors may present constraints during evacuation. Annex Q of the San Diego County EOP identified areas of Interstate 15 near the City of Poway among the most congested segments of highways during the morning and evening commutes. Primary evacuation corridors serve both local and regional needs and may be impacted by evacuations of adjacent jurisdictions. Thus, regional coordination and advanced public education serve as essential tools in ensuring effective evacuation, particularly where infrastructure constraints limit additional routes.

B.


City of Poway
Evacuation Routes
Primary Evacuation Routes
Very High Fire Hazard Severity Zone
High Fire Hazard Severity Zone
Moderate Fire Hazard Severity Zone
Poway City Limits
Waterbodies
Freeways
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Stone Canyon Rd
Carmel Mountain Ranch
Rancho Peñasquitos
City of San Diego
Twin Peaks Rd
Pomerado Rd
Community Rd
Midland Rd
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Garden Rd
Poway Rd
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Stowe Dr
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This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 5/28/2025

Figure 3-1

C. Neighborhood Ingress and Egress

Ensuring adequate neighborhood ingress and egress is critical for maintaining public safety during wildfire and other hazard events that may require evacuation. State law requires local jurisdictions to evaluate whether neighborhoods, particularly those in the VHFHSZ, have sufficient access for both resident evacuation and emergency access. Specifically, Government Code 65302(g) and Senate Bill 99 (2019) require that cities identify neighborhoods in hazard areas that do not have at least two emergency evacuation routes.

Additionally, Title 14, California Code of Regulations (CCR), Division 1.5, Chapter 7, Subchapter 2, Articles 2 and 3, govern minimum road widths, grade, surface conditions, and access for emergency vehicles in areas where the local government is responsible for wildfire protection and emergency response. These regulations emphasize the need for all-weather access, minimum turnarounds, and unobstructed roadways to ensure safe evacuation and emergency access. Neighborhoods that do not have at least two emergency evacuation routes, and areas that do not meet minimum road standards may experience delays in the event of an evacuation, which underscores the need for careful evacuation planning and efficient alerting of wildfire.

The word Poway, generally translated as “the meeting of the little valleys”, has a dynamic geography that brings together varying residential communities, agricultural properties and ranches. The varying terrain includes valleys, canyons, knolls and large open space areas that have created some residential areas with limited access. Residential areas with limited access include neighborhoods branching from Valle Verde Road, Old Coach Road, High Valley Road, Garden Road, and the westernmost residences of Del Poniente Road. Refer to **Figure 3-2** for areas identified as having Limited Access Roads.

While residents are encouraged to know two ways out of their neighborhood, this may not always be possible in areas with limited access. Recognizing that the addition of new evacuation routes in established neighborhoods may be limited by various constraints, the City will prioritize evacuation planning in areas with limited access in terms of roadway standards including road widths, surfaces, grades, radii, turnarounds, turnouts, driveways, dead end roads, and gate entrances.

1. Minimum Standards for Evacuation and Emergency Access

As noted above, the State of California has established minimum fire safety standards through Title 14 of the CCR, Division 1.5, Chapter 7, Subchapter 2. These regulations apply to Local Responsibility Areas (LRAs) in the designated VHFHSZ and serve as the baseline for evaluating new development and assessing existing neighborhoods in hazard zones. This Public Safety Element incorporates the following key provisions:

Article 2 – Emergency Access

This article defines the minimum design standards for roads intended to provide emergency access to new development. Some requirements may include:

- A minimum unobstructed roadway width of 20 feet, excluding shoulders, to allow simultaneous ingress and egress of emergency vehicles and evacuees;
- Vertical clearances of 13 feet, six inches (13’ 6”);
- All-weather surface conditions capable of supporting the weight of fire apparatus;
- Roadway grades not to exceed 16 percent, with turnarounds and turnouts required where appropriate;
- Limitations of dead-end roads, with maximum allowable lengths depending on the number of dwelling units served and topographic conditions.

Article 3 – Signing and Building Numbering

This article ensures that roads and structures are clearly identified to facilitate timely emergency response. Key requirements include:

- Posting of road names at intersections and at intervals along roadways;
- Address numbers for buildings that are visible from the roadway and made of non-combustible, contrasting materials;
- Signage that remains legible in smoky or low-visibility conditions.

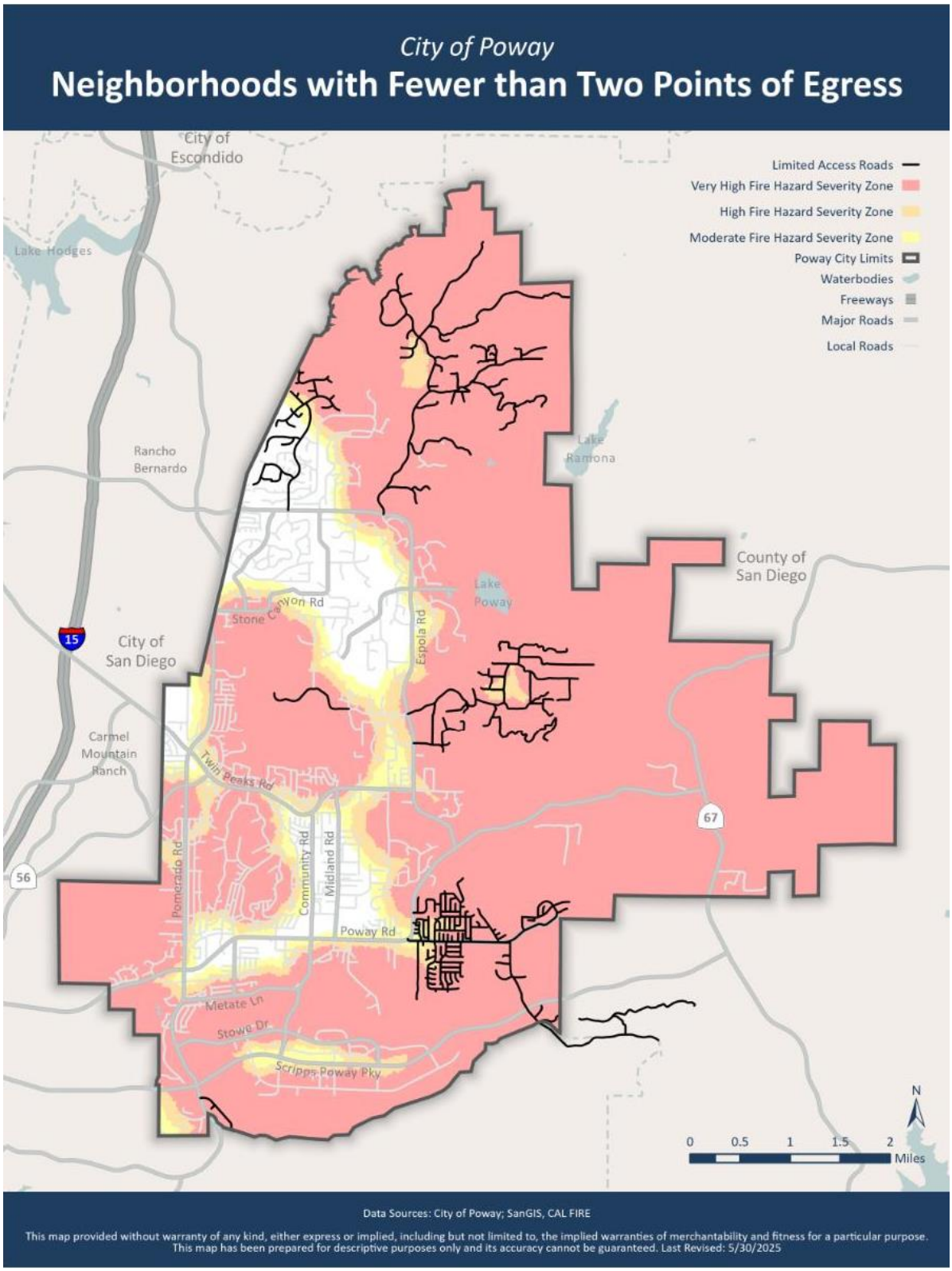
Together these regulations form the state’s baseline expectations for safe roadway design in fire hazard zones. These requirements apply primarily to new development. In addition, this Safety Element provides a program for planning and prioritizing brining existing neighborhoods with limited access into compliance with these standards, particularly areas within the VHFHSZ. Additional mitigation measures will continue to be evaluated for use in neighborhoods with limited access including the creation or improvement of fire roads, access through secured gates, increased requirements for defensible space, assistance with structural hardening, or vegetative fuel management projects. These strategies, along with public education and strategic planning, support the goals of the City of Poway to enhance safety and emergency response for all residents.

D. At-Risk Populations

Effective evacuation planning should consider at-risk individuals who may face additional challenges during emergencies. This includes people with disabilities, such as mobility, sensory, cognitive, or mental health conditions. Additionally, older adults, individuals with chronic illnesses, persons with limited English proficiency, and lower-income residents may need additional support to evacuate safely. These individuals may require accessible transportation, medical equipment, caregiver assistance, or clear, multi-format communication during an evacuation. Recognizing these needs, the San Diego Sheriff’s Department coordinates with other relevant agencies and emergency responders to improve preparedness and response efforts for at-risk populations.

Detailed procedures for identifying and assisting at-risk individuals are included in Annex Q of the San Diego County EOP and outlines responder training and communication strategies to ensure inclusive evacuation operations. The City remains committed to reducing evacuation barriers and ensuring that all residents, regardless of ability or circumstance, are protected during emergencies.

Figure 3-2


City of Poway
Neighborhoods with Fewer than Two Points of Egress
City of Escondido
Lake Hodges
Rancho Bernardo
Lake Ramona
County of San Diego
Lake Poway
Stone Canyon Rd
Espola Rd
City of San Diego
15
Carmel Mountain Ranch
Twin Peaks Rd
67
56
Pomerado Rd
Community Rd
Midland Rd
Poway Rd
Metate Ln
Stowe Dr
Scripps Poway Pky
Limited Access Roads
Very High Fire Hazard Severity Zone
High Fire Hazard Severity Zone
Moderate Fire Hazard Severity Zone
Poway City Limits
Waterbodies
Freeways
Major Roads
Local Roads
N
0 0.5 1 1.5 2
Miles
Data Sources: City of Poway; SanGIS, CAL FIRE
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This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 5/30/2025

Chapter 4
Fire Hazards

A. Background

Fire protection and suppression services are provided to the community by the Poway Fire Department. The mission of the Fire Department is to reduce the loss of life and property from fire, medical, and environmental emergencies through education, hazard reduction, and response.

The Fire Department maintains a robust fire safety and training program that includes three fire stations, two classrooms, and a fire training tower to support manipulative training and professional development for first responders and staff. The Fire Department operates through five functional divisions: fire administration, fire suppression, emergency medical services, fire prevention, and disaster preparedness.

At the time the Public Safety Element was written, the City of Poway Fire Department consists of 58 employees including 51 firefighters who staff four fire apparatus and two ambulances daily. All firefighters are trained in advanced life support and certified in defibrillation. Most emergency responses in the City of Poway are medical emergencies, traffic accidents, and wildland fires. Details on the Poway Fire Department deployment are available in **Table 4-1**.

As fire and rescue facilities and equipment continue to age, new investments should be considered to support changing growth patterns and to maintain levels of service to ensure public safety. The need for additional or expanded fire stations will be evaluated through community plan updates and amendments as needed. As growth occurs, the City of Poway will assess the need for new or expanded fire protection facilities to maintain acceptable levels of service. The siting of new development will be coordinated with fire service capabilities, and response time standards will guide the placement of additional facilities where needed. Development impact fees from new construction help fund necessary fire infrastructure and equipment to support service demands associated with growth.

While the City does not currently operate an active Volunteer or Reserve Firefighter Program, such program has been used in the past and may be reconsidered in the future. The Community Emergency Response Team (CERT) supports city-wide emergency preparedness efforts through education, communication, and community outreach, and provides auxiliary support to first responders.

Table 4-1

Fire Station #1 *13050 Community Road*		
		
Personnel	Five firefighting personnel	One Battalion Chief
Equipment		
B91 Chevrolet Suburban	Battalion Chief vehicle staffed with one Fire Battalion Chief. Capable of managing incident command systems and various emergency incidents. 	
E91 Type I Engine ALS	Fire engine staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 500 gallons of water, fire hose, medical equipment and tools.	
BR91 Type III Engine	Wildland fire engine cross-staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 600 gallons of water, wildland fire hose, tools and has 4x4 off road capabilities.	
M91 Medic Ambulance ALS	Ambulance staffed with two Firefighter Paramedics. Capable of providing advanced life support. Equipped with firefighting gear for fire response.	
WT91 Type I Water Tender	Water Tender may be up staffed with one Fire Engineer and holds 3,000 gallons of water. Also carries a small amount of hose, nozzles, and fittings. 	

Fire Station #2 *16912 Westling Court*	
	
Personnel	Three firefighting personnel
Equipment	
E92 Type I Engine ALS	Fire engine staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 500 gallons of water, fire hose, medical equipment, and tools. 
BR92 Type III Engine	Wildland fire engine cross-staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 600 gallons of water, wildland fire hose, tools and has 4x4 off road capabilities. 
OES 421	California Office of Emergency Services Type I fire engine to be up-staffed for regional response with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 800 gallons of water, fire hose, rescue equipment, medical equipment, and tools.

Fire Station #3
14322 Pomerado Road

Personnel	Eight firefighting personnel
Equipment	
T93 Aerial Ladder Truck ALS	Fire truck staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Is equipped with a 107ft aerial ladder and holds extrication tools and other specialized equipment. 
E93 Type I Engine ALS	Fire engine staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 500 gallons of water, fire hose, medical equipment and tools.
BR93 Type III Engine	Wildland fire engine cross-staffed with one Fire Captain, one Fire Engineer and one Firefighter, all paramedics. Holds 600 gallons of water, wildland fire hose, tools and has 4x4 off road capabilities.
M93 Medic Ambulance ALS	Ambulance staffed with two Firefighter Paramedics. Capable of providing advanced life support and basic life support. Equipped with firefighting gear for fire response. 

Training Tower
12335 Crosthwaite Circle

Description	The City of Poway Fire Training Tower and drill area surrounding the tower occupies just over one-acre. The five-story fire training tower consists of the latest systems creating “hands-on” training scenarios for Poway firefighters.

Features

- Five stories of varying floor plans with interior and exterior stairways
- Specialized burn room for “live fires”
- Rooftop ventilation prop
- Below-ground cistern with 65,000 gallons of water supplying on-site fire hydrants
- Water collection system with ozone filtration and treatment
- Fire sprinkler system and standpipe system with fire department connections
- A “safe smoke” delivery system with red lighting to simulate “safe” fire scenarios
- Multiple anchor points throughout for technical rope rescue training
- Prop area for specialized training
- Fire equipment storage room
- Large drill ground area for hose and ladder evolution

Interagency Coordination and Mutual and Automatic Aid

The Poway Fire Department collaborates with other neighboring cities and fire district departments including, the San Diego County Fire Protection District, Lakeside Fire Protection District, CAL FIRE, and San Diego Fire Rescue to provide structural and vegetation fire suppression, confined space rescue, open space rescue, high angle rescue, response to hazardous material incidents, mass casualty incidents, and incidents involving terrorism and weapons of mass destruction.

The City of Poway's service capacities are augmented by maintaining automatic aid agreements with surrounding jurisdictions as well as participating in the California State Fire & Rescue Mutual Aid System and FEMA's Urban Area Search & Rescue. Automatic aid is facilitated by the Regional Communication Interoperability Project (RCIP) which allows for the dispatch of the closest, most appropriate fire apparatus to an emergency, regardless of jurisdiction. All fire dispatch centers utilize automatic vehicle locators to determine the closest fire or emergency medical services resource to the emergency.

The Poway Fire Department is a member of the Metro Zone of the San Diego County Operational Area and partners with fire departments from San Diego City, MCAS Miramar, City of Chula Vista, National City, City of Coronado, City of Imperial Beach, and U.S. Navy Federal. Poway also participates in the California Master Mutual Aid Plan to assist agencies throughout the state with major emergencies.

The Poway Fire Department also participates in the Multi-Year Training and Exercise Plan (MTEP) for the San Diego Urban Area (SDUA). The purpose of the MTEP is to provide a companion document to the SDUA Homeland Security Strategy. This is the roadmap for the SDUA to follow in accomplishing the priorities described in the Homeland Security Strategy. The training and exercise schedule included in the MTEP helps prepare the region and the city to address the natural and technical hazards it faces. The training and exercise programs are jointly administered by the City of San Diego's Office of Emergency Services and the County of San Diego Office of Emergency Services in coordination with the Unified Disaster Council, Urban Area Working Group, and local emergency response agencies.

B. Structure and Urban Fires

The Poway Fire Department has been classified as a Class 1/1X department by the Insurance Services Organization's (ISO) Public Protection Classification program. ISO's Public Protection Classification program measures and evaluates the effectiveness of structure fire-mitigation services in communities throughout the country. For each fire protection area, ISO assigns a Public Protection Classification code — a number from 1 to 10. Class 1 represents exemplary fire protection and water supply; Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria. The split classification includes a 1X representing areas of the City of Poway that are located greater than 1000' from a fire hydrant and/or greater than 5 miles from a fire station.

1. Fire Prevention and Code Enforcement

The Fire Prevention Division is responsible for reviewing land use and planning proposals to ensure they are consistent with the Poway Municipal Code which has adopted the California Fire Code with amendments. New development and permitted modifications require that structures meet current code requirements including those specific to Fire Hazard Severity Zones.

Fire Prevention personnel conduct fire and life-safety inspections of businesses, multifamily residential occupancies, educational, institutional, and permitted facilities. This includes the fire safety clearance inspections of preschools and licensed facilities assigned by the State's Community Care Licensing Division. Additional fire and life-safety inspections of low-hazard businesses are performed by firefighters as a part of the Fire Company Inspection Program which is managed by the Fire Prevention Division. Collectively, the City of Poway Fire Department performs annual fire and life-safety inspections of all state-mandated occupancies and of all non-residential occupancies. In addition to inspections, the Fire Department issues operational and construction-related fire permits for activities and installations regulated under the California Fire Code, such as flammable liquid storage, fire protection systems, and special event structures. The Fire Marshal also conducts plan reviews for both entitlement and ministerial projects to ensure compliance with fire and life-safety standards prior to permit issuance.

2. Water Supply

The City of Poway prepared the 2020 Urban Water Management Plan (2020 UWMP) pursuant to the Urban Water Management Planning Act. The 2020 UWMP serves as the long-term document that will help to ensure the City can provide reliable water supplies through 2045. The City supplies 90 percent of its water to residential customers within the service area. The City's service area is mostly developed, and the City's population is only expected to increase by four percent over the next 25 years. The 2020 UWMP projects a 25 percent increase in water demand by 2045, from the 2020 fiscal year demands.

The UWMP states that no water shortages are projected under any of the hydrologic scenarios that were evaluated. The scenarios that were evaluated include normal water water-year, single dry-year, and multiple dry-year. Furthermore, the San Diego County Water Authority's (SDCWA) 2020 Urban Water Management Plan indicates that there would be sufficient imported and stored water to meet the future demand of its member agencies under the different hydraulic scenarios. Meaning, if necessary, Poway could purchase additional supplies from the SDWCA to meet increased water demands.

The City of Poway purchases its imported raw water from the San Diego County Water Authority. The purchased water is then transported to either Lake Poway for temporary storage or the Berglund Water Treatment Plant (WTP) for treatment into potable drinking water. Once treated at the Berglund WTP, the potable water leaves two 4 million gallon clearwell tanks and enters the distribution system through a series of pipes and pump stations. The distribution system spans 14 pressure zones that are connected through approximately 267 miles of lines. Potable water storage in the distribution system is provided by 18 reservoirs ranging in capacity from 0.010 to

2.5 million gallons and exist to maintain adequate supply during peak demand, for fire flow, or other emergencies. The reservoirs also provide pressure within the distribution system.

Poway's potable water system covers close to two-thirds of the City's jurisdictional boundary with the remainder generally involving undeveloped lands designated for very low density and residential development along the eastern perimeter. The Fire Department uses water from the potable system to fight fires in those areas with coverage. Extension of water lines is required when warranted by project proponents. If development is considered in areas outside of the municipal water system coverage area, water storage tanks are required as an alternative to connecting to the water system. The water storage tanks must be appropriately sized based on the size of the dwelling unit as stipulated in Title 15 of the Poway Municipal Code. The Fire Department will utilize the water storage tanks to suppress fires at these properties.

C. Wildland Fires

Planning for wildland fires is essential in southern California and in the City of Poway where wildfires are a constant threat and have a history of causing destruction in the community. San Diego County has seen significant fires in recent history including the 2020 Valley Fire, which burned nearly 17,000 acres in Cleveland National Forest, and the 2021 Southern Fire which burned over 5,000 acres. The two worst wildfires in San Diego County history which impacted the City of Poway are the 2003 Cedar Fire which burned over 270,000 acres and the 2007 Witch Creek Fire which burned nearly 200,000 acres. The City's climate, vegetation, topography, and large amount of open space makes wildfire one of the top hazards present. Wildland fires pose a high risk to the community because they are more difficult to control and suppress and can rapidly spread due to adverse climatic conditions. The potential risk for a wildland fire to impact the City is typically greater during the late summer and fall months when Santa Ana winds bring hot and dry air from the east. These winds can rapidly push a wildland fire from the open space areas in the east, westward into the City and the more developed areas.

1. Wildland Fire Jurisdiction

There currently exists three classifications of responsibility areas in California. Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). Local Responsibility Areas (LRA) are areas where the local government is responsible for wildfire protection. State Responsibility Areas (SRA) are areas where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention. Federal Responsibility Areas (FRA) are under federal ownership, and the federal government is responsible for wildfire protection.

The City of Poway is entirely within the Local Responsibility Area (LRA) for Wildland Fire, meaning that the Poway Fire Department has the sole responsibility for the mitigation and suppression of wildland fires within the City. To meet this responsibility, the Poway Fire Department maintains one Type III Wildland Fire Engine at each of the three Fire Stations.

There is no State Responsibility Area within the city limits, however the City of Poway is bordered on the east by State Responsibility Area (SRA) protected by CAL FIRE San Diego Unit. The Poway Fire Department has entered a Mutual Threat Zone (MTZ) agreement with CAL FIRE to

provide efficient and cohesive initial scene actions between all first responders and communication centers. This agreement allows CAL FIRE resources to respond immediately to a wildland fire on the border between the LRA and SRA. All fire resources responding to wildland fires in the MTZ will respond on and utilize the assigned VHF radio frequency for the incident and will communicate with CAL FIRE San Diego Unit's Emergency Command Center (ECC) "San Diego". San Diego ECC will serve as the unified ordering point (UOP) for resource orders, evacuations, and FMAG requests for any wildland fire in the MTZ.

There is no Federal Responsibility Area (FRA) within the city limits. The nearest area of Federal Responsibility is 0.5 miles to the south of Poway at MCAS Miramar. In alignment with regional planning efforts, the City of Poway participates in the San Diego County MJHMP, which was revised in 2023. This plan identifies wildfire as a key hazard and outlines strategies for risk reduction and inter-agency coordination. Additionally, a revised California Wildland Urban Interface Code (CWUIC) is scheduled to take effect on January 1, 2026. This updated code will enhance building and land-use standards in fire-prone areas, further supporting the City of Poway's efforts to mitigate wildfire risks and improve community resilience.

2. Fire Hazard Severity Zone

The Office of the State Fire Marshal (OSFM) updated Fire Hazard Severity Zone (FHSZ) mapping for Local Responsibility Areas (LRA) in March 2025. These zones were developed using a standard geospatial model based on fuel loading, slope, fire weather, and wind exposure. The Very High Fire Hazard Severity Zone (VHFHSZ) designations identify areas with the highest long-term potential for extreme wildfires. It is important to note that these designations assess hazard only and do not reflect mitigation efforts or preparedness levels.

Approximately seventy-five percent of Poway's jurisdictional area falls within the designated VHFHSZ. These areas include a mix of undeveloped open space, hillside terrain, residential neighborhoods, utility infrastructure and community facilities. Land uses within the VHFHSZ include various residential and commercial uses, as well as public facilities and open space uses. Additionally, several critical facilities are located within the VHFHSZ including Pomerado Hospital, Poway Fire Station #1, Poway Fire Station #2, Poway Fire Station #3, and various infrastructure systems and educational facilities.

The City of Poway has adopted the Fire Hazard Severity Zones by ordinance and has identified additional wildland urban interface areas that must meet the stricter requirements of the CWUIC. Adopted inJuly 2025, the CWUIC will strengthen building and land-use standards in fire hazard severity zones by enhancing requirements for defensible space, fire-resistant construction, and accessibility for emergency response. These improvements align with the City of Poway's ongoing efforts to reduce wildfire risks and bolster community resilience.

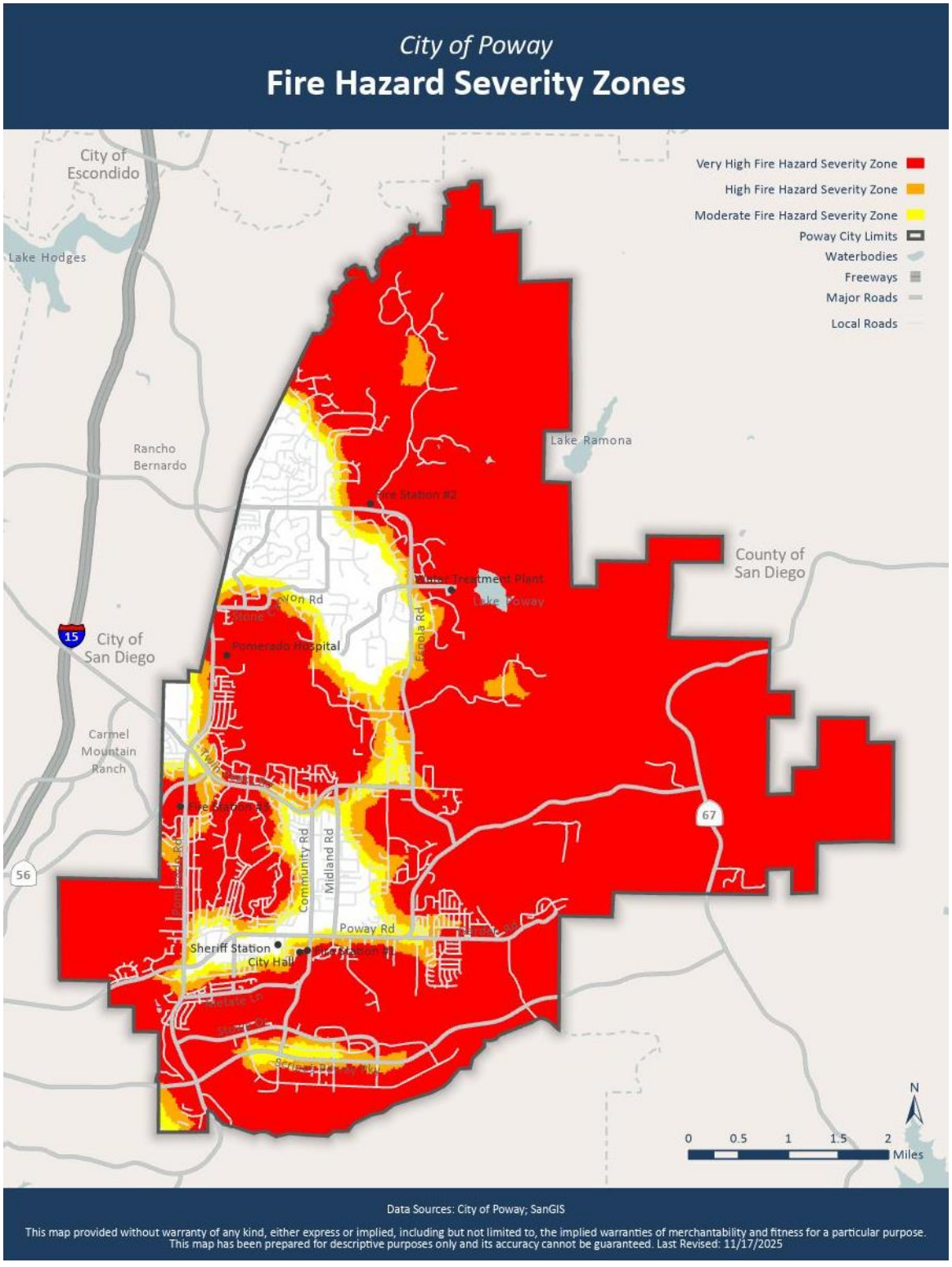
To minimize wildfire risk and ensure public safety, the City enforces a range of development and land use regulations within the VHFHSZ. These include, but not limited to:

- Siting new essential critical facility development, such as hospitals and emergency services, outside of the VHFHSZ whenever feasible;

- Requiring Fire Protection Plans, including vegetation management and defensible space, for new development within the VHFHSZ;
- Ensuring compliance with ingress and egress standards for emergency vehicle access and evacuations;
- Requiring visible street signage and home addressing to support emergency response;
- Applying additional site design, landscaping, and maintenance requirements for development in the VHFHSZ as applicable.

The adopted Very High Fire Hazard Severity Zone is displayed in **Figure 4-1** and the current land use designation and emergency services facilities within the VHFHSZ are displayed in **Figure 4-2.**

Figure 4-1


City of Poway
Fire Hazard Severity Zones
Very High Fire Hazard Severity Zone
High Fire Hazard Severity Zone
Moderate Fire Hazard Severity Zone
Poway City Limits
Waterbodies
Freeways
Major Roads
Local Roads
City of Escondido
Lake Hodges
Rancho Bernardo
Lake Ramona
County of San Diego
City of San Diego
Carmel Mountain Ranch
Community Rd
Midland Rd
Poway Rd
Sheriff Station
City Hall
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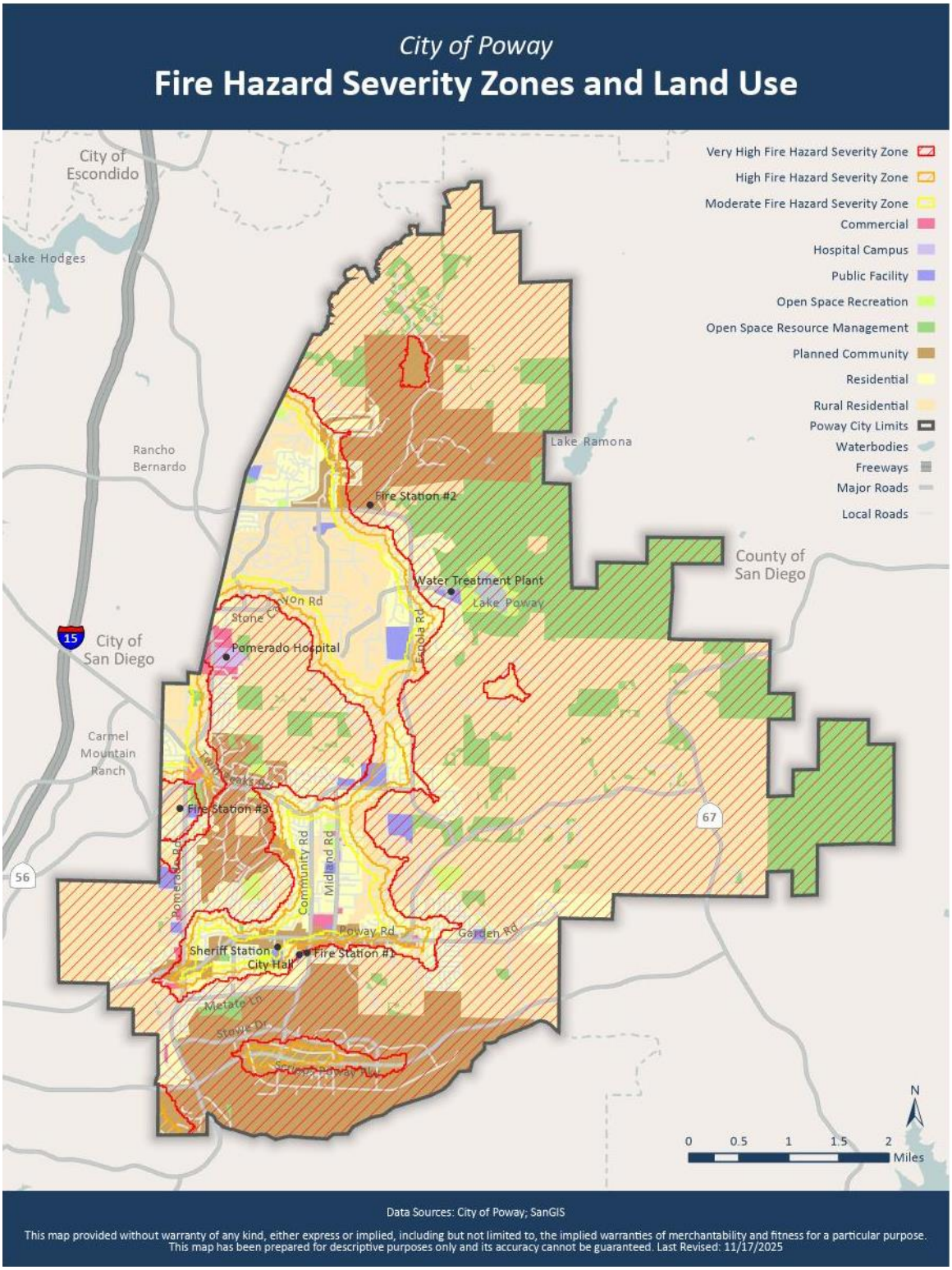
Data Sources: City of Poway; SanGIS
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 11/17/2025

Figure 4-2


City of Poway
Fire Hazard Severity Zones and Land Use
Very High Fire Hazard Severity Zone
High Fire Hazard Severity Zone
Moderate Fire Hazard Severity Zone
Commercial
Hospital Campus
Public Facility
Open Space Recreation
Open Space Resource Management
Planned Community
Residential
Rural Residential
Poway City Limits
Waterbodies
Freeways
Major Roads
Local Roads
City of Escondido
Lake Hodges
Rancho Bernardo
Lake Ramona
Fire Station #2
Water Treatment Plant
Lake Poway
County of San Diego
Stone Canyon Rd
Pomerado Hospital
Espola Rd
City of San Diego
Carmel Mountain Ranch
Fire Station #3
Pomerado Rd
Community Rd
Midland Rd
67
56
Poway Rd
Garden Rd
Sheriff Station
City Hall
Fire Station #1
Metate Ct
Stowe Dr
Scripps Poway Pkwy
N
0 0.5 1 1.5 2
Miles
Data Sources: City of Poway; SanGIS
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 11/17/2025

3. Wildland Fire History

San Diego County has a long history with wildland fire, much of which has impacted the City of Poway. The most notable fires in the County's history are the 2003 Cedar Fire and the 2007 Witch Fire. As of 2025, these are still two of the largest fires ever experienced in the State of California. Both resulted in property damage and destruction in the City of Poway.

In October of 2003, the Cedar Fire ignited in the Cuyamaca Mountains approximately 20 miles east of Poway. Strong Santa Ana winds pushed the fire to the west into the Barona Indian Reservation, the unincorporated community of Lakeside, and then into the City of Poway. Approximately 7,000 acres were burned within the city limits, and 54 structures were destroyed. A map of the Cedar Fire Perimeter is displayed as **Figure 4-3.**

In October of 2007, the Witch Creek Fire ignited northeast of Poway near the unincorporated community of Santa Ysabel. Strong Santa Ana winds pushed the fire to the southwest spreading into the unincorporated community of Ramona, the City of Escondido, the City of Poway, and the Rancho Bernardo neighborhood of San Diego City. Within the City of Poway, this major wildfire event burned approximately 7,247 acres and destroyed 90 single-family homes. Approximately 7,000 residents were evacuated with Poway High School being initially established as an evacuation center but closing 11 hours later due to poor air quality. City disaster workers then opened the Poway Community Center as the main evacuation site for the area. Approximately 300 residents took refuge at the community center, which closed three days later. A map of the Witch Creek Fire Perimeter is displayed as **Figure 4-4**.

4. Wildland Fire Community Risk Reduction

The Wildland Fire Leadership Council has established a National Cohesive Wildland Fire Management Strategy to encourage collaboration amongst stakeholders and across landscapes. The cohesive pre-fire strategy includes creating resilient landscapes, fire adapted communities, and a safe and effective wildfire response to reduce the risk of wildland fire to people and property. The City of Poway's approach to wildland fire community risk reduction includes many of the concepts outlined in the National Cohesive Strategy.

Community Wildfire Protection Plan

In alignment with the goals of the National Cohesive Wildland Fire Management Strategy, the City of Poway has developed a Community Wildfire Protection Plan (CWPP) in collaboration with the Poway Fire Department, the Poway Fire Safe Council, and other regional partners. The CWPP serves as a strategic framework to prioritize wildfire mitigation efforts, guide fuel reduction treatments, improve evacuation planning, and coordinate community outreach and education. The planning process engaged local stakeholders and incorporated input to identify vulnerable areas, critical infrastructure, and effective risk reduction strategies.

Wildland Fire Pre-Plans

The Poway Fire Department collaborated with the San Diego County Office of Emergency Services to develop a comprehensive mapping and risk assessment for high priority Wildland

Urban Interface (WUI) areas in the City of Poway. The WUI refers to areas where human development meets or intermingles with wildland vegetation, creating heightened vulnerability to wildfire due to proximity to flammable fuels. The Wildland Fire Pre-Plans provide recommended strategies and tactics for suppression, evacuation, and the protection of critical infrastructure.

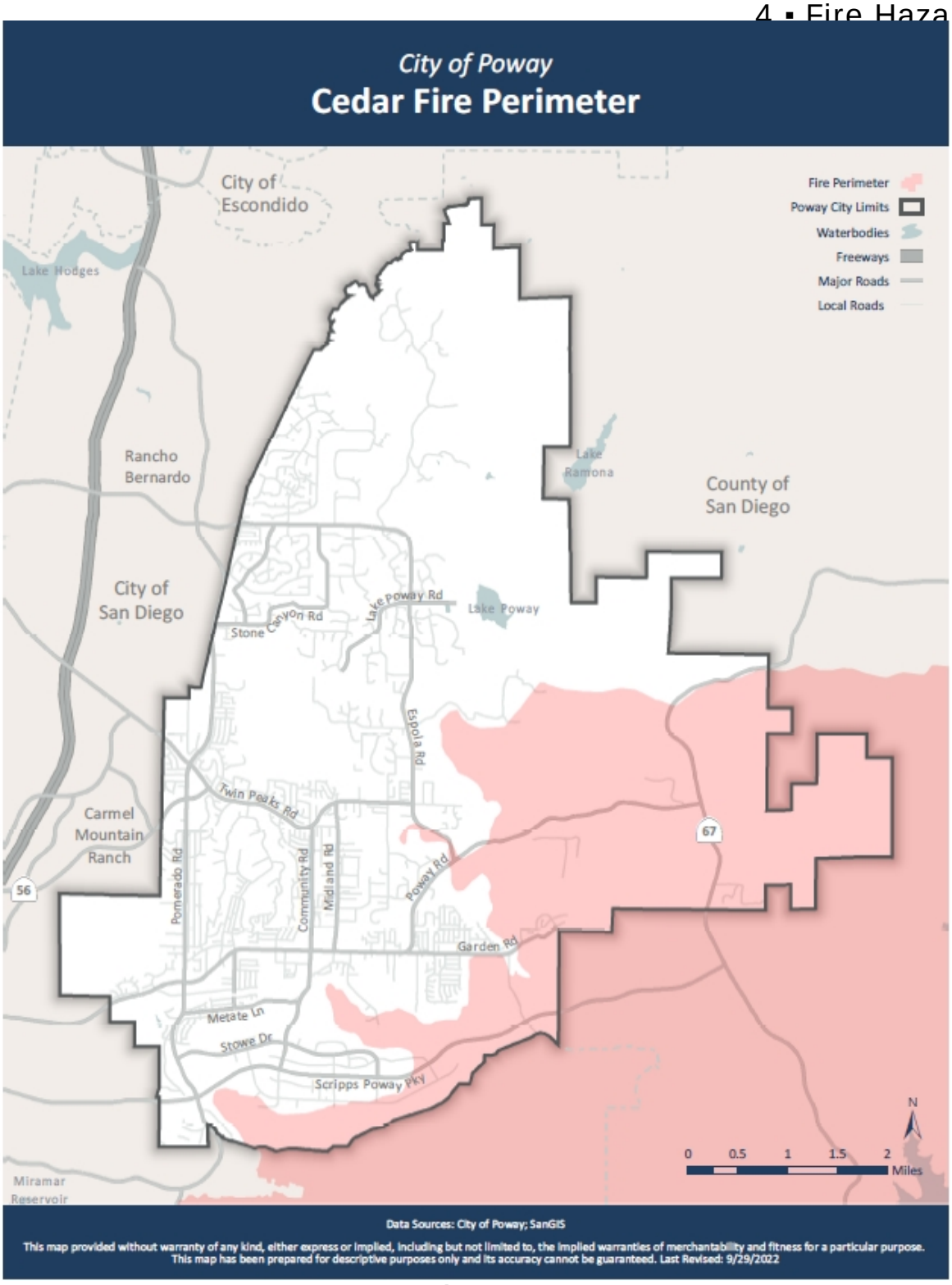
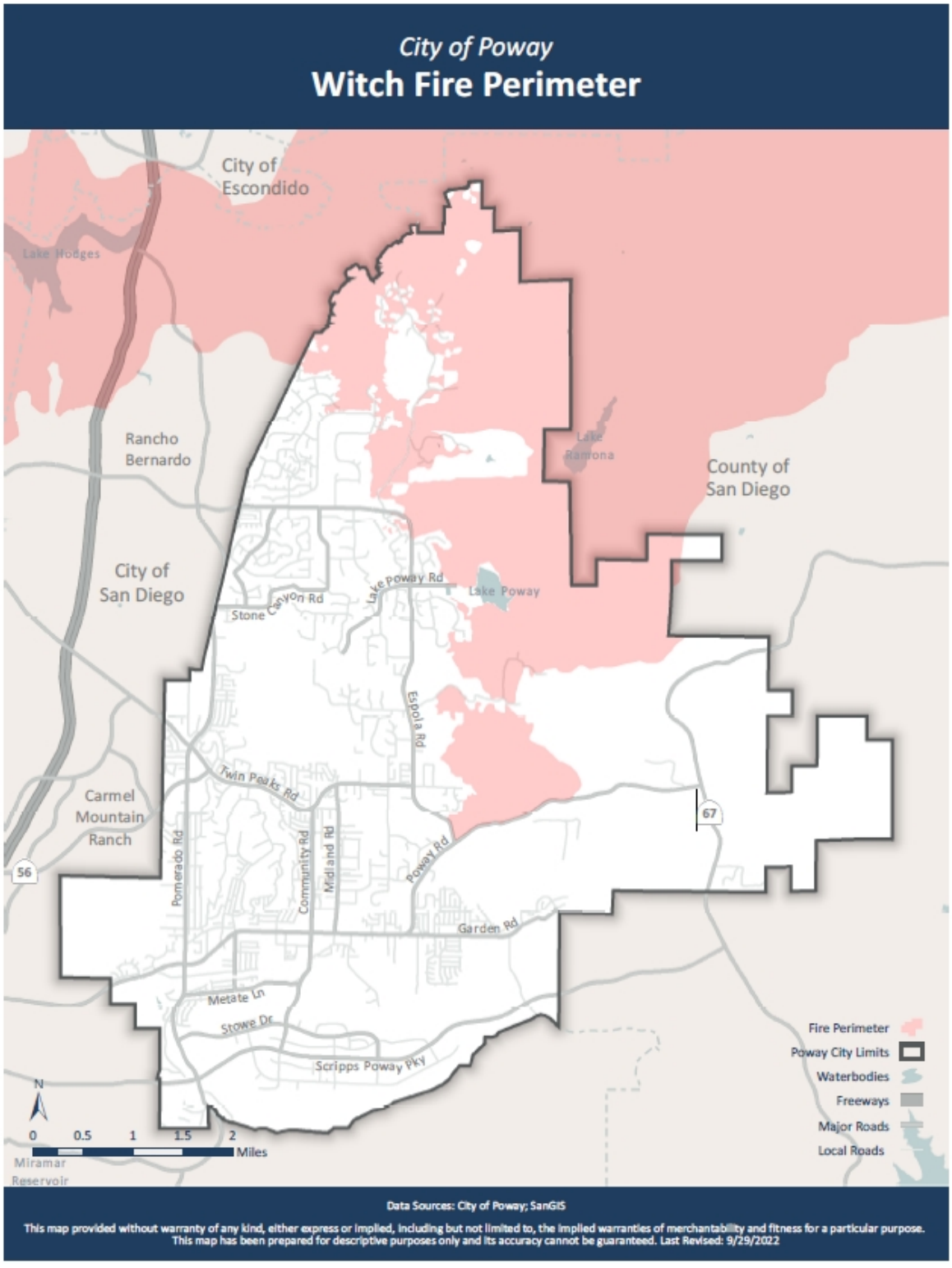


Figure 4-3

Figure 4-4



Vegetation Management and Defensible Space

After the 2007 Witch Fire, the City implemented a Vegetation Management Program to reduce the concentration of highly flammable native vegetation in close proximity to structures. The goal of the vegetation management program is to slow the spread or reduce the intensity of wildfire to lessen the impact on the community. This program continues to identify strategic locations for community level vegetation management including fuel reduction along evacuation routes or in neighborhoods with limited egress. Other components of the program focus on the individual property owner responsibility to maintain ornamental vegetation and create defensible space.

The City's Landscape & Irrigation Design Manual outlines vegetative fuel management requirements applicable to parcels within the Very High Fire Hazard Severity Zone (VHFHSZ). New development or any permitted modification of existing structures is required to comply with these requirements. The manual defines vegetative fuel management as the strategic reduction and maintenance of combustible vegetation to minimize wildfire risk. It establishes general requirements including the preparation of Vegetative Fuel Management Plans, installation of fuel modification zones, appropriate plant selection and removal, and tree pruning standards. Landscape design and maintenance must adhere to specifications for two fuel modification zones—Zone A (closest to structures) and Zone B (transitional buffer)—with expanded requirements for areas exceeding 100 feet from buildings. The manual also includes plant reference tables identifying undesirable species, fire-resistant alternatives, and erosion control guidance for sloped terrain. In addition to parcel-level requirements, the Landscape & Irrigation Design Manual emphasizes coordinated fuel management along roadway easements, supported by habitat monitoring and community collaboration. The manual references the Poway Subarea Habitat Conservation Plan for land use and habitat management guidance, and directs users to the State Fire Marshal's standards for building near native vegetation

The species list below shall not be planted in fuel modification zones as they are exotic and highly flammable plant species. (Landscape and Irrigation Design Manual Section Four)[7].

BOTANICAL NAME	COMMON NAME
Adenostoma sparsifolium	Red Shanks
Adenostoma fasciculatum	Chamise
Artemisia californica	California Sagebrush
*Cortaderia selloana	Pampas Grass
*Hedera helix	English Ivy
Malosma laurina	Laurel Sumac
*Pennisetum setaceum	Fountain Grass
Salvia (most species)	Sage
*Vinca major	Periwinkle

The City of Poway may be eligible for federal and state grants—such as those offered through FEMA and CAL FIRE—that support defensible space creation, vegetation management, and wildfire risk reduction. These funding opportunities typically fall under hazard mitigation, fire prevention, and community resilience programs.

[7] "Landscape and Irrigation Design Manuel." City of Poway, 2028, https://poway.org/DocumentCenter/View/5364/City-of-Poway-Landscape-and-Irrigation-Design-Manual?bidId=.

Firewise USA Communities

To support community-level fire adaptation, the Poway Fire Department supports the creation of Firewise USA Communities to establish Firewise USA Communities, a national recognition program that promotes local risk assessments and the implementation of fire mitigation measures. These efforts complement Poway's defensible space and vegetation management programs by fostering a culture of shared responsibility for wildfire resilience. Participation in Firewise USA can improve insurance eligibility and increase neighborhood awareness of best practices in vegetation clearance, ember resistance, and evacuation readiness.

Structural Hardening

Compliance with Building and Fire Codes along with various mitigation techniques that stress additional hardening measures will reduce the risk of property destruction during a wildland fire event. The Poway Municipal Code includes provisions for the structural hardening of new development and during the permitted modification of existing structures within fire hazard severity zones.

Considerations for structural hardening in the Poway Municipal Code include fire retardant building materials, fire apparatus access roads, turnarounds, turning radius for roads, and the installation of water tanks where necessary.

Chapter 5
Flooding Hazards

A. Background

Flooding occurs when a waterway (either natural or artificial drainage channel) receives more water than it can effectively convey, leading to a rise in water level. Depending on the duration of these conditions and the volume of runoff relative to the waterway's capacity, the water level may eventually exceed the banks or other boundaries of the drainage area, resulting in flooding. Flood events frequently happen during heavy precipitation, when the volume of rainwater surpasses the capacity of storm drains or flood control channels. Additionally, floods can occur when infrastructure such as levees, dams, reservoirs, or culverts experience failure, preventing proper drainage from the area. These failures may be associated with heavy rainfall—for example, erosion caused by water weakening a levee—or may result from other emergencies, such as a dam failure due to an earthquake. Flooding due to extreme weather creates property damage, threatens injury and has the potential for loss of life. The greatest risk of flooding is generally along major streams and channels; however, flooding can also occur when heavy rain overwhelms smaller tributaries, causing them to swell beyond their channels. In addition, failures or limitations in stormwater infrastructure—such as blocked or undersized storm drains, culverts, or detention basins—can lead to localized flooding, even outside designated floodplains. These conditions are especially common during intense or prolonged rainfall events, when drainage systems exceed their design capacity.

B. Drainage System

The City of Poway is divided between two major watersheds, San Dieguito and Los Penasquitos. A watershed, also known as a drainage basin or catchment area, is an area of land where all the water, including rainfall and runoff, drains into a common outlet, such as a river, lake, or ocean. The majority of the City of Poway is within the Los Penasquitos Creek Drainage Basin which receives the Poway Creek, Pomerado Creek, Los Penasquitos Creek (Beeler Creek) and Rattlesnake Creek. Poway Creek is the largest with a drainage area of 21 square miles.

Areas of north Poway are within the San Dieguito Drainage Basin which receives the Thompson Creek, Green Valley Creek, Warren Canyon Creek and the Green Valley Truck Trail Creek. These creeks flow into Lake Hodges and eventually into the Pacific Ocean along the San Dieguito River. The City of Poway drainage basins are displayed in **Figure 5-1**.

C. Flooding Hazards

The City of Poway participates in the National Flood Insurance Program (NFIP), a FEMA regulated program that mandates specific regulations for flood prone areas identified as a Special Flood Hazard Area (SFHA).

The SFHA identifies those areas of the City at the highest risk of flooding, known as floodways and floodplains. FEMA delineates these areas using hydrologic studies, risk assessments, and historical data to classify zones as low, moderate, or high risk. FEMA has delineated inundation areas for what is commonly referred to as 100- and 500-year flood zones. High-risk areas are

those with a 1 percent or greater annual chance of flooding—commonly referred to as the base flood or 100-year flood zone.

Moderate-risk areas are those with a 0.2 percent annual chance of flooding, also known as the 500-year flood zone. Although less frequent, 500-year floods can still cause significant damage and are used to identify areas with residual flood risk. Within the City of Poway, these areas are generally adjacent to creeks or other tributaries and are subject to inundation by the base flood and/or flood-related erosion hazards. A study performed in 2018 found 621 structures within the City's SFHA. This early development within the floodplain is the primary cause of property damage and loss due to flood hazards. Potential flood hazards are displayed as **Figure 5-2**.

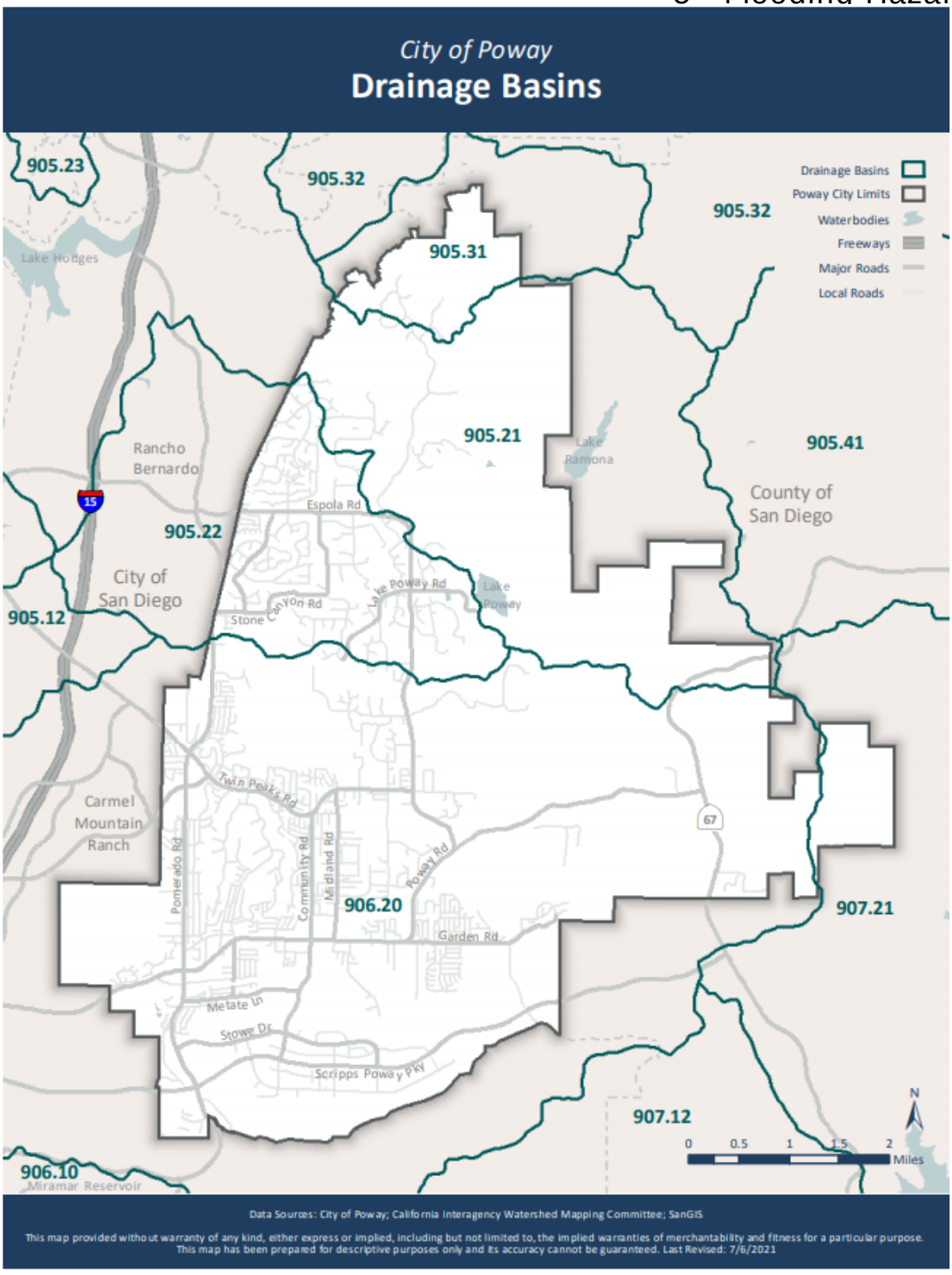
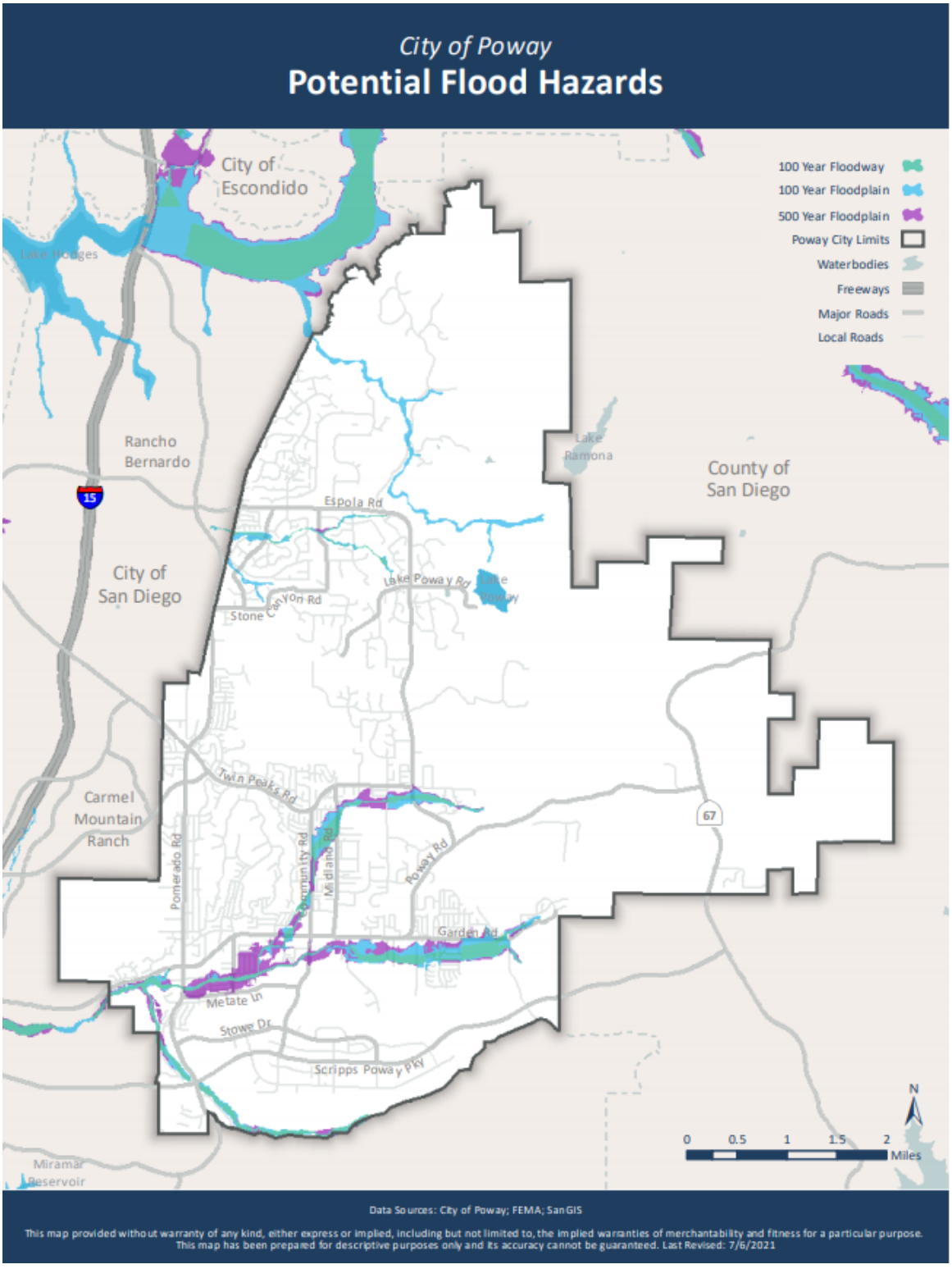


Figure 5-1

Figure 5-2



D. Natural Flooding

Natural flooding occurs when major rainstorms cause stream overflows. Within City of Poway boundaries lies several creeks and natural watercourses; these include Poway Creek, Rattlesnake Creek, Sycamore Creek, Thompson Creek, Beeler Creek, Green Valley Creek, and San Dieguito River. Flooding would potentially occur in these areas in the event of significant storm events. According to the FEMA flood maps, Poway Creek and Rattlesnake Creek are the most flood-prone of Poway's creeks. The flood zones in these areas are categorized as a FEMA 100-year flood hazard zone with a 1 percent annual chance of flooding.

E. Dam Inundation

Dam failure is the uncontrolled release of impounded water from behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, and terrorism can all cause dam infrastructure to fail. Dam failure causes downstream flooding of varying velocities that can result in loss of life and property. Two dam structures exist in the Poway area: Poway Dam and Lake Ramona Dam. In evaluating dam performance during a seismic event, a number of factors must be considered including the potential for seismic activity and intensity and an assessment of the structural integrity of a dam. In addition, the potential for landslides and seiches (water waves caused by seismic waves) causing dam overtopping must be considered.

Poway Dam is the only dam within the City of Poway, located at 14644 Lake Poway Road. The dam is owned and operated by the City of Poway Public Works Department. According to the California Department of Water Resources, Division of Safety of Dams (DSOD), the downstream hazard potential for Poway Dam is high. A high downstream hazard potential classification indicates that, in the event of a dam failure while operating at full capacity, the resulting inundation is expected to cause the loss of at least one human life. The downstream hazard potential is based solely on potential downstream impacts to life and property and is not an indication of structural integrity or probability of failure. Poway Dam is approximately 163 feet in height and impounds a reservoir containing up to 3,272 acre-feet of water over 62 surface acres (an acre foot is the volume of water that covers one acre, one foot deep in water and is equal to 326,000 gallons). The City maintains an approved Emergency Action Plan (EAP) for monitoring inundation risk and responding to a possible event. The EAP includes detailed inundation maps approved by the DSOD, outlining areas at risk in the event of dam failure which align with the Dam Failure Inundation Map, **Figure 5-3**. It also establishes notification procedures, roles and responsibilities, preparedness and coordination strategies with local emergency responders to protect life and property downstream.

The potential for dam failure or overtopping as the result of a seismic event is remote. The design of Lake Poway and Poway Dam, as illustrated in the Design Report prepared by Boyle Engineering in May and June 1970, clearly illustrates that the dam design incorporated maximum credible seismic activity anticipated in the dam vicinity. The rock and earthen dam is designed to withstand a major seismic event, and the spillway design will accommodate overtopping as a result of landslides along the steep banks or seiches. The DSOD also maintains a record of the condition assessment of the dams. According to a September 2024 report by DSOD, the condition assessment of Poway Dam is satisfactory, meaning no existing or potential dam safety deficiencies are recognized. Therefore, the potential for property damage or loss of life due to the failure of Lake Poway by a seismic shock is considered small.

Lake Ramona Dam is located approximately one-mile northeast of the Poway Dam and is situated immediately east of the Poway City boundary in the unincorporated community of Ramona. The

Lake Ramona Dam was constructed by the Ramona Municipal Water District (RMWD) during the mid-to-late 1980s. Lake Ramona has a drainage basin of approximately 1,120 acres and a maximum storage capacity of 12,000-acre feet. The dam spillway will divert any overflow from the reservoir into the adjacent drainage basin to the north.

Both Poway Dam and Lake Ramona Dam are located in drainage sub-basins that drain into the same major drainage courses, following Green Valley Creek and Sycamore Creek northwest to Lake Hodges. In the event of a failure or breach at either dam, discharge would follow natural stream channels and contribute to the same potential inundation areas. Water from Poway Dam would flow northwest out of the City while water from Lake Ramona Dam would flow southwest into the City boundary before joining the Poway Dam inundation path toward Lake Hodges. The communities of Poway and the City of San Diego would be affected by a dam failure; however, no critical facilities are located within the inundation area. Old Coach Road and Highland Valley Road are the only public roads identified as potentially impacted. The Lake Hodges Dam, located approximately 12 miles downstream and owned by the City of San Diego, was evaluated in the dam inundation study. The study concluded that a failure of Poway Dam would not result in overtopping or failure of Lake Hodges Dam, as the inundation limits terminate at its reservoir. Although complete failure of either dam is considered a remote possibility, the areas of potential inundation are primarily undeveloped and are expected to remain so which results in a low risk of property damage, injury, and loss of life. **Figure 5-3** shows which areas of the City would be affected by a dam failure from either Poway Dam or Lake Ramona Dam.

F. Flood Management and Improvement

Since incorporation, the City of Poway has taken several steps to manage and improve the flood-prone areas, including participating in the National Flood Insurance Program (NFIP). The City of Poway regulates development within the Special Flood Hazard Area (SFHA), meeting or exceeding NFIP regulations for development. Regulations include the requirements for a Floodplain Development Permit ensuring no increases in upstream flood elevations and to ensure structures are protected against flood damage. This leads to a safer, stronger, and more resilient community, providing increased protection for new development which prevents repetitive losses due to flooding.

The City of Poway regularly consults with and receives training from the State Department of Water Resources and FEMA as the agencies with responsibility for flood protection. The City participates in the Community Rating System (CRS), a program through FEMA that requires the City maintain flooding hazard mitigation efforts including the preservation of open space in the floodplain, the enforcement of higher standards for safer development, the maintenance of drainage systems, the monitoring of flood conditions, and community education and outreach. As of 2025, the City of Poway holds a CRS Class 7 rating, which reflects the City's commitment to flood hazard mitigation and earns residents in SFHAs a 15 percent discount on flood insurance premiums.

In the future, continued flood hazard management and enforcement can be accomplished by:

- Maintaining major creeks to keep them free and clear of flood water obstructions;
- Ensuring new development occurs outside special flood hazard areas and conforms to the City Flood Damage Prevention Ordinance;

Ensuring improvements within special flood hazard areas comply with no rise regulations;

Continuing to improve and expand the City's drainage system.

Creek maintenance is essential to proper flow in natural watercourses as flood control channels. In the past, debris that included overgrown vegetation and dumping worsened upstream flood hazards by restricting the free flow of water. The City reduces the risk of flooding by performing repair and maintenance of drainage facilities in the right-of-way and within improved channels dedicated to the City of Poway. Activities include maintenance and repair, annual inspection, pipe repair and replacement, vegetation management and sediment removal.

In the long term, the proper management of the flood hazard areas will do the most to reduce potential loss of life, injury, and property damage. The City has established strategies to ensure new buildings are constructed above the 100 year flood level and new development does not contribute to an increased flood hazard.

The City’s Drainage Master Plan establishes flood control improvements designed to serve ultimate development of the City while reducing the potential for flooding.

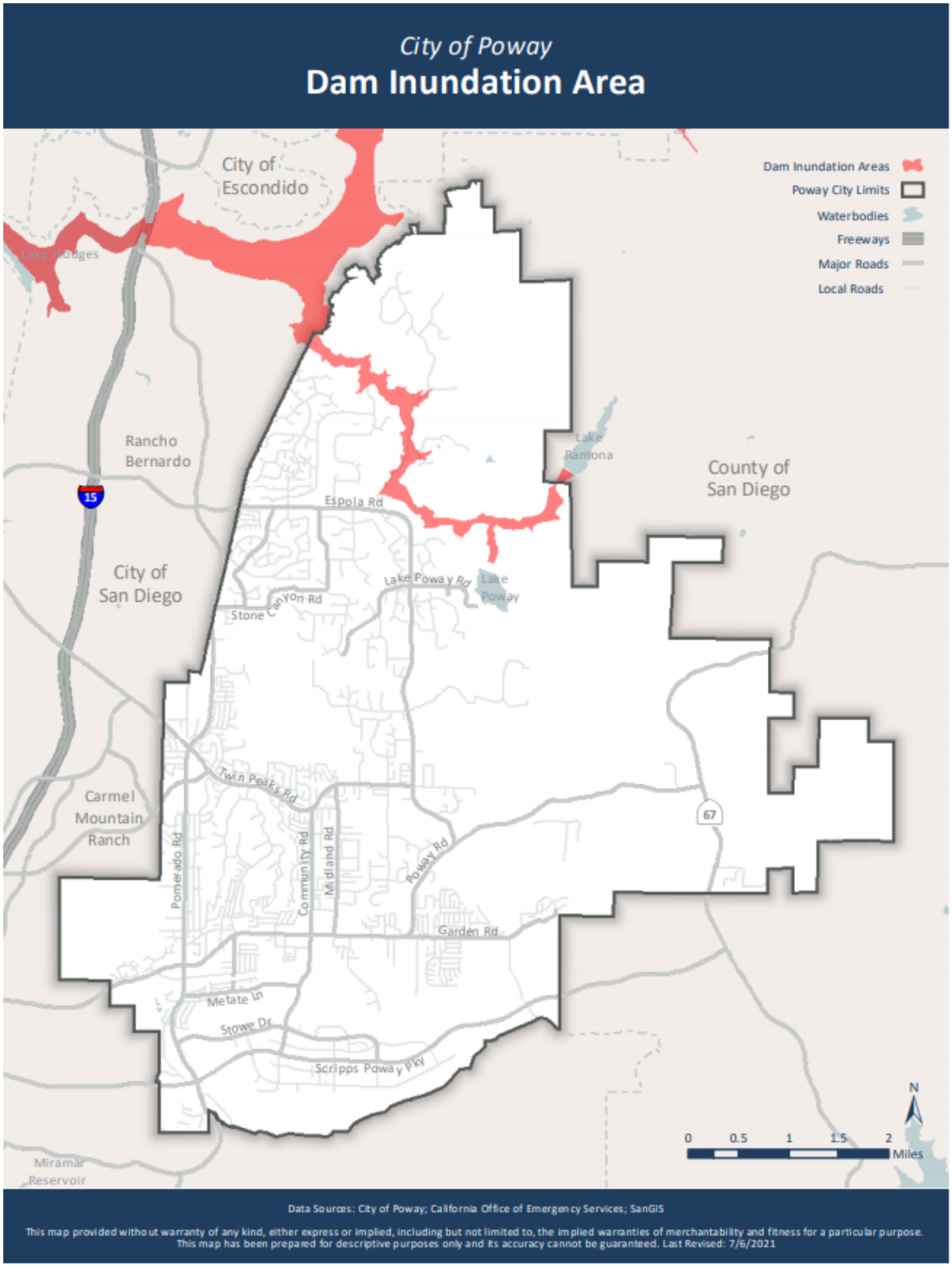

City of Poway
Dam Inundation Area
Dam Inundation Areas
Poway City Limits
Waterbodies
Freeways
Major Roads
Local Roads
City of Escondido
Lake Hodges
Rancho Bernardo
15
City of San Diego
Espola Rd
Lake Ramona
County of San Diego
Lake Poway Rd
Lake Poway
Stone Canyon Rd
Twin Peaks Rd
Carmel Mountain Ranch
Pomerado Rd
Community Rd
Midland Rd
Poway Rd
67
Garden Rd
Metate Ln
Stowe Dr
Scripps Poway Pky
Miramar Reservoir
N
0 0.5 1 1.5 2
Miles
Data Sources: City of Poway; California Office of Emergency Services; SanGIS
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 7/6/2021

Figure 5-3

Chapter 6

Geologic & Seismic Hazards

A. Background

Geologic hazards occur as a result of unstable geologic formations that can be caused by nature or by man. In the City of Poway, landslides, rock falls, seismic induced rupture or shaking, earth settlement and expansive soil conditions are the main geologic hazards. Most problems associated with the geologic hazards in the City are due to the vulnerability of several geologic formations found. Seismic hazards are directly related to geologic hazards; the geologic formations present can increase the risk and impact of a seismic event within the community.

B. Local Geology

The geology of Poway can be divided into geologic zones based upon the age and general composition of exposed rocks. These areas include:

1. Metamorphic Rocks

Bedford Canyon Formation: Low grade metamorphic rocks comprised of clastic meta siltstone, slate, shale and mita sandstone and meta conglomerate.

Santiago Peak Volcanics: This rock unit consists of slightly metamorphosed and acidic, rhyolitic, and dacite volcanic rocks, with local tufts and breccias. These rock units are relatively dense and resistant to erosion.

2. Igneous Rocks

San Marcos Gabbro: This unit is hornblende gabbro which intruded the older Santiago Peak Volcanics and Bedford Canyon Shale and was in turn intruded by the younger granitic rocks. The gabbro is rather resistant to weathering; exposures tend to form broad based, conical-shaped, bold hills with few surface boulders.

Green Valley Tonalite: This unit is highly susceptible to weathering and forms low areas with gentle topography.

Woodson Mountain Granodiorite: This unit is very resistant to erosion, forming most of the high areas in the City. Outcrops tend to be characterized by large, rounded boulders, as on Mt. Woodson. Also, large exfoliation domes are common.

3. Sedimentary Rocks

Lusardi Formation: This unit is one of the three post-batholithic Cretaceous units of the Rosarion Group. The Lusardi formation is a boulder conglomerate that occurs in limited outcrops in the City. This unit is characteristically very coarse and poorly sorted and contains locally derived cobble-to boulder-sized material.

Friars Formation: This is one of six units that make up the La Jolla Group. The Friars formation consists of lagoonal and nonmarine sandstones composed of expansive clays, montmorillonite and kalinite. The sandstone beds may be locally interbedded with sandy clay stones. Cobble conglomerate lenses of stream origin are also found.

Stadium Conglomerate: This unit is one of three units that make up the Poway Group. The other two units of the Poway Group, the Mission Valley Formation and the Pomerado Conglomerate, underlie only a small portion of the area and are located in the southwest portion of the City. The Stadium Conglomerate is a moderately well sorted cobble conglomerate of nonmarine origin. The distinctive "Poway" cobbles are composed of slightly metamorphosed rhyolitic and dacitic volcanics and some quartzites. The cobbles were deposited by westward flowing streams, as river channel and deltaic sediments from an eroded source area within a short distance east of their present position.

Mission Valley Formation: The Mission Valley Formation is a soft, friable, light silver-gray fine to medium grained, quartz rich sandstone. It also contains interbeds, tongues and lenses of brackish water claystones that locally compose 20 percent of the section. The unit is found only in the southwest portion of the City and is not an extensive unit.

*Pomerado Conglomerate***:** The Pomerado Conglomerate is a massive cobble conglomerate which is lithologically identical to the Stadium Conglomerate. The Pomerado is the youngest unit of the Poway Group and is separated from the Stadium Conglomerate by the Mission Valley Formation. Where the Mission Valley Formation is missing, the two conglomeratic units are in contact and are indistinguishable.

Alluvium and Slope Wash: Alluvial material consisting of poorly consolidated stream deposited silt, sand, gravel, and cobble-sized particles occur in the major stream channels and mantels the lower valley slopes.

A map of the geologic formations is displayed as **Figure 6-1**.

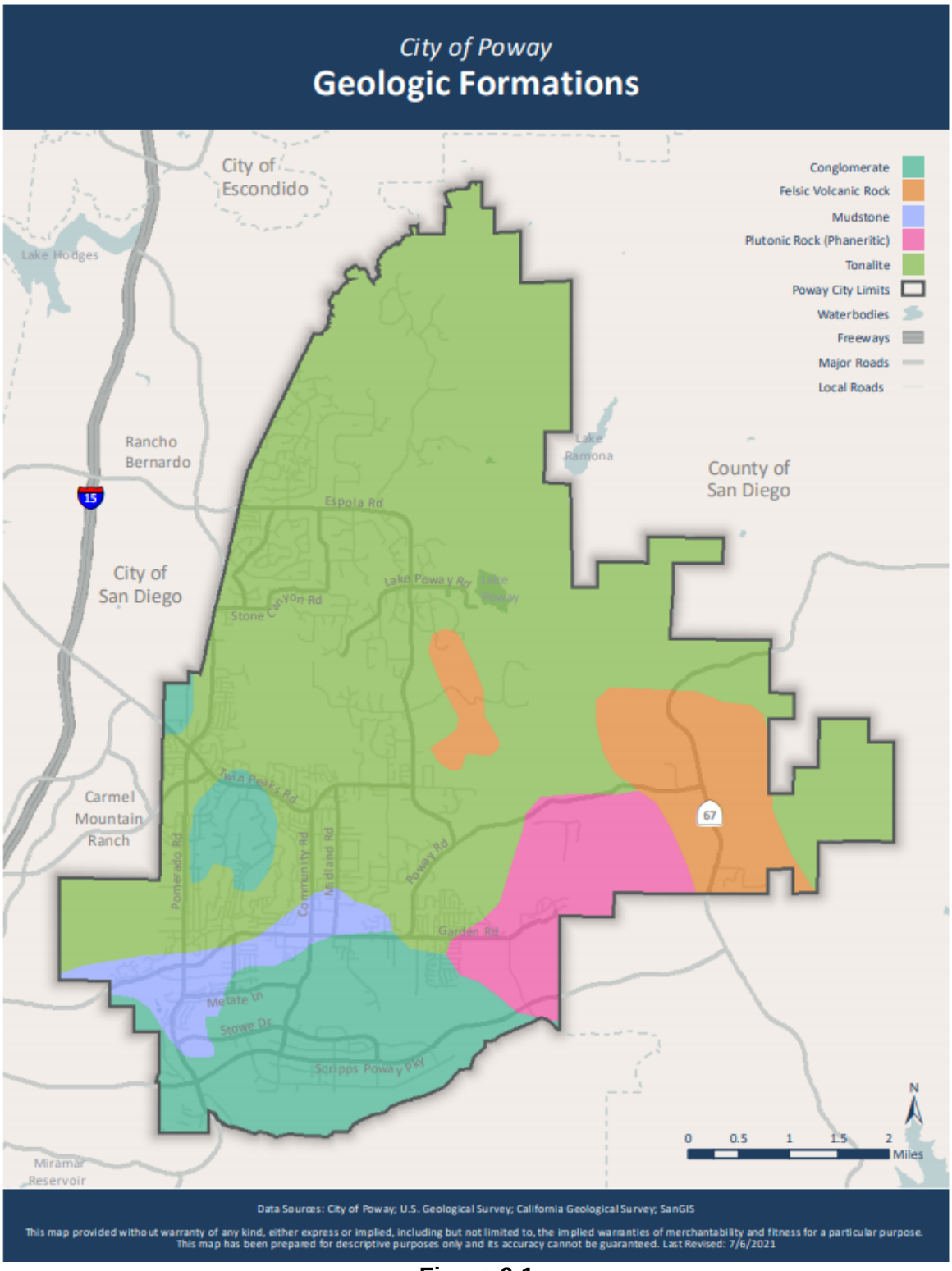

City of Poway
Geologic Formations
City of Escondido
Lake Hodges
Rancho Bernardo
15
City of San Diego
Carmel Mountain Ranch
Miramar Reservoir
Lake Ramona
County of San Diego
Espola Rd
Lake Poway Rd
Lake Poway
Stone Canyon Rd
Twin Peaks Rd
Pomerado Rd
Community Rd
Midland Rd
Poway Rd
Garden Rd
Metate Ln
Stowe Dr
Scripps Poway Pkwy
67
Conglomerate
Felsic Volcanic Rock
Mudstone
Plutonic Rock (Phaneritic)
Tonalite
Poway City Limits
Waterbodies
Freeways
Major Roads
Local Roads
N
0 0.5 1 1.5 2
Miles
Data Sources: City of Poway; U.S. Geological Survey; California Geological Survey; SanGIS
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Figure 6-1

C. Geologic Hazards

As stated previously, landslides, rockfalls, seismically induced movement, fill settlement and expansive soils are the principal geologic hazards in the City. Factors which are likely to induce ground movement on unstable slopes include:

- Oversteeping of natural slopes by erosion or grading (particularly in landslide prone areas with slopes greater than 30 percent);
- Undercutting of slope bases by erosion or grading;
- Overloading slopes with additional weight;
- Saturation of incompetent material by periods of prolonged rainfall, over-irrigation, leaky swimming pools or utility pipes and leach line discharge;
- Ground acceleration during earthquakes.

Historically, Friars and Mission Valley Formations have been involved in numerous landslides. Most of the landslides are rotational slopes. It is estimated that most of these landslides occurred 15,000 to 20,000 years ago, based on data of slides having similar characteristics. Generally, sliding appears to have originated at the contact between the upper portion of the Friars formation and the lower portion of the Stadium Conglomerate. Rockfall are created by oversteepened slopes in the granitic terrain due to seismic shaking or erosion. Expansive soils are clay soils which expand in volume with an increase in moisture content. Damage is caused when structures are built on this soil without adequate foundation design. As with landslides, fill soils derived from the Friars and Mission Valley formation are the predominate materials involved in fill settlement and expansive soil problems.

D. Seismic Hazards

Although the Regional Fault Map shows faults in the City of Poway, these are classified as inactive by the California Department of Conservation, Division of Mines and Geology. Based upon the available information and historical records, the City of Poway is remarkably free from other seismic hazards despite relatively high earthquake activity along the major fault systems in Southern California. It can be expected that minor to moderate damage will result from seismic activity. The potential exists for a major seismic event to occur along one of the major faults and result in local damage. The Regional Faults Map is displayed as **Figure 6-2**.

1. Faulting and Surface Rupture

Surface ruptures occur on existing faults when a fault displacement extends upward from the ground surface. The surface will not rupture every time a fault moves. As earthquakes increase in magnitude, there is a stronger possibility of ground rupture occurring. When the surface is ruptured, everything in its path will be affected. Because no active faults are present in Poway, surface rupture is not considered an apparent hazard.

2. Ground Shaking

Ground shaking is characterized by the physical movement of the land surface during earthquakes. The severity of the seismic ground shaking depends on the magnitude of the earthquake, the distance of the site from the quake epicenter and soil conditions at the site and in between. Ground shaking can be felt and can even cause damage hundreds of miles from the epicenter of the earthquake. The effects of ground shaking depend on its severity based on the above factors, duration and on the type of construction and its integrity.

Ground shaking is expected to have the greatest amount of seismic impact on Poway. Major seismic events along one of the fault systems discussed previously would cause significant ground shaking to cause property damage. Also, other potential seismic hazards will occur primarily as a result of intense ground shaking.

Damage to structures and other property may be minor because the great majority of structures in Poway are earthquake resistant (wood frame or buildings built to earthquake standards). However, severe damage due to secondary effects such as landslides and liquefaction could still occur.

3. Ground Failure

Most seismic ground failures occur as landslides where the seismic event, gravity, groundwater and poor geologic conditions all work together to displace small or large amounts of earth. As stated before, the City of Poway has areas which are highly susceptible to landslides. A major seismic event could easily act as the trigger for an ancient landslide to once again move either slowly or rapidly down a slope.

The most effective way to avoid landslide damage is to prevent development of landslide-prone areas. However, modern engineering practices, although costly, can stabilize slide-prone areas through application of one or more techniques including, but not limited to: removing, redistributing, compacting, or otherwise stabilizing hazardous earth masses; installing proper drainage devices; using buttress fills; and practicing careful landscaping and irrigation techniques.

4. Liquefaction

Liquefaction is the loss of strength (bearing capacity) in granular, saturated, unconsolidated sediments. Areas with sediments and shallow water tables are particularly susceptible to liquefaction, which may be caused as the ground liquefies and flows or spreads laterally or responds as quicksand causing buildings to tilt or sink. For liquefaction to occur, three factors must be present:

- Soils must contain relatively loose granular fine sands or silts.
- The water table must be shallow.
- Intense, long duration ground shaking (greater than .13g with a duration of greater than 45 seconds) must occur.

A preliminary investigation of soil conditions in the City of Poway indicates that there is little or no potential for liquefaction. This conclusion is based primarily on the structure and particle size mix of the soil types found in the low-lying areas of the City. For liquefaction to occur, soils must

be loose, evenly graded fine sands or silts. According to the U.S. Soil and Conservation Service Soil Survey for the San Diego Area, the soils of the low-lying areas are sandy loams with clay substrata. The high percentage of clay particles integrated with sands reduce interstitial space and gives the soils a massive structure.

Given these soil conditions and the lack of evidence of any past history of intense, long duration ground shaking as a result of nearby seismic activity, it is believed that the three factors necessary for liquefaction to occur are not present in the correct combination and, therefore, the potential for widespread liquefaction in the Poway area does not exist. However, it may be that the local history is too short to make an unequivocal statement as to the potential liquefaction in the entire City.

5. Subsidence

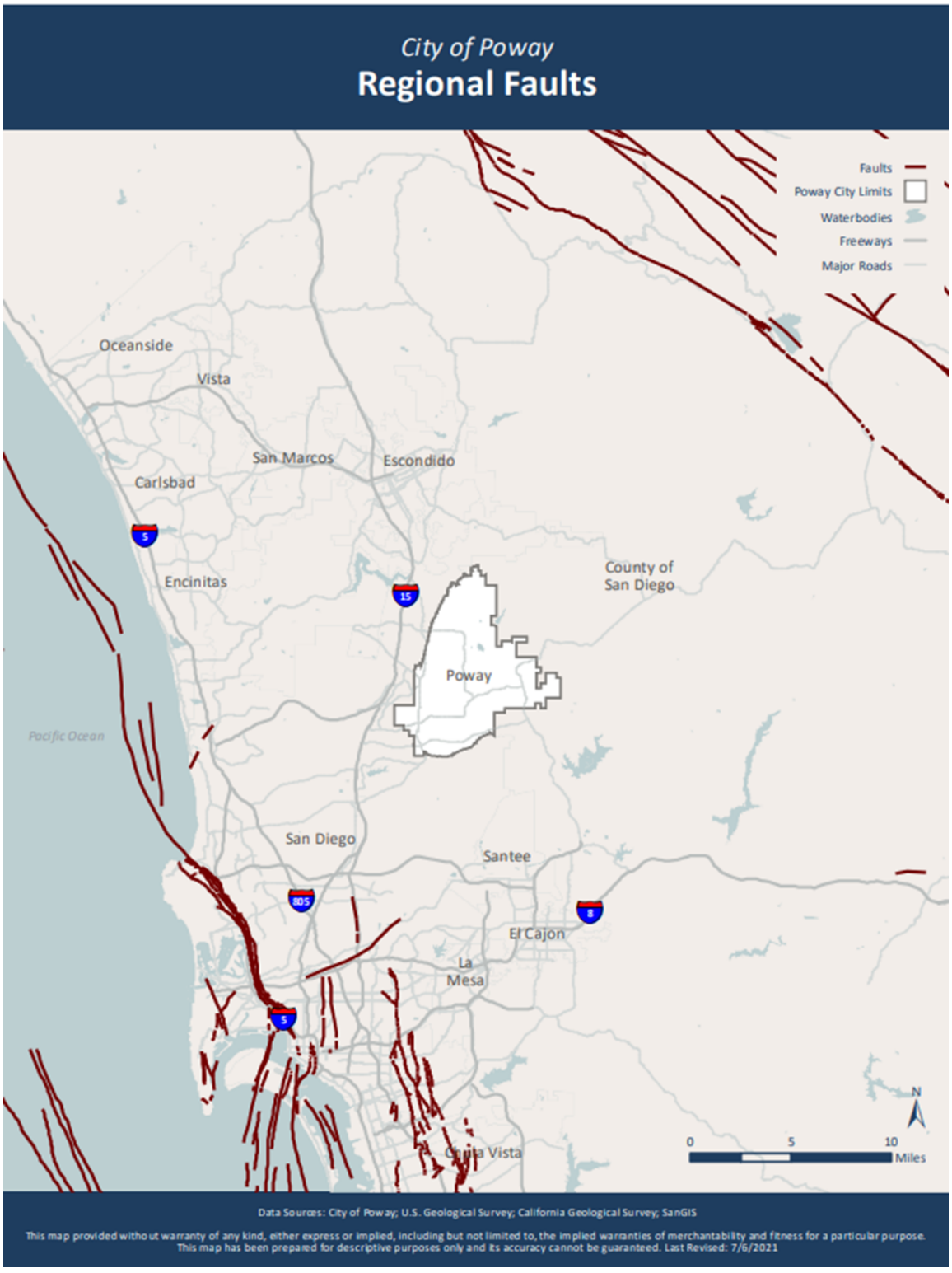
Ground subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement. Most ground subsidence is anthropogenic (created or influenced by humans) and is usually associated with the extraction of oil, gas, or groundwater from below the ground surface in valleys filled with recent alluvium. Land subsidence can also occur during an earthquake because of offset along fault lines and as a result of the settling and compacting of unconsolidated sediment from the shaking of an earthquake. Subsidence has four primary causes including:

- Ground water withdrawal;
- Oil or gas withdrawal;
- Hydrocompaction (usually caused by first-time wetting of open textured soils which compact under their own weight);
- Peat Oxidation (results from shrinkage of burial organic debris).

There is no known subsidence hazard within the City of Poway.

6. Structural Hazard

The large majority of buildings within the City have been constructed to meet the modern seismic design standards included within the Uniform Building Code. Experience in recent earthquakes indicates that when structures are built according to seismic design standards they can be expected to perform well during an earthquake. This is true for areas where earthquakes are relatively minor and may not be true for a local major earthquake.


City of Poway
Regional Faults
Faults
Poway City Limits
Waterbodies
Freeways
Major Roads
Oceanside
Vista
San Marcos
Escondido
Carlsbad
Encinitas
County of San Diego
Poway
Pacific Ocean
San Diego
Santee
El Cajon
La Mesa
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Data Sources: City of Poway; U.S. Geological Survey; California Geological Survey; SanGIS
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed. Last Revised: 7/6/2021

Figure 6-2

Chapter 7

Climate Resilience

A. Background

The California Government Code 65302(g)(4), established by Senate Bill 379 (2015) requires climate adaptation and resilience in Public Safety Elements. This law mandates that California cities and counties update the Safety Elements of their General Plans to include a vulnerability assessment, adaptation goals and policies, and implementation strategies to address climate-related hazards. climate resilience can be defined as the capacity of communities to withstand, adapt to, and recover from the adverse impacts of climate events. Climate events can have widespread effects on temperature and weather patterns. In many areas, climate may increase the frequency and duration of droughts and create conditions that intensify wildfire vulnerability.

B. Climate Effects on Hazards and Risk

Temperature, precipitation, and wind can influence both the likelihood of a natural disaster occurring and the severity of its impact. Extreme heat and drought were identified in the San Diego Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) as high threats for the potential direct impact on the community. Higher temperatures may also increase the likelihood of a wildfire igniting and the rate at which it spreads. State law requires Cities include local climate projections for temperature and precipitation from the Cal Adapt tool in Safety Elements as shown in **Table 7.1.**

Table 7-1
Cal Adapt Tool Projections for the City of Poway[8]

Climate Factors Impacting the City of Poway	Observed (1961-1990)	Mid-Century (2035-2064)	
		Medium Emissions A	High Emissions A
Annual Average Maximum Temperature (°F)	73.4- 79.2	77.2- 84.0	78.3- 86.1
Extreme Heat Days (days)B	0-16	2-42	2-54
Annual Average Precipitation (inches)C	4.0- 34.5	2.6–33.1	2.0–37.5

1 – Incorporation of this data is required by California Government Code §65302(g)(4)
A. The Medium Emissions Scenario represents a mitigation scenario where global carbon dioxide (CO_2) emissions peak by 2040 and then decline. Statewide, the temperature is projected to increase by 2°C–4°C for this scenario by the end of this century. The High Emissions Scenario represents a scenario where CO_2 emissions continue to rise throughout the twenty-first century. Statewide, the temperature is projected to increase by 4°C–7°C by the end of this century.
B. Number of days in a year when the daily maximum temperature is above a threshold temperature of 103.9°F (98th percentile).
C. Summary statistics are calculated using values between 1961 and 1990 from Modeled Historical data (CanESM2, CNRM-CM5, HadGEM2-ES, MIROC5 models).
Source: Cal-Adapt, Local Climate Change Snapshot, cal-adapt.org.

C. Extreme Heat

An extreme heat event occurs when the temperature is at or above the 98th percentile for historical daily maximum temperatures in the City of Poway. An increase in extreme heat waves can increase the risk of heat stroke or dehydration. Extreme heat may strain water, power, and transportation systems, as well as have negative effects on infrastructure such as roadways and sidewalks, leading to deterioration and buckling. Additionally, the increased use of air conditioners can put strain on electrical systems. San Diego County has designated Cool Zones, or places with free air-conditioning. Per the County's program, the closest cooling centers for the residents of Poway is the Poway Public Library and Mickey Cafagna Community Center in Community Park.

The highest priority mitigation actions for extreme heat include preparation, with strong attention to weather forecasts and ready social services, infrastructure (e.g. Cooling Centers), natural shading from vegetation and community outreach to protect vulnerable populations.

D. Drought

Drought is defined as an extremely dry climatic period where the available water falls below a statistical average for a region. Drought is also defined by factors other than rainfall, including vegetation conditions, agricultural productivity, soil moisture, water levels in reservoirs, and streamflow. Droughts or water shortages are a gradual phenomenon, occurring over multi-year periods and increasing with the length of dry conditions. When precipitation is less than normal for a period of time, the flow of streams and rivers declines, water levels in lakes and reservoirs

[8] "Local Climate Snapshot." Cal-Adapt, Geospatial Innovation Facility at University of California, Berkeley, https://v2.cal-adapt.org/tools/local-climate-change-snapshot/.

fall, and the depth to water in wells increases. If dry weather persists and water supply problems develop, the dry period can become a drought.

Droughts cause public health and safety impacts, as well as economic and environmental impacts. Public health and safety impacts are primarily associated with catastrophic wildfire risks and drinking water shortage risks for small water systems in rural areas and private residential wells. Dead or dying vegetation poses a risk of falling and damaging structures and infrastructure systems.

1. Drought Severity

Drought severity depends on numerous factors, including duration, intensity, and geographic extent, as well as regional water supply demands by humans and vegetation. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity. The magnitude of drought is usually measured in time and the severity of the hydrologic deficit. The United States Drought Monitor is a map released weekly that indicates the portions of the United States that are experiencing drought and the severity of the drought based on five classifications: abnormally dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought: moderate (D1), severe (D2), extreme (D3), and exceptional (D4) (refer to **Table 7-2**).

The Drought Monitor is not a forecast but looks backward, providing a weekly assessment of drought conditions based on how much precipitation did or did not fall. Because drought is a slow-moving hazard, it may take more than one good rainfall to end a drought, especially if an area has been in drought for a long time. The City of Poway has experienced drought conditions under all categories.

Table 7-2
Drought Severity Classification

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.
D1	Moderate Drought	Some damage to crops, pastures, streams, reservoirs, or wells is low. Some water shortages are developing or imminent; voluntary water-use restrictions are requested.
D2	Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed.
D3	Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions.

D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells create water emergencies.

Source: National Drought Mitigation Center. "U.S. Drought Monitor." droughtmonitor.unl.edu/.

To help reduce the impacts of climate-related drought, measures should include water supply reliability through a diverse range of water sources, along with conservation planning that addresses drought effects on ecosystems. To support drought and water shortage preparedness for water systems and domestic wells, County Planning & Development Services—working in collaboration with the County Department of Environmental Health and Quality—offers communication channels and maintains a resource list to assist residents and communities at risk of water shortages. Additionally, the City of Poway has a Water Shortage Contingency Plan (WSCP)[9] that addresses water supply contingency planning and drought planning for the City.

E. Extreme Weather (Heavy Rains)

Heavy rainfall in the City of Poway can result in several impacts, including flooding, particularly in low-lying areas and regions with inadequate drainage. Communities may experience road closures due to flooding, property damage and hazardous conditions, impacts to the City's stormwater system, and utility infrastructure strain like power outages.

To enhance resilience to flooding, communities can strengthen infrastructure to better withstand extreme weather events. Improvements in drainage capacity and flood control measures can help mitigate the effects of intense storms. Upgrading and modernizing utility infrastructure can also reduce secondary impacts of storms, such as service disruptions, contaminated water supplies, and power outages. Expanding the capacity of the City's drainage infrastructure would improve the City of Poway's resilience to weather events. Coordinating regional resilience initiatives to protect critical infrastructure and enhance stormwater management both within and beyond the City would help safeguard the larger surrounding area.

Participation in FEMA's Community Rating System (CRS) helps reduce flood risk by encouraging proactive floodplain management and preparedness. The City's involvement in the CRS program not only enhances public safety but also provides residents with discounted flood insurance premiums. For more details, refer to **Chapter 5: Flooding Hazards, Section F: Flood Management and Improvement.**

9 "City of Poway Water Shortage Contingency Plan." City of Poway, 2021, www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_mitplan.html.https://poway.org/DocumentCenter/View/8182/Water-Shortage-Contingency-Plan?bidId=

Chapter 8

Hazardous Waste

A. Background

Manmade hazards are risks arising from human actions or failures in systems, leading to potential harm to people, property, or the environment. Man-made hazards may result from intentional actions or human negligence, but their consequences can be just as devastating as those of natural disasters. In the City of Poway, manmade hazards such as improper hazardous waste management could pose risks to public health, environmental quality, and overall community well-being.

B. Hazardous Waste Management

We live in an era of advanced technology and a high standard of living. This industrial age has lent itself to a great dependence upon the use of products containing chemical substances and/or requiring the use of chemicals in their manufacturing and packaging. While our quality of life and economic stability may be dependent on these products, mismanagement of their chemical remains or the hazards generated could pose risk to the public.

A "hazardous material" is defined by California Health and Safety Code Section 25501 as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Consumer goods such as televisions, computers, automobiles, and medicines generate hazardous waste as part of their manufacturing process. Hazardous waste may be toxic, corrosive, reactive and/or flammable. The risk posed by a particular waste depends on its chemical composition, physical state, concentration, its availability for exposure to humans and the environment, and the manner in which it is handled and managed.

The answer to the critical issue of hazardous waste management lies in a comprehensive, cooperative planning effort among government, industry, environmental organizations, and the public. The management of hazardous waste should follow a hierarchy of preferred alternatives. The first priority is the reduction of the hazardous waste at the source, because it eliminates or minimizes the problem and risk and avoids the need for further handling. On-site and off-site recycling, recovery, and reuse is the next priority. This is followed by on-site and off-site treatment of hazardous wastes. Treatment techniques can physically or chemically alter the wastes to eliminate or diminish their hazardous properties and often reduce their volumes. Finally, land disposal facilities will continue to be necessary for the management of residuals produced by these treatment technologies.

The City of Poway provides free household hazardous waste disposal for residents at the Household Hazardous Waste Collection Facility. Household hazardous waste is unused or leftover portions of products containing chemicals used to maintain your residence. Products labeled caution, warning, danger, poison, toxic, flammable, or corrosive are considered hazardous. Information is provided to residents for the safe disposal of electronic waste, medication waste, sharps waste, universal waste, and used oil and oil filters. Additionally, commercial or industrial facilities are required to be inspected by the Poway Fire Department Fire Prevention Division.

The City of Poway has authority for land use decisions regarding hazardous materials facilities within the City boundaries, The General Plan contains goals and policies relating to hazardous waste minimization, proper disposal of household hazardous wastes, and the proper siting of potential hazardous materials facilities.

Chapter 9

Noise Hazards

~~(Adopted 1991, Not Revised in the 2025 Update)~~

A. Noise Hazards

Noise is generally defined as unwanted or unpleasant sound. For most people, the consequences of noise are interference with speech and other communication, distractions at home or at work, disturbance of rest and sleep, and the disruption of various recreational pursuits. The long-term effects of noise are widespread and include both psychological and physiological effects.

Noise is a function of the mechanized world we live in and is principally caused by the operation of machines for transportation or production. In Poway, traffic movement on the City's arterial road system is the predominant cause of noise. Effective land use planning can alleviate noise problems.

1. Related Plans and Programs

Federal and State agencies have prepared guidelines which identify standards and regulations concerning noise mitigation in both the workplace and in residences. The California Department of Health, Office of Noise Control, and the U.S Department of Housing and Urban Development have identified standards and regulations concerning human exposure to noise and noise mitigation.

The California noise insulation standard has established a maximum interior limit caused by outside sources, and minimum acoustical performance standards for party walls and floor/ceiling assemblies in new multiple family dwelling unit construction, including hotels, motels, hospitals, and convalescent homes.

The party wall and floor/ceiling construction minimum performance standards are 45 decibels. An acoustic analysis is required showing that the multi-family units have been designed to limit interior noise levels with doors and windows closed, to 45 CNEL in any habitable room. Title 21 of the California Administrative Code (Subchapter 6, Article 2, Section 5014) also specifies that multi-family attached units incorporate noise reduction features sufficient to assure that interior noise levels in all habitable rooms do not exceed 45 CNEL.

The California Preemption Plan includes a provision for enforcing property line noise limits according to the zoning district or avoiding incompatibility by implementing the land use CNEL compatibility limits.

The zoning limits, which regulate hourly average noise, can be enforced to control the trespass of noise leaving any property owned or zoned by the City unless the use of the property is preemptively regulated by the state or the federal government. Even in these cases, the agency which has jurisdiction may elect to apply local statues in addition to state and federal laws. Neither this plan nor the property line noise limits of the zoning ordinance duplicate preempting legislation.

2. Noise Rating Schemes

Definitions of terms and rating schemes for noise are described below. Noise levels are measured on a logarithmic scale in decibels which are then weighted and added over a 24-hour period to reflect not only the magnitude of the sound but also its duration, frequency and time of occurrence. In this manner, various acoustical scales and units of measurement have been developed such as equivalent sound levels (Leq), day-night average sound levels (Ldn), and Community Noise Equivalent Levels (CNEL'S).

A-Weighted Sound Levels (dBA): A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against the very low and high frequencies of the audible spectrum. They are essentially adjusted to reflect only those frequencies audible to the human ear. The decibel scale has a value of 1.0 dBA at the threshold of hearing and 140 dBA at the threshold of pain. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud.

Therefore, a 1.0 decibel increase is just audible, whereas a 10 decibel increase means the sound is perceived as being twice as loud as before. Examples of the decibel level of various noise sources include the quiet rustle of leaves (10 dBA), a soft whisper (20 to 30 dBA), the hum of a small electric clock (40 dBA), ambient noise outdoors or in a household kitchen (50 dBA), normal conversation (60 dBA), or a busy street (70 to 80 dBA).

Ambient Noise Level: The combined noise from all sources near and far is the ambient noise level. The ambient noise level is the existing level of environmental noise at a location.

Decibel (dB): A decibel is the unit for measuring sound pressure level and is equal to 10 times the logarithm (to the base 10) of the ratio of the measured sound pressure squared to a reference pressure (i.e., 20 micro pascals) squared.

Equivalent Energy Level (Leq): Equivalent energy levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent energy level (Leq) is the constant level that, over a given time period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent energy levels are the basis for both the Ldn and CNEL scales.

*Day-Night Average Level (Ldn.)***:** Day-night average sound levels are a measure of the cumulative noise exposure of the community. The Ldn value results from a summation of hourly Leq's over a 24-hour time period with an increased weighing factor applied to the nighttime period between 10PM and 7AM. This noise rating scheme takes into account those subjectively more annoying noise events which occur during the normal sleeping hours.

Community Noise Equivalent Level (CNEL): Community Noise Equivalent Levels carry weighted penalties for noises that occur during the nighttime hours or that occur during the evening hours between 7PM and 10PM. Because of the weighted factors applied, CNEL values at a given location will always be larger than Ldn values, which in turn exceed Leq values. However, the

CNEL has limitations when compared to the decibel (dB) ratings, because it averages noise over a 24-hour period, and can thus downplay the highest noise events. In summary, the CNEL represents the energy noise exposure averaged on daily and annual basis.

Intrusive Noise: Intrusive noise is that noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, tonal or informational content, and prevailing ambient noise level.

L Percentile: L percentiles represent the A-weighted sound levels exceeded for the identified x% of the sample time (eg. L 10, L90).

Noise Contours: The lines drawn about a noise source indicating constant or equal level of noise exposure are called noise contours.

Noise Sensitive Land Use: Noise sensitive land uses are land uses associated with indoor or outdoor human activities that may be subject to stress and/or significant interference for noise. They include residential (single and multi-family dwellings, mobile home park, dormitories and similar uses), transient lodging (including hotels, motels, and similar uses), hospitals, nursing homes, convalescent hospitals, other facilities for long-term medical care, public or private education facilities, libraries, churches, and other places of public gathering.

Hourly Noise Level (HNL): The HNL is the one-hour average, A-weighted sound level. It is used in this plan to regulate noises which are not preempted from municipal control at the nearest property line according to zoning land use.

3. Harmful Effects of Noise

Approximately 20 million people in the United States currently have some degree of hearing loss. In many of these cases, exposures to very loud, impulsive or sustained noises caused damage to the inner ear which was substantial even before a hearing loss was actually noticed. To prevent the spread of hearing loss, a desirable goal would be to minimize the number of noise sources which expose people to sound levels above 70 decibels but hearing impairment is only one of the harmful effects of noise on people.

Noise can also cause other temporary physical and psychological responses in humans. Temporary physical reactions to passing noises range from a startle reflex to constriction in the peripheral blood vessels, the secretion of saliva and gastric juices; and changes in heart rate, breathing patterns, the chemical composition of the blood and urine, the dilation of the pupils of the eye, visual acuity, and equilibrium. The chronic recurrence of these physical reactions has been shown to aggravate headaches, fatigue, digestive disorders, heart disease, and circulatory and equilibrium disorders. Moreover, as a source of stress, noise is a contributory factor in stress-related ailments such as ulcers, high blood pressure, and anxiety.

Two other harmful effects of noise involve speech interference and the prevention or interruption of sleep illustrates how excessive background noises can reduce the amount and quality of verbal

exchange and thereby impact education, family lifestyles, occupational efficiency, and the quality of recreation and leisure time. As shown therein, speech interference begins to occur at about 40 to 45 decibels and becomes severe at about 60 decibels. Background noise levels affect performance and learning processes through distraction, reduced accuracy, increased fatigue, annoyance and irritability, and the inability to concentrate. This is particularly of concern when complex tasks are involved or in schools where younger children exhibit imprecise speech patterns and short concentration spans.

Several factors determine whether or not a particular noise event will interfere with or prevent sleep. These factors include the noise level and characteristics, the stage of sleep, the individual's age, motivation to waken, and so forth. Ill or elderly people are particularly susceptible to noise induced sleep interference, which can occur when intruding noise-induced levels exceed the typical 35-45 decibel background noise level in bedrooms. Sleep prevention can occur when intruding noise levels exceed 50 dBA. The harmful effects of noise on sensitive noise receptors is summarized in Figure 9-1.

Figure 9-1

Harmful Effects of Noise	
Effect	Noise Levels At Which Harmful Effects Occur
Prevention of Interruption of Sleep	34 – 45 dB(A)
Speech Interference	50 – 60 dB(A)
Extra Auditory Physiological Effects	65 – 70 dB(A)
Hearing Loss	75 – 85 dB(A)

4. Land Use Issues

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than commercial or manufacturing activities. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design of new developments. Noise impacts can affect the perceived amenity or livability of a development and can impair the economic health and growth potential of a community, reducing the area's desirability as a place to live, shop, and work.

5. Significant Noise Sources

Two types of noise source should be considered, stationery and mobile sources Fixed sources of noise include: manufacturing and construction activities, air conditioning/refrigeration units, whistles or bells, high-level radio, stereo or television usage, power tools, lawn mowers,

appliances used in the home, and barking dogs. Mobile noise sources are typically transportation-related and include. automobiles, trucks, buses, motorcycles and off-road vehicles.

Motor vehicles on the City roadway system are the major source of continuous noise. As a result, they affect the noise environment of both the existing and planned land uses adjacent to the master planned transportation system. The noise exposure due to traffic circulation depends on several physical features of the roadway, traffic patterns, terrain and the proximity to sensitive receptors. To account for all of these factors requires a site specific analysis at every receptor.

Figure 9-2 shows the worst-case noise influence areas based on existing conditions and recommended master plan traffic patterns for Transportation Element Master Plan roadways. The distances, shown in the boxes under the CNEL contour levels, are based on the maximum expected CNEL level for each roadway.

Figure 9-2

Roadway Center Line Distance To CNEL Contours In Feet

	Current Average Daily Traffic		Recommended Average Daily Traffic			
	CNEL Estimated Decibels					
Roadway Segment	60 dB	65 dB	60 dB	65 dB	60 dB	65 dB
Espola Road						
West of Pomerado	262’	122’	57’	327’	152’	71’
Pomerado to Old Coach	233’	108’	50’	360’	167’	78’
Old Coach to Lake Poway	126’	58’	<50’	311’	144’	67’
Lake Poway to Twin Peaks	128’	59’	<50’	322’	149’	69’
Twin Peaks to Poway Road	101’	<50’	<50’	423’	196’	91’
Poway Road						
West of Pomerado	436’	202’	94’	416’	193’	90’
Pomerado to Community	453’	210’	97’	373’	173’	80’
Community to Garden	413’	192’	89’	332’	154’	71’
Garden to Espola	191’	89’	<50’	287’	133’	62’
Espola to SR-67	217’	101’	<50’	149’	69’	<50’
State Route 67						
Scripps Poway Parkway to Poway Road	161’	75’	<50’	473’	220’	102’
North of Poway Road	153’	71’	<50’	507’	235’	109’
Pomerado Road						
South of Scripps Poway Parkway	73’	<50’	<50’	355’	165’	77’
Scripps Poway Parkway to Poway Road	69’	<50’	<50’	414’	192’	89’

Poway Road to Ted Williams Parkway	219’	102’	<50’	344’	160’	74’
Ted Williams Parkway to Twin Peaks	215’	100’	<50’	379’	176’	82’
Twin Peaks to Bernardo Heights	198’	92’	<50’	396’	184’	85’

Roadway Center Line Distance To CNEL Contours In Feet

	Current Average Daily Traffic			Recommended Average Daily Traffic		
	CNEL Estimated Decibels					
Roadway Segment	60 dB	65 dB	70 dB	60 dB	65 dB	70 dB
Ted Williams Parkway						
Pomerado to Twin Peaks	<50’	122’	57’	327’	152’	72’
Camino Del Norte						
East of Interstate 15	249’	116’	54’	450’	209’	97’
Twin Peaks						
Pomerado to Ted Williams Parkway	196’	91’	<50’	401’	186’	86’
Ted Williams Parkway to Community	160’	74’	<50’	538’	250’	116’
Community to Midland	175’	81’	<50’	338’	157’	73’
Midland to Espola	146’	68’	<50’	146’	68’	<50’
Community						
Poway Road to Twin Peaks	103’	<50’	<50’	154’	71’	<50’
South of Poway Road	176’	82’	<50’	215’	100’	<50’
Midand Road						
Poway Road to Edgemoor	128’	59’	<50’	153’	79’	<50’
Edgemoor to Twin Peaks	73’	<50’	<50’	153’	79’	<50’

6. Noise Reduction Strategies

Growth in and near the City of Poway will generate increased traffic volumes. As traffic levels rise, existing residences will be exposed to higher noise levels.

Site Planning: Proper site planning to reduce noise impacts is one of the first areas that should be investigated for a given project. By taking advantage of the natural shape and terrain of the site, it is often possible to arrange the buildings and other uses in a manner which will reduce and possibly eliminate noise impact. Site planning techniques include:

- Increasing the distance between the noise source and the receiver.
- Placing non-noise sensitive land uses such as parking lots, maintenance facilities and utility areas between the source and the receiver.

- Using non-noise sensitive structures such as garages to shield noise-sensitive areas.
- Orienting buildings to shield outdoor spaces from a noise source.

Architectural Layout: In many cases noise reduction requirements can be met by giving attention to the layout of noise-sensitive spaces. Bedrooms, for example, will be considerably quieter if placed on the side of the housing facing away from a road. Similarly, balconies facing major noise sources should be avoided. Quiet indoor spaces can be provided next to a noisy roadway by creating a U-shaped development which faces away from the road. Proper architectural layout can often eliminate the need for costly construction modifications.

Noise Barriers: Noise barriers or walls are commonly used to reduce noise levels for ground transportation noise sources and industrial sources. Noise barriers serve a dual purpose in that they can reduce the noise level both outdoors and indoors.

To be effective, a noise barrier must be massive enough to prevent significant noise transmission through it and high enough and long enough to shield the receiver from the noise source. A safe minimum surface weight for a noise barrier is 3.5 pounds/square foot (equivalent to 3/4-inch plywood) and the barriers must be carefully constructed so that there are no cracks or openings. Since sound travels in a straight line, to be effective, a barrier must interrupt the line-of-sight between the noise source and the receiver.

Another important and often overlooked consideration in the design of noise barriers is the phenomenon of "flanking." Flanking is a term used to describe the manner by which a noise barrier's performance is compromised by a noise passing around the end of a barrier. The effects of flanking can be minimized by bending the wall back from the noise source at the ends of the barrier.

In addition to meeting acoustical requirements, noise barriers must be evaluated for possible maintenance problems, aesthetic and environmental considerations, safety conflicts, and cost. Where space is available, a meandering earth berm is both effective and aesthetically pleasing. Where space is restricted, a wall would be appropriate, but, in either case, landscaping should be utilized with the barrier for aesthetic purposes. The overall height of noise walls should be limited to avoid visual blight.

Construction Modifications: If site planning, architectural layout, noise barriers, or a combination of these measures does not achieve the required noise reduction for the building, it will be necessary to modify the building's construction. Indoor noise levels from exterior sources are controlled by noise reduction characteristics of the building shell. The walls, roof, ceilings, doors, windows and other penetrations are all determinants of the structure's overall noise reduction capabilities.

In general, windows and doors are the acoustical weak links in a building. Often, all that is necessary is that the windows be sealed on the noisy side of the building and an alternative means of ventilating the building be provided. Beyond this, thicker windows or double-glazed windows may be necessary. Doors should not be located on the side of the building facing a noise source. If they are, they should be solid-core doors and should be equipped with an appropriate acoustical

door gasket. In cases where more noise reduction is required, the ceiling, roof, and/or the walls must be modified to provide the required noise reduction. The actual modifications will depend on the amount of noise reduction required.

1. Exterior Sensitivity

Land use sensitivity to noise depends on the need for the quiet outdoor use of property. Figure 9-3 demonstrates the exterior CNEL limit for declared sensitive land uses.

Figure 9-3

CNEL Limit For Land Use				
	CNEL Allowable Levels			
Land Use	60 dB	65 dB	70 dB	75 dB
Single Family Residential & Mobile Homes	Yes	No	No	No
Passive Parks	No	Yes	Yes	No
Multi-Family Residential	Yes	Yes	Yes	No
Lodging	Yes	Yes	Yes	Yes

As noted, the traffic volumes and accompanying noise levels are projected to increase with respect to the development pace of the City. Many of Poway's first subdivisions, which required little or no noise mitigation, are located adjacent to these roadways. To minimize the noise impacts within these neighborhoods, the City has constructed noise attenuation walls on sections of Pomerado and Twin Peaks Road.

It is the goal for all new residential subdivisions to maintain a 60 dB exterior noise standard, however, this level of mitigation is not always achievable when constructing noise walls within existing subdivisions. In such cases topography, setback distances, secondary structures, mature trees, and other amenities constrain the location and height of the wall. Given these circumstances, the City will strive to achieve the best level of mitigation possible.

While it is not the desire of the City to construct a noise wall adjacent to every arterial roadway, the City does recognize the need to maintain noise levels that are conducive to residential living. To this end, the city will continue to evaluate those locations where noise levels exceed unacceptable standards.

For residential areas next to existing arterials, the City will use the following general guidelines:

- CNEL noise levels in undeveloped areas will mitigate to 60 dB.
- When improvements to arterials are constructed in developed areas where existing CNEL is below 60 dB, noise levels will be mitigated to a CNEL of 60 dB provided a noise

attenuation wall does not exceed eight feet. If the proposed noise attenuation wall exceeds eight feet, the City will strive to reduce noise to the best practical level.

- In areas where the existing CNEL noise level exceeds 65 dB, the noise level will be mitigated to 65 dB.

Regarding intermittent mechanical noise, due to the proximity of some residential areas to commercial uses, a 9:00PM deadline for mechanical noise in these areas would be appropriate. Also, deliveries, cleaning of parking lots and dumpster service for commercial and industrial businesses need to be reviewed as these activities may also be disruptive to residential uses in the vicinity.

Chapter 10

Goals, Policies, and Action Items

Goal 1: It is the goal of the City of Poway to provide a safe and healthy environment for the residents of Poway.

Policy A: Encourage and support the delivery of high quality emergency services through cooperation with other agencies and use of all financial opportunities available.

Strategy A-1: Ensure that the maximum advantage is obtained from the resources of the federal government, state, county and neighboring municipalities and support efforts of other jurisdictions to provide safety related services.

Strategy A-2: Provide for the activation of an Emergency Operations Center for use during a disaster. Utilize interagency communication systems and standardized emergency management system (SEMS) to coordinate with local, state and federal partners.

Policy B: The City shall maintain high standards for fire protection service delivery, response times, facility location, and interagency coordination.

Strategy B-1: Foster coordination between the Poway Fire Department, Public Works Department, San Diego County Water Authority and the Metropolitan Water District of Southern California to ensure adequate water supply for fire suppression needs, including adequate water flow and pressure.

Strategy B-2: The construction of public facilities and transportation corridors shall be consistent with the adopted standards of the Uniform Building Code and Uniform Fire Code.

Strategy B-3: Require that new essential public facilities be sited outside high fire risk areas, including the Very High Fire Hazard Severity Zone (VHFHSZ).

Strategy B-4: Fire protection service delivery and resource deployment shall be responsive to changing demand and demographic conditions in surrounding areas, including adjustments to facilities and equipment through new construction, replacement, or reallocation as needed to maintain a high levels of service.

Strategy B-5: Support mutual aid agreements and emergency communication with the County and the other municipalities participating in the Unified Disaster Council.

Policy C: The City shall promote community awareness and engagement, education, and volunteerism with a focus on the whole community.

Strategy C-1: Provide outreach and education on the risks associated with wildfire hazards and promote wildfire risk reduction activities including fire resilient landscaping, defensible space, and evacuation procedures with an emphasis on reaching at-risk communities.

Strategy C-2: Inform residents in multi-family housing, group homes, and other community housing in the VHFHSZ about evacuation and shelter in place plans as part of outreach and education programs.

Policy D: Implement and maintain vegetation and fuel management programs to reduce wildfire risk.

Strategy D-1: Maintain vegetation management programs to reduce roadside vegetation along heavily traveled roads and designated evacuation routes, subject to Habitat Conservation Plan requirements.

Strategy D-2: Require landscape plans for projects in the VHFHSZ implementing the fire control requirements of the City's landscape standards.

Strategy D-3: Develop a long-term maintenance plan for fire mitigation projects, including community fire breaks and private/public road clearance.

Policy E: Implement programs to guide new and existing development to meet or exceed fire safety standards, especially in high-risk fire hazard areas.

Strategy E-1: Apply the minimum structural fire protection standards contained in the adopted Poway Municipal Code to new development with enhancements to the minimum standards to provide optimum protection where deemed appropriate. Development standards applied in the VHFHSZ shall meet or exceed Title 14, CCR, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (SRA Fire Safe Regulations) and Title 14, CCR, Division 1.5, Chapter 7, Subchapter 3, Article 3 (Fire Hazard Reduction Around Buildings and Structures Regulations).

Strategy E-2: Parcel maps and tentative maps in the VHFHSZ shall be reviewed for conformance with SRA Fire Safe Regulations and Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access.

Strategy E-3: To the extent feasible, site new residential development outside the VHFHSZ. If development cannot feasibly be sited outside of the VHFHSZ, require fire protection plans and fuel modification plans around homes and subdivisions.

Strategy E-4: Require visible home and street addressing and signage for new and existing development.

Strategy E-5: Require fire retardant building materials based upon the type of construction in and outside of high fire hazard areas.

Strategy E-6: Evaluate the capacity of local streets and transportation corridors for safe evacuation when new development is proposed and apply appropriate development standards.

Strategy E-7: Evaluate and make recommendations for addressing, where feasible, existing development that does not conform to fire safe standards, specifically related to road standards and landscape management.

Strategy E-8: Evaluate the potential for redevelopment after large fires by ensuring that measures are taken to mitigate fire hazards to the maximum extent possible.

Strategy E-9: Consult with responsible departments to ensure that fire, police, utilities, and emergency service concerns are considered in the review of planning and development proposals. Consideration shall be given to adequate emergency access, driveway widths, turning radii, fire hydrant locations, water supply, and needed fire flow requirements for all new development.

Policy F: Develop an evacuation system which supports adequate and timely egress in the event of a wildfire or other disaster.

Strategy F-1: Evaluate and make recommendations for addressing, where feasible, areas that exist with limited access/evacuation routes and existing road networks in the VHFHSZ that do not meet Title 14, CCR, Division 1.5, Chapter 7, Subchapter 2, Articles 2 and 3, regarding ingress and egress standards, evacuation routes, road widths, turning radii, signage and building numbering.

Strategy F-2: Maintain and update evacuation plans for areas affected by hazards as part of the Emergency Operations Plan, including procedures related to residential developments in the VHFHSZ that do not have at least two emergency evacuation routes and/or are located on streets less than 20 feet in width.

Policy G: Enhance response capacity to emerging and complex fire and emergency threats through training and innovation.

Strategy G-1: Establish procedures, training and implementation actions for rescue efforts, medical efforts, emergency shelters, and provision of supplies.

Strategy G-2: Track emerging technologies and best practices for fighting electrical fires caused by battery storage systems including lithium-ion home battery systems and electric vehicle batteries and charging systems.

Strategy G-3: Continue to develop and implement specialized training and emergency response procedures for first responders and emergency personnel to respond fires involving home battery storage systems and electric vehicle batteries and charging systems.

Policy H: Secure high-quality law enforcement so as to maintain a sense of personal safety and security for the residents of Poway.

Strategy H-1: Routinely involve law enforcement personnel in the review of new development applications as they relate to street access and safety and to the concept of crime prevention through environmental design.

Strategy H-2: The central focus of law enforcement in the City of Poway should be protection of life and property.

Strategy H-3: Continue to promote the establishment of neighborhood watch programs to encourage community participation in the patrol and to promote awareness of any suspicious activity.

Strategy H-4: Promote crime prevention programs for commercial and industrial areas.

Strategy H-5: All structures should be adequately identified by street address and be lighted sufficiently to deter criminal activity.

Strategy H-6: Encourage and support community programs which increase communication with law enforcement and enhance neighborhood cohesiveness.

Policy I: Work locally and at the regional level to reduce air, water, and soil pollution within Poway.

Strategy I-1: Work closely with regional agencies to help control all forms of pollution.

Strategy I-2: Seek to promote a development pattern that reduces daily trips for shopping, school, and recreation.

Strategy I-3: Encourage ridesharing, the use of transit, and other transportation systems management programs to reduce the number of vehicle miles traveled and traffic congestion.

Strategy I-4: Consider the use of clean fuel systems for new local government fleet vehicles.

Strategy I-5: Implement plans and programs to phase-in energy conservation improvements.

Policy J: The City shall be prepared to successfully manage public emergencies which may occur.

Strategy J-1: Pursue new ideas, plans, and programs to improve Poway's Emergency Plan.

Strategy J-2: Maintain the Poway Council Chambers as a permanent emergency operations center and a secondary command post. Maintain sufficient supplies to begin operations immediately in the case of a disaster. The classroom at Fire Station #3 will serve as a backup Emergency Operations Center.

Strategy J-3: Maintain the Community Emergency Response Team (CERT), Poway Auxiliary Communications Team (PACT), and Poway Fire Safe Council. Encourage volunteer and civic organizations to educate and equip themselves to provide community emergency assistance, if necessary.

Strategy J-4: Develop an accurate citywide emergency resource inventory of locally available supplies, equipment and heavy vehicles and devise a state of emergency procurement procedure.

Strategy J-5: Update and maintain the Emergency Operations Plan to provide direction to all persons responsible for acting in a disaster situation.

Policy K: The City supports the San Diego County Hazardous Waste Management Plan and seeks its implementation by encouraging waste minimization, proper disposal of household hazardous wastes and by establishing criteria for land use decisions regarding hazardous waste treatment facility siting.

Strategy K-1: Encourage businesses to conduct waste minimization opportunity assessments to determine their potential for source reduction and recycling.

Strategy K-2: Investigate the adoption of an ordinance to require businesses to prepare submit and implement hazardous waste minimization plans.

Strategy K-3: Consider establishing a reward program to recognize businesses that implement waste minimization successfully and conducting a media campaign designed to recognize these businesses.

Strategy K-4: Encourage safe and proper disposal of the household hazardous waste; comply with Integrated Waste Management Act requirements of no Household Hazardous Waste to landfills.

Strategy K-5: Continue to encourage district collection events and seek an appropriate location to establish a permanent community collection center.

Strategy K-6: Seek to ensure timely and complete clean-up of contaminated sites.

Strategy K-7: The siting criteria of the San Diego County Hazardous Waste Management Plan are incorporated into the Poway General Plan by reference and shall be used to determine acceptable locations and conditions for off-site hazardous waste treatment facilities.

Strategy K-8: Ensure that off-site hazardous waste treatment facilities are subject to complete and thorough local review.

Strategy K-9: Encourage the coordination of facility siting responsibilities among Southern California's local governments through adoption and implementation of the Southern California Hazardous Waste Management Authority Regional Plan Fair Share Policies and Regional Action Plan.

Policy L: Promote safe, environmentally sound means of solid waste disposal for the community.

Strategy L-1: Proceeds of recycling are a resource and should be used to benefit the community to the extent feasible.

Strategy L-2: Continue to implement and expand the curbside recycling program in all residential neighborhoods.

Strategy L-3: Promote the use of all plant material waste for compost or mulch.

Strategy L-4: Promote the recycling of construction refuse and “white waste” (water heaters, washing machines, etc.), including implementation of the City's Construction Waste Management Plan (CWMP). For applicable building permits, completion of CWMP Part 1 prior to issuance and CWMP Part 2 prior to final inspection, with both forms verified by EDCO under the City's contracted program.

Strategy L-5: Investigate ways to encourage businesses to recycle their waste.

Policy M: Ensure a safe and pleasant acoustical environment for the residents of Poway.

Strategy M-1: Utilize site planning, zoning regulations, architectural design standards, and building construction regulations to reduce impacts.

Strategy M-2: Review discretionary project applications which include sensitive land uses for conformance with the applicable one hour average sound level limit.

Strategy M-3: Require mitigation measures for all proposed projects which are found, according to an Acoustical Analysis Report to result in noise levels exceeding the applicable one hour average sound level limit.

Strategy M-4: Proposed land uses which have the potential to generate noise exceeding the established limits should be subject to an Acoustical Noise Report with mitigation measures to be specified.

Strategy M-5: Increases in traffic noise caused solely by roadway improvements shall be mitigated to future levels which would have occurred without the improvement, where feasible.

Strategy M-6: When noise protection barriers are needed, they shall be located in the most cost-effective location. The maximum protection for a given barrier height and length shall be determined by acoustical analysis using the current edition of the FHWA noise level model program and considering Caltrans Traffic Noise Analysis Protocols for reasonableness and feasibility.

Strategy M-7: Noise protection walls may be limited to a height of eight feet if a taller one is deemed to be aesthetically degrading to the environment, even when a taller wall may be needed to achieve Noise Element standards.

Strategy M-8: Mitigation walls will be at least four feet high, even if mitigation calculations call for a shorter wall.

Strategy M-9: A time-averaging sound level meter meeting American National Standards Institute S.1 standards shall be used to enforce the noise control provisions of the Zoning Ordinance.

Strategy M-10: Enforce the provisions of the California Noise Insulation Standards (CCR Title 24) prior to issuing a building permit for multiple-family dwelling units. If these units are located

in an area of noise incompatibility (exposed to 60 decibels or more, CNEL) an Acoustical Analysis Report, as prescribed in Section II D of the Noise Hazards Element shall be prepared demonstrating that interior noise levels of habitable rooms will not exceed 45 decibels.

Strategy M-11: The interior floor/ceiling and party wall assemblies for multiple-family dwelling, whether or not they are located in areas of noise incompatibility shall provide a minimum insulation between units of 45 decibels, FSTC.

Strategy M-12: Standard care and practice guidelines for building construction shall include, but not be limited to, the current edition of the American Standards for Testing Materials, E-497, standard practice for installing sound-insulation lightweight partitions.

Strategy M-13: When new projects are submitted to the City involving outdoor activity which are proximate to sensitive uses and require Conditional Use Permits, Tentative Map approval, Specific Plan Amendment or Zoning Change etc. A report must be submitted that demonstrates that significant environmental impacts, including noise are mitigated to less than significant levels.

Goal 2: It is the goal of the City of Poway to minimize injuries, loss of life and property damage resulting from natural and man-made hazards.

Policy A: The City should encourage the development and implementation of hazard prevention programs designed to provide adequate information and services to the community.

Strategy A-1: Empower community members through education and engagement to prepare for hazards and take action during an emergency.

Strategy A-2: Assure that all development applications are reviewed by persons qualified to identify potential natural hazard problems and that appropriate conditions be attached to allowed developments so as to mitigate potential damage.

Strategy A-3: Actively encourage the generation of ideas, plans, and programs to achieve a state of community self-reliance.

Strategy A-4: Develop mitigation measures to enhance the safety of neighborhoods though improved egress, defensible space, structural hardening, and vegetative fuel management projects.

Policy B: The community should be protected against the hazards associated with geologic formations, particularly landslides, through proper land use policies and mitigation.

Strategy B-1: Compare all development applications with the GIMS Mapping System to determine if significant geologic hazards exist.

Strategy B-1: Investigations performed by a qualified engineering geologist and soil engineer shall be required for all development review applications. For land development in the Friars Formation areas a detailed slope stability analysis is also required and shall adhere to the requirements set forth in the Poway Municipal Code.

Strategy B-3: Development within unstable slope and landslide areas will be prohibited unless adequate measures are taken to protect against slippage.

Strategy B-4: Establish and maintain proper soil management techniques to reduce the adverse effects of soil-related problems such as shrink-swell behavior, erosion, run-off potential, and septic tank failure.

Policy C: Seismic hazards should be controlled to a level of acceptable risk through the identification and recognition of potentially hazardous conditions and areas.

Strategy C-1: New development should evaluate and mitigate identified seismic hazards such as ground shaking, ground rupture, landslides, liquefaction, and structural hazards in accordance with adopted Building Codes.

Strategy C-2: The GIMS Mapping System and the Seismic Matrix shall be used to determine if the probability of a seismic hazard exists.

Strategy C-3: Where it has been determined that there is the elevated probability of a seismic hazard, an investigation by a qualified engineering geologist shall be required.

Strategy C-4: Regularly inform community residents of the potential seismic hazards that can exist and the best methods of reducing injury, property damage, or loss of life in the home or business establishment.

Policy D: The public should be protected against potential loss of life and property through regular dam and creek maintenance, proper flood hazard management policies, and future capital improvements.

Strategy D-1: Lake Poway Dam shall receive regular inspections of the embankment, spillway, and inlet/outlet facilities to ensure safe operation.

Strategy D-2: Lake Poway shall be kept at or below the designed high water level to reduce the risk of spilling.

Strategy D-3: Natural watercourses shall be maintained as the primary flood control channels. Where feasible, the natural creekside environment shall be preserved.

Strategy D-4: Maintain a program to ensure that the floodways are kept free and clear at all times. Costs associated with creek maintenance shall be borne by the property owner or the holder of open space easement rights.

Strategy D-5: Watershed areas in the eastern Poway mountains should be preserved to the extent feasible to maintain the health, safety, and welfare of residents living adjacent to the City's major creeks in the Poway valley.

Strategy D-6: All property owners must accept natural water flow from upper properties and are responsible for controlling any concentration or increased flow they create on their land, which could damage neighboring properties in conformance with California Drainage Law.

Strategy D-7: Structures which do not conform to Poway Flood Hazard Management standards must be brought into conformance with these standards if reconstruction, rebuilding, or repairing made necessary by damage will exceed 50 percent of the reasonable replacement value of the structure prior to any damage.

Strategy D-8: Critical emergency uses (hospitals, fire stations, police stations, public administration buildings, and schools) shall not be located in flood hazard areas.

Strategy D-9: New development shall discharge to improved drainage facilities and shall proportionately contribute to drainage improvements required to accommodate ultimate development and as required in the Drainage Master Plan.

Strategy D-10: Development within the Special Flood Hazard Area (SFHA) is discouraged, unless no other feasible alternatives exist. Development in the SFHA may be approved if the following conditions are met:

- All structures, both permanent and temporary, must be raised a minimum of one foot above the 100-year flood level;
- Information certifying the 100-year flood level must be submitted by a qualified civil or hydrological engineer;
- All-weather access must be provided to all developments for divisions of land, residential units, commercial buildings, manufacturing buildings, or public buildings;
- Information certifying that no upstream or downstream changes to the 100-year floodplain will occur must be submitted by a qualified civil or hydrological engineer.
- For development in the 100 -year floodway, evidence that no rise will occur in flood elevations must be submitted by an experienced registered professional engineer.

Strategy D-11: For purposes of land division, floodway areas shall not be included in the calculation of net area.

Strategy D-12: To prevent increased flooding within Poway, all new land divisions, multi-family residential and commercial/industrial developments shall be designed to match pre-development peak discharge rates and to provide connection to an improved drainage facility.

Strategy D-13: No development shall be approved that would inhibit, prevent, or preclude the location of proposed drainage improvements, as outlined in the Drainage Master Plan.

Strategy D-14: The cost of improvement to the City flood and drainage control system made necessary by new development shall be borne by the developer.

Policy E: Enhance climate resilience through preparation and planning for extreme weather events.

Strategy E-1: Regularly update relevant plans to address climate-related vulnerabilities such as high storm-water runoff or extreme weather events (including extreme heat).

Strategy E-2: Participate in the San Diego County Multi-Jurisdictional Hazard Mitigation Plan to mitigate the impacts of natural hazards, human-caused hazards and address climate resilience.

Strategy E-3: Monitor climate events with local, regional, State and/or federal partners to evaluate the effectiveness of existing infrastructure and programs.