CHAPTER 7 Safety Element

Introduction

Statutory Requirements

California Government Code Section 65302 (g) includes the requirements that should be addressed in a community's general plan safety element. These requirements are organized into nine subsections [65302 (g) (1) through 65302 (g) (9)], which are summarized below:

- 65302 (g) (1) identifies the primary hazards/issues that should be included in the safety element, which include: seismically induced surface rupture, ground shaking, ground failure, slope instability leading to mudslides and landslides, tsunami, seiche, dam failure, flooding, subsidence, liquefaction, other geologic hazards, wildland and urban fires, evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards
- 65302 (g) (2) adopted through AB 162 (2007) identifies the requirements to update floodplain mapping and information, which includes special requirements for jurisdictions within the Central Valley Flood Protection Board
- 65302 (g) (3) adopted through SB 1241 (2012) identifies the requirements for updating wildfire mapping, information, and goals and policies to address wildfire hazards
- 65302 (g) (4) adopted through SB 379 (2015) identifies the requirements for updating the safety element to address potential impacts associated with climate change and potential strategies to adapt/mitigate these hazards
- 65302 (g) (5) adopted through SB 99 (2019) requires identification of specified evacuation constraints associated with residential developments
- 65302 (g) (6) adopted through SB 1035 (2018) requires the update of the safety element every time the housing element or local hazard mitigation plan is updated
- 65302 (g) (7) allows for the incorporation of a flood plain management ordinance into the safety element
- 65302 (g) (8) requires consultation with the California Geological Survey, California Office of Emergency Services, and Central Valley Flood Protection Board, when applicable
- 65302 (g) (9) allows cities to adopt a County Safety Element if adequate detail is provided to address city-level concerns

Purpose and Scope

The purpose of the Safety Element is to include safety considerations in the planning and decision-making process by establishing policies related to future development that will minimize the risk of personal injury, loss of life, property damage, and environmental damage associated with natural and human-caused hazards. The County of San Diego Safety Element addresses natural hazards and human activities that may pose a threat to public safety within the following key topic areas:

- Hazard Mitigation Planning, Disaster Preparedness, and Emergency Response

- Wildfires
- Geological and Seismic Hazards
- Flooding
- Climate Change
- Hazardous Materials
- Law Enforcement
- Airport Hazards

The Safety Element provides policy direction that supports laws and regulations related to safety hazards and policies that support the guiding principles established for this General Plan. Of these key topic areas, wildfires, flooding, climate change, and geological and seismic hazards pose the greatest challenges to the County.

Guiding Principles for Safety

The Safety Element maps, goals, and policies support the Guiding Principles specified in Chapter 2 of the General Plan. Specifically, Guiding Principle 5 provides direction for the Safety Element to ensure that development accounts for physical constraints and the natural hazards of the land. The Safety Element supports this principle through numerous policies that locate development away from hazardous areas and ensure safety and security for all communities within the County. Goals and policies of the Safety Element address issues associated with hazard mitigation planning, disaster preparedness, and emergency response, wildfires, geologic and seismic hazards, flooding, climate change, hazardous materials, law enforcement, and airport hazards.

Relationship to Other General Plan Elements

Several Safety Element policies are interrelated with mandated topics in the Land Use, Housing, Mobility, and Conservation and Open Space Elements. For example, Land Use Maps seek to minimize future development in hazardous areas. In contrast, Housing Element policies are intended to reduce barriers to affordable housing and placement of developments in areas less prone to hazards. Policies to minimize the risks posed from wildland fires, found in the fire hazards section of the Safety Element, are also found in the Land Use, Conservation and Open Space, and the Environmental Justice Elements. In addition, policies associated with secondary access during an emergency are found in the Mobility Element. References to related policies are provided where appropriate within the Safety Element. However, it is important to remember that policies in the Safety Element are tailored to address safety-related issues, and referenced policies in other elements should also be reviewed to determine environmental or other types of policies associated with similar locations or types of development.

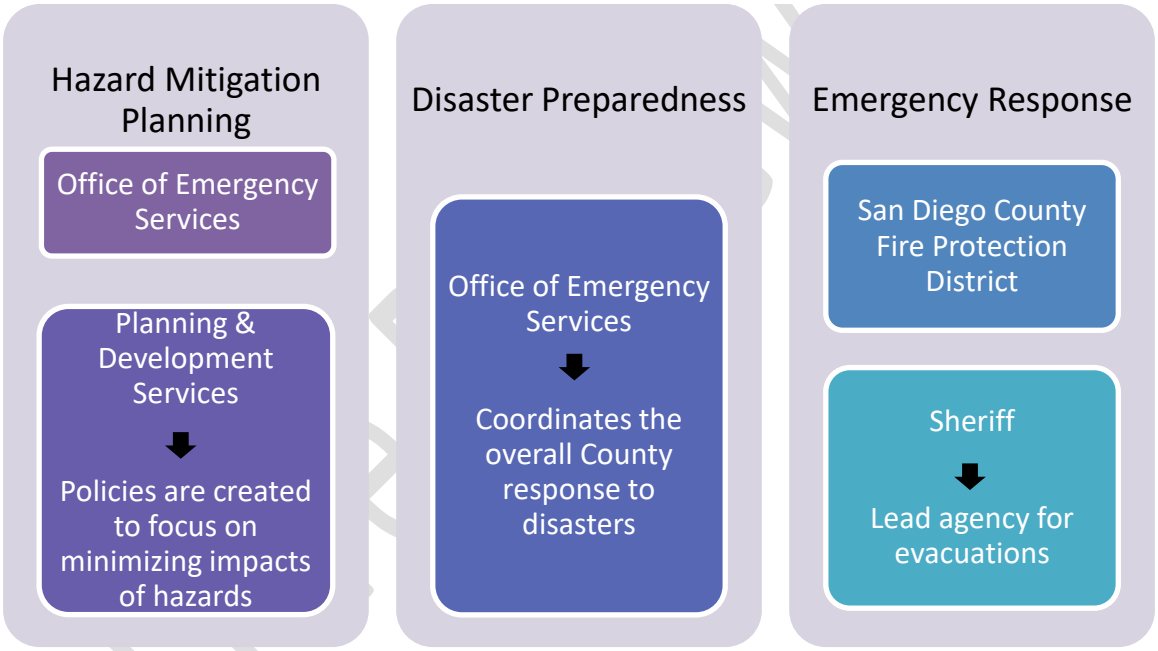
Goals and Policies for the Safety Element

Hazard Mitigation Planning, Disaster Preparedness, and Emergency Response

CONTEXT

This section contains goals and policies that provide for the safety and protection of life and property from the occurrence of natural or human-caused hazards and generally apply to any potential hazardous event, which may be addressed further in other topic areas in this element. **Exhibit S-1** identifies which departments typically oversee hazard mitigation, disaster preparedness, and emergency response functions. However, it should be noted that other departments not identified may also play a role in these activities when necessary.

Exhibit S-1: Typical Department Functions



HAZARD MITIGATION PLANNING

The Board of Supervisors adopted the current Federal Emergency Management Agency (FEMA) approved Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) in compliance with federal and state regulations intended to reinforce the importance of hazard mitigation planning and emphasized planning for disasters before they occur. The MJHMP is a comprehensive assessment of natural hazards including sea-level rise, coastal storms, erosion and tsunami, dam failure, earthquakes, floods, rain-induced landslides, liquefaction, structure/wildland fires, extreme heat, drought/water supply, and human-caused hazards (referred to as man-made hazards in the MJHMP). The MJHMP enhances public awareness and understanding, creates a decision tool for management, promotes compliance with State and Federal program requirements, enhances local policies for hazard mitigation capability, and provides inter-jurisdictional coordination of mitigation-related programming.

The County's MJHMP is currently undergoing revision for its next 5-year update. This update will reflect changes to the hazards facing San Diego County and the programs that have been put in place to help minimize or eliminate these hazards. A key function of the Safety Element is the integration of the MJHMP to ensure compliance with the California Government Code (GC). The following sections apply:

Compliance with GC Section 8685.9 (also known as Assembly Bill 2140 or AB 2140) limits the State of California's share of disaster relief funds paid out to local governments to 75 percent of the funds not paid for by federal disaster relief efforts unless the jurisdiction has adopted a valid hazard mitigation plan consistent with DMA 2000 and has incorporated the hazard mitigation plan into the jurisdiction's General Plan. In these cases, the State may cover more than 75 percent of the remaining disaster relief costs.

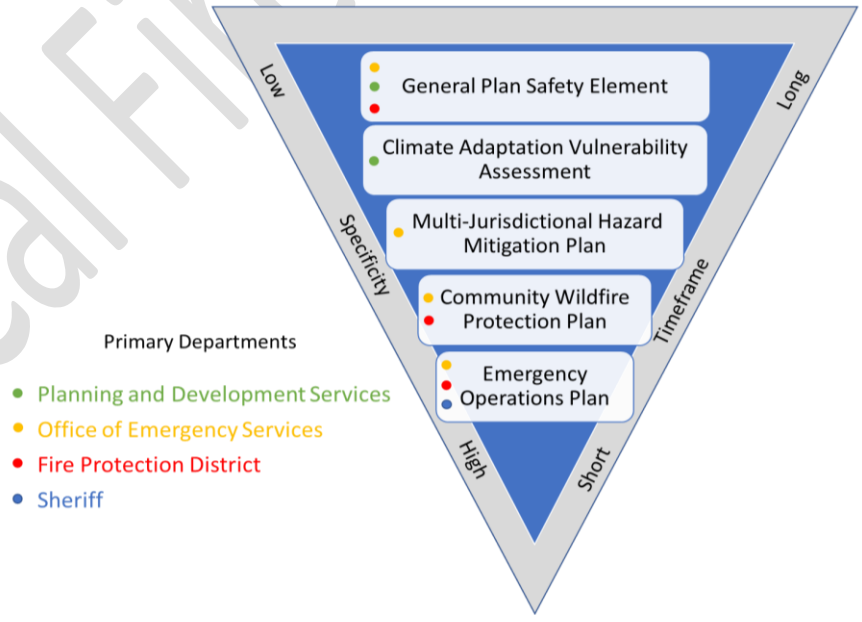
Compliance with GC Section 65302.6 allows a community to adopt a local hazard mitigation plan (LHMP) into its Safety Element, using the LHMP to satisfy state requirements for Safety Elements. As the General Plan is an overarching long-term plan for community growth and development, incorporating the LHMP into it creates a stronger mechanism for implementing the LHMP.

Clicking this link allows you to access the San Diego County MJHMP, which has been incorporated into this element by reference. Policy S-1.4 identifies the County's intent to incorporate future updates as they are completed to ensure compliance GC § 65302 (g) requirements.

Disaster Preparedness

Saving and protecting lives, the environment, and property are the primary goals of governmental public safety agencies in any emergency or disaster. Emergency plans provide the basis from which response and recovery operations are executed. The success of these plans depends largely, in part, on the collaboration of agencies and jurisdictions responsible for the development and maintenance of these plans. **Exhibit S-2** depicts the specificity level, timeframe, and primary departments for the various types of emergency plans involved in disaster preparedness.

Exhibit S-2: Types of Disaster Preparedness Emergency Plans



The San Diego County Office of Emergency Services (OES) coordinates the overall County response to disasters. OES is responsible for alerting and notifying appropriate agencies when disaster strikes; coordinating all agencies that respond; ensuring resources are available and mobilized in times of disaster; developing plans and procedures for response to and recovery from disasters, and developing and providing preparedness materials for the public. OES and numerous regional partners have completed the following public safety preparedness plans related to emergency response, evacuation, and recovery:

- The San Diego County Operational Area Emergency Operations Plan was last updated in 2018 by the Office of Emergency Services and the Unified Disaster Council (UDC) of the Unified San Diego County Emergency Services Organization. This plan plays a key role in emergency response by Cities and Counties for a variety of incidents. Sixteen Annexes developed as part of the plan assist with specific emergency functions, certain hazards, and/or key operational activities necessary to complete an effective response.
- The San Diego Operational Area Evacuation Plan (Annex Q) is the primary source of information for the County and Cities regarding effective evacuation from a hazardous event. Annex Q is intended to be used as a template as cities throughout the county continue to develop their individual evacuation plans. The plan outlines procedures and organizational structures that can be used for a coordinated regional evacuation effort. Transportation routes and capacities are identified in addition to countywide shelter space and considerations for special needs populations. To comply with SB 99 [GC Section 65302 (g) 5] and AB 747 [GC Section 65302.15] requirements, this Safety Element relies on the routes and methodologies identified in Annex Q.
- The San Diego Operational Area Recovery Plan is designed to provide guidance to jurisdictions and organizations within the County of San Diego as they continue their own recovery planning. The plan addresses short and long-term restoration plans for communities impacted by disaster, including issues such as debris removal, coordination of financial assistance and housing, economic recovery, and measures to reduce or eliminate the effects of future incidents. This plan was last updated in September 2019.
- The Community Wildfire Protection Plan (CWPP) is authorized by Title I of the Healthy Forests Restoration Act of 2003. A CWPP is developed at the community level for areas that are at risk of wildfire. These plans are a collaborative effort between local government, fire agencies within the operating area, community members, and any other interested stakeholder. The CWPP identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the method of treatment that will best protect at-risk communities and structures. The CWPP also recommends measures that homeowners can take to reduce the ignitability of structures throughout the area referenced in the plan. Thirty-three communities in San Diego County have an approved CWPP in place.
- The Climate Vulnerability Assessment and Adaptation Report focuses on understanding the vulnerability of and developing adaptation strategies for populations and assets in the unincorporated county, which is composed of lands that are within the jurisdiction of the County of San Diego. The Vulnerability Assessment identifies the unincorporated county's exposure to effects of climate change, the sensitivity of population groups and community assets to climate change effects, potential climate change impacts, and the County's existing adaptive capacity to address those impacts. The Adaptation Framework lays out the adaptation component of the report and includes a set of adaptation goals and policies to address the impacts of climate change, protect people and infrastructure that are the most vulnerable to its effects, and increase resilience to climate change.

All of these documents can be accessed on the County Office of Emergency Services main page or the Planning and Development Services main page.

EMERGENCY RESPONSE

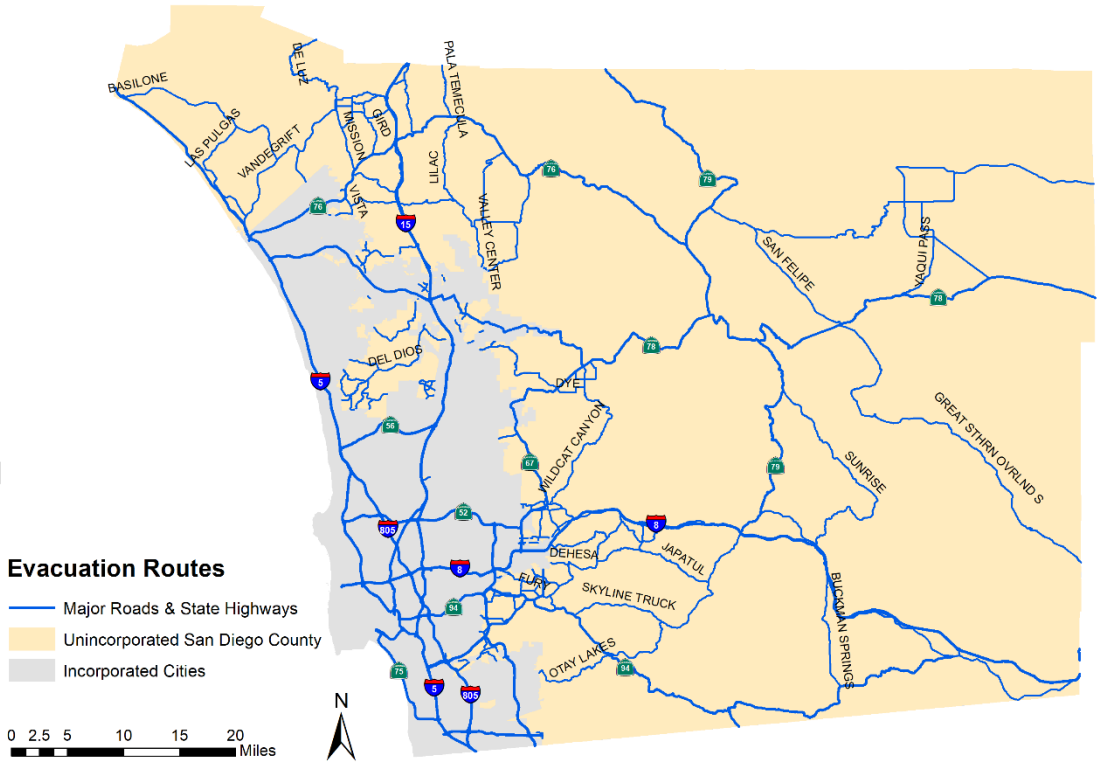
OES coordinates the overall County response to disasters, including alerting and notifying appropriate agencies, coordinating all responding agencies, ensuring resources are available and mobilized, developing response and recovery plans and procedures, and providing preparedness materials for the public. The UDC is the governing body of the Unified San Diego County Emergency Services Organization, which is chaired by the San Diego County Board of Supervisors and includes representatives from the 18 incorporated cities. OES serves as staff to the UDC and acts as a liaison between the incorporated cities, the California Office of Emergency Services (Cal OES) and FEMA, as well as non-governmental agencies such as the American Red Cross.

EVACUATION ROUTES

The San Diego County Sheriff's Department (SDSD) is the lead agency for evacuations within the unincorporated areas of the county. Within the incorporated cities, local law enforcement (or the SDSD in contracted cities) is the lead agency in charge of evacuations. To increase effectiveness, law enforcement and the County created a collaborative group that includes the SDSD, Fire Protection District, the OES, and the American Red Cross. This working group is the driving force behind the execution of a mass evacuation.

Evacuation routes established for the County include major roadways and thoroughfares intended to transport people from areas impacted by hazardous events to areas of safety. These routes include major freeways (I-5, I-15, I-8, I-805) and major State Routes (52, 54, 56, 67, 75, 76, 78, 94, 125, 163, and 905). **Exhibit S-3** identifies many of the potential evacuation routes within the county. Many of these roadways are under the jurisdiction of Caltrans, which requires coordination and participation in the Caltrans District 11 Wildfire Resiliency Working Group.

Exhibit S-3: Potential Evacuation Routes



The County recognizes that evacuation efforts are predicated on the nature of the hazard incident that is occurring. When an evacuation is ordered, it is based on the location of the hazard, real-time conditions of the incident (weather, topography, etc.), and in place infrastructure and resources available to the County. Since different hazards may have different evacuation needs, **Table S-1** identifies the various policies addressing evacuation within this element.

Table S-1 – Evacuation Policies

Policy Designation	Evacuation Issue Addressed
Public Safety S-1.7 Evacuation Impediments	Advise, and where appropriate, require all new developments to help eliminate impediments to evacuation within existing community plan areas, where limited ingress/egress conditions could impede evacuation events.
Public Safety S-1.8 Community Plan Evacuation	Identify community plan areas that have reduced or limited circulation access and develop an evacuation plan, including an Evacuation Traffic Management Plan and recommended improvements to ensure adequate evacuation capabilities. Community Evacuation Plans should be evaluated and revised to address changes in at-risk areas and populations to ensure effectiveness.
Public Safety S-1.9 Community Plan Updates	A series of criteria for community plan updates that incorporate public safety components.
Public Safety S-1.12 Prioritize CIP Roadways	Future CIP projects should prioritize roadways that serve as evacuation routes or require roadway improvements to better function under evacuation purposes.
Emergency Response S-2.5 Existing Development within Hazard Zones	Implement warning systems and evacuation plans for developed areas located within known hazard areas (i.e., flood, wildfire, earthquake, other hazards).
Emergency Response S-2.6 Effective Emergency Evacuation Programs	Develop, implement, and maintain an effective evacuation program for areas of risk in the event of a natural or human-caused disaster.
Wildfire S-3.5 Access Roads	Require development to provide additional access roads where feasible to provide for safe access of emergency equipment and civilian evacuation concurrently. The width, surface, grade, radius, turnarounds, turnouts, bridge construction, and lengths of fire apparatus access roads shall meet the requirements of the State Fire Code and the San Diego County Consolidated Fire Codes. All requirements and any deviations will be at the discretion of the Fire Code Official.
Wildfire S-3.8 Evacuation Access	All development proposals are required to identify evacuation routes at the Community Plan level and identify and facilitate the establishment of new routes needed to ensure effective evacuation. Evacuation routes should be incorporated into existing Community Wildfire Protection Plans where available.
Regional Fire Protection S-5.4 Regional Evacuation Coordination	Coordinate with State and Federal landowners regarding joint use and access agreements for roadways located on state and federal lands that can be used for evacuation purposes.
Geological Hazards S-7.6 Evacuation Prioritization	Identify roadways within the CIP that require seismic evaluation and retrofit that also function as evacuation routes to ensure these route improvements are prioritized.
Geological Hazards S-8.3 Evacuation Route Risk	Identify and propose mitigation actions for evacuation routes located in close proximity to active or potential landslide zones.
Flood Hazards S-9.8 Evacuation Route Development	Identify secondary evacuation routes in Community Plan areas that are susceptible to flood-related impacts to ensure adequate evacuation access is available.

GOALS AND POLICIES

GOAL S-1

Public Safety/Evacuation. Enhanced public safety, establishment of an effective evacuation network, and the protection of public and private property from hazards and disaster events.

Policies

Hazard or disaster events can be either small-scale or wide-scale and can happen anywhere at any time. Evacuation of people may be necessary for numerous reasons under many different circumstances. There may be a need to evacuate one block of office buildings (hazardous material), a neighborhood (wildfire), a major portion a town or region (earthquake or hurricane). After an event, responders will have a very limited window of opportunity to prepare before an evacuation begins.

To be prepared for evacuations in this environment, transportation professionals and emergency management officials must coordinate on evacuation planning management efforts. Infrastructure areas of concern include addressing limited access routes, insufficient transportation network capacity, and constraints or obstacles that may lead to bottlenecks or delays in evacuation. For effective evacuation, the characteristics and behaviors of the vulnerable populations must be considered including reliance on, or availability of, an automobile, risk tolerance to timing of evacuation, and preference for a safe location.

The intent of the following policies is to provide a framework for planning and responding to hazard and disaster events.

S-1.1 **Minimize Exposure to Hazards.** Minimize the populations exposed to hazards by assigning land use designations, density allowances, and roadway classifications that reflect site-specific constraints and hazards. Coordinate with SANDAG on regional planning projects that accomplish this across jurisdictions.

S-1.2 **Public Facilities Location.** Advise, and where appropriate, require new development to locate future public facilities, including new essential and sensitive facilities, in appropriate locations with respect to the County's hazardous areas and State law that allow for temporary refuge for sheltering in place.

S-1.3 **Risk Reduction Programs.** Support efforts and programs that reduce the risk of natural and human-caused hazards and response time to these hazards.

S-1.4 **Multi-Jurisdictional Hazard Mitigation Plan.** Review and update the County's MJHMP every five years.

S-1.5 **Post-disaster Reconstruction.** Participate in the development of programs and procedures that emphasize coordination between appropriate public agencies and private entities to remove debris and promote the rapid reconstruction of the County following a disaster event and facilitate the upgrading of the built environment as expeditiously as possible.

S-1.6 **High Hazard Risk Relocation.** Explore a program that identifies properties prone to high hazard risk that could be relocated through a buyout program or transfer of development rights. Use of this program could accompany the expiration of Tentative Tract Maps and Specific Plans located in high hazard risk areas.

RPC 2(a)

S-1.7 **Evacuation Impediments.** Advise, and where appropriate, require all new developments to help eliminate impediments to evacuation within existing community plan areas, where limited ingress/egress conditions could impede evacuation events.

S-1.8 **Community Plan Evacuation**. Identify community plan areas that have reduced or limited circulation access and develop an evacuation plan, and recommended improvements to ensure adequate evacuation capabilities. Community Evacuation Plans should be developed, evaluated, and revised periodically in concert with future updates to the County's EOP Annex Q.

S-1.9 **Community Plan Updates.** Ensure community plan updates consider the following guidance:

- Identification of key hazards of concern impacting existing/future development
- Identification of existing evacuation routes and new routes necessary to ensure effective evacuation
- Incorporation of these routes into Community Wildfire Protection Plans
- Identification of critical/essential facilities, key infrastructure, and telecommunications facilities
- Identify local public road networks that include potential deficiencies and future improvements to facilitate effective emergency response and evacuation
- Incorporate Resource Management/Brush Clearance Plans as measures within a Fire Protection Plan (FPP) to provide guidance for vegetation maintenance and fuel modification
- Identify the Local Fire Agency having jurisdictional authority for future fire protection services
- Identify Mobility Element roadway classifications that ensure future daily and evacuation/emergency response needs are met[1]

S-1.10 **County Updates.** Update County Ordinances, Standards, and Design Guidelines to integrate the best practices and regulations that reduce hazard vulnerability and improve resilience throughout the county.

S-1.11 **Adequate Services Provision.** Plan existing and future development to meet current and future anticipated demands for infrastructure (e.g., water, sewer, roads), privately provided services (e.g., telecommunications, gas, electricity), and County provided services (e.g., police, fire).

S-1.12 **Prioritize CIP Roadways:** Future CIP projects should prioritize development of roadways that serve as evacuation routes or require roadway improvements to existing roads to better function during an evacuation.

GOAL S-2

Emergency Response. Effective emergency response to natural or human-caused disasters that minimize the loss of life and damage to property while also reducing disruptions in the delivery of vital public and private services during and following a disaster.

[1] Evacuation/emergency response needs refers to roadway construction standards and techniques that ensure safe travel for vehicles and are resilient to hazard conditions within the County. These standards are not meant to increase roadway capacity beyond daily needs.

Policies

S-2.1 **Emergency Management System Training.** Conduct annual training sessions using adopted emergency management systems. Coordinate with relevant jurisdictions to execute a variety of exercises to test operational and emergency plans.

S-2.2 **Participation in Mutual Aid Systems.** Maintain participation in local, regional, state, and national mutual aid systems to ensure that appropriate resources are available for response and recovery during and following a disaster.

S-2.3 **Familiarity with National and State Response Planning.** Ensure that all relevant and pertinent County of San Diego personnel are familiar with the National Incident Management System (NIMS), the National Response Framework (NRF), the State of California Standardized Emergency Management Systems (SEMS), and any other relevant response plans consistent with their position in the County's Emergency Management Program.

S-2.4 **Emergency and Disaster Education Programs.** Sponsor and support education programs pertaining to emergency/disaster preparedness and response protocols and procedures. Distribute information about emergency preparedness to residents, community groups, schools, religious institutions, transient occupancy establishments, and business associations.

S-2.5 **Existing Development within Hazard Zones.** Implement warning systems and evacuation plans for developed areas located within known hazard areas (i.e., flood, wildfire, earthquake, other hazards).

S-2.6 **Effective Emergency Evacuation Programs.** Develop, implement, and maintain an effective evacuation program for areas of risk in the event of a natural or human-caused disaster.

S-2.7 **Updated Data and Information.** Periodically update County datasets to include newer, more relevant information and mapping to support effective emergency response and hazard mitigation. Provide updated information to emergency responders to help ensure easier and faster response times.

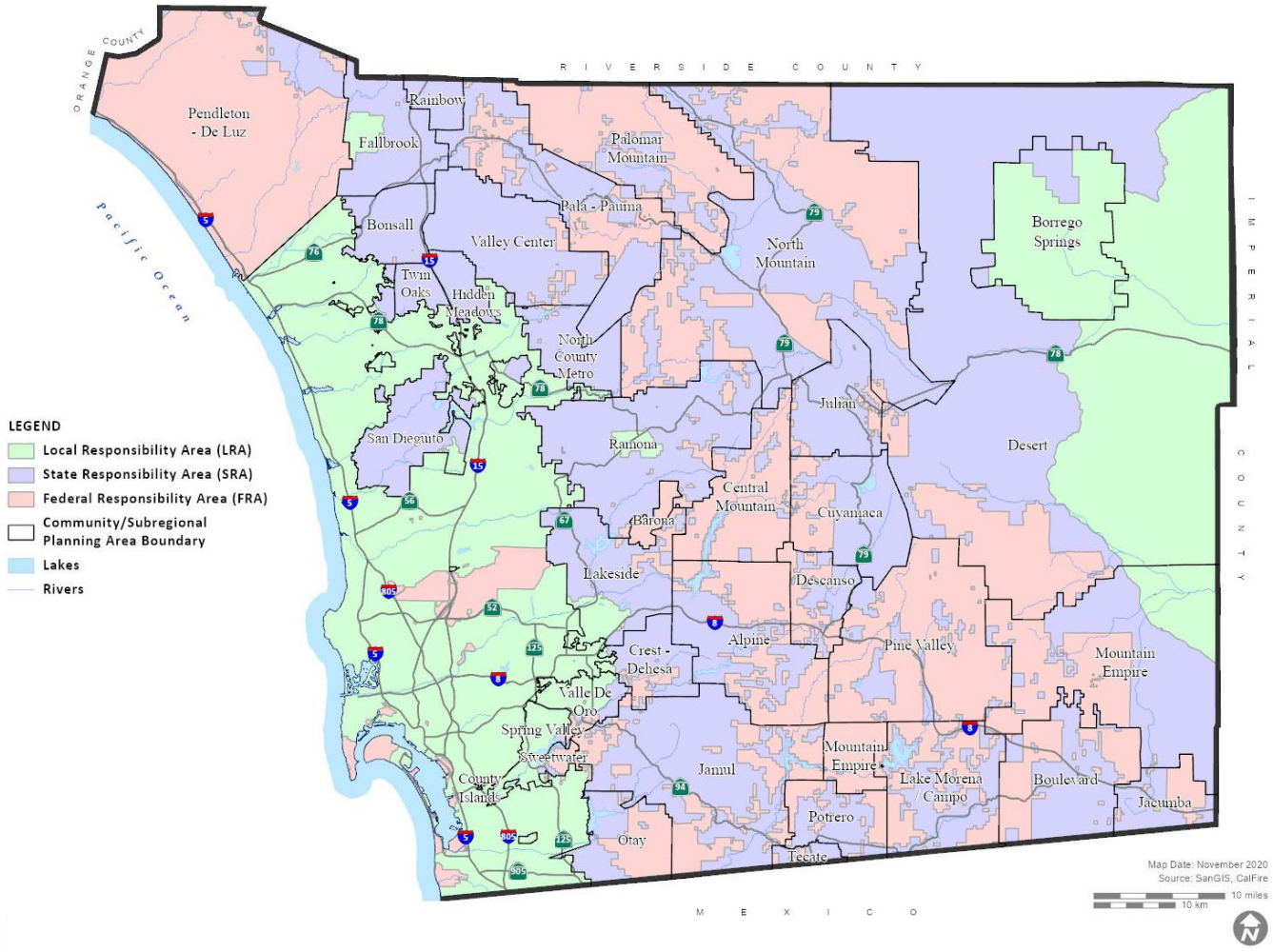
S-2.8 **Coordination with Public Utilities.** Public Safety Power Shutoff (PSPS) coordination between the County and SDGE should occur in order to limit the impacts on residents and businesses. SDGE and the County should continue to collaborate while monitoring weather conditions to ensure pertinent information is shared.

Wildfires

CONTEXT

In the County of San Diego, a large portion of development is located in areas where fire hazards represent a high-level threat of personal injury and property damage as shown in **Figure S-1** [Fire Hazard Severity Zones]. For the most up-to-date information and mapping, refer to Cal FIRE's Fire and Resource Assessment Program (FRAP) and Cal OES's My Hazards mapping portal. **Exhibit S-4** distinguishes jurisdictional areas broken into federal and tribal lands managed by federal agencies (federal areas of responsibility), all incorporated cities and special districts not serviced by the County (local area of responsibility), and all other areas of the state to include unincorporated county areas (state areas of responsibility). Six major fires that have occurred in the County are identified on the Cal FIRE statewide top 20 lists for acreage, destruction, or deaths. **Table S-2** identifies these fires, which indicates that as far back as 1943, wildfires have impacted the County and affected its populations.

Exhibit S-4: Fire Responsibility Areas



The County's MJHMP identifies major wildfires larger than 5,000 acres from 1950 through 2014, which have accounted for over 1,158,468 acres burned, affected over 8,400 structures (damaged/destroyed), and resulted in 30 deaths. Between 2014 and 2019, approximately 250 dwellings were destroyed from wildland fires, which accounted for 0.6% of total structures destroyed statewide by wildfire. The topographic, geographic, and climatic conditions within the County lead to the overall regional fire problem. Over half of the land acreage of the unincorporated county is public land owned by the federal government, state government, or local government. Therefore, policies focus on minimizing the impact of wildfires through land use planning techniques and other mitigation measures. Key issues addressed in this section are as follows:

Table S-2: Fire Incidents in San Diego County on Cal Fire Statewide Top 20 List

Year	Name	Impacts			Top 20 Ranking		
		Acreage	Structures	Deaths	Acreage	Destruction	Deadliest
1943	Hauser Creek Fire	13,145	-	11	N/A	N/A	**8th**
1956	Inaja Fire	43,904	-	11	N/A	N/A	**9th**
1970	Laguna Fire	175,245	382	5	**17th**	N/A	N/A
2003	Cedar Fire	273,246	2,820	15	**6th**	**4th**	**5th**
2007	Harris Fire	90,440	548	8	N/A	N/A	13th
2007	Witch Fire	197,990	1,650	2	**13th**	**6th**	N/A

- *Fuel Modification Zones:* Fuel Modification Zones refers to a separation zone between wildlands and structures where fuels (including natural and ornamental vegetation), human-made combustible materials, and ancillary structures is managed or modified to minimize the spread of fire to the structure and allow space for defending structures from burning vegetation. This separation is important to improving the survivability of structures in a wildland fire event and is most readily maintained when planned for as part of project design. For optimal protection against wildfires, structures should also be "hardened" to make them more ignition resistant.

Wildland urban interface in Bonsall

- *Wildland Urban Interface:* The wildland urban interface (WUI) refers to areas where structures and other human developments meet or intermingle with undeveloped wildland. Much of the unincorporated county is located within the WUI.
- *Home Hardening:* Limit structure vulnerability through the use of construction techniques (during new construction or home improvements) that include closed eaves, ember vents, Chapter 7A construction standards, five feet of hardscape around outer walls of structures, and other elements to reduce wildfire vulnerability.
- *Strategic Vegetation Management:* Outside of fuel modification zones around structures, reducing, thinning, or otherwise modifying the amount of vegetation (fuel) may reduce the risk of wildfire within conifer forests as well as through strategic fuel breaks near the WUI in low wind conditions.
- *Protection of Evacuation Corridors:* Development in the WUI to include multiple access/egress routes when the maximum dead-end road distance is exceeded.

- *Funding Fire Services:* Existing funding for fire services is limited and variable. Full-time funding for fire services is crucial for assuring long-term commitment of adequate coverage.
- *Travel Time Standards:* The minimum travel time standards to respond to a fire hazard or medical emergency facilitate the ability to identify future fire facility needs and to determine public service requirements for proposed development. Travel time standards indicate that expectations for service levels are different in urbanized areas than in rural areas.
- *Building and Site Design*: Requiring the location of structures to minimize the risk from wildland fires.

In 2008, the San Diego County Fire Protection District (formerly known as San Diego County Fire Authority [SDCFPD]) was created as part of the County's Fire Cohesive Strategy. The creation of the SDCFPD unifies the administrative support, communications, and training of 15 rural fire agencies to better protect the 1.5 million acres of unincorporated San Diego County. Delivering fire protection and emergency services to over 40 communities throughout the County, the SDCFPD operates 35 fire stations and includes a staff of over 500 first responders. Policies in this section address the preceding issues and provide a framework that supports previously implemented programs and policies.

Vegetation Management

Vegetation management is considered an effective method of wildfire hazard management and mitigation. To address vegetation management within the County, a Fire Protection Plan (FPP) approved by the fire code official is required for all new development within the State Responsibility Areas and Very High Fire Severity Zones in the Local Responsibility Area. FPPs are required to include mitigation strategies that take into consideration location, topography, geology, flammable vegetation, sensitive habitats/species, and climate of the proposed site. FPPs must address water supply, access, building ignition and fire resistance, fire protection systems and equipment, proper street signage, defensible space, vegetation management, and long-term maintenance. All required FPPs must be consistent with the requirements of the latest versions of the California Building Code Chapter 7A, International Wildland-Urban Interface Code, and the San Diego County Consolidated Fire Code.

GOALS AND POLICIES

GOAL S-3

Minimized Fire Hazards. Minimize injury, loss of life, and damage to property resulting from structural or wildland fire hazards.

Policies

S-3.1 **Defensible Development.** Require development to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life safety resulting from wildland fires.

S-3.2 **Development in Hillsides and Canyons.** Require development located in wildland areas, near ridgelines, top of slopes, saddles, or other areas where the terrain or topography affects its susceptibility to wildfires to be located and designed to account for topography and reduce the increased risk from fires. Density reduction may be necessary to reduce fire hazards if the location and design of the development cannot reduce the threat effectively.

RPC 2(a)

S-3.3 **Minimize Flammable Vegetation.** Site and design development to minimize the likelihood of a wildfire spreading to structures by minimizing pockets or peninsulas or islands of flammable vegetation within a development.

S-3.4 **Service Availability.** Plan for development where fire and emergency services are available or planned.

S-3.5 **Access Roads.** Require development to provide additional access roads where feasible to provide for safe access of emergency equipment and civilian evacuation concurrently. The width, surface, grade, radius, turnarounds, turnouts, bridge construction, vegetative management and brush clearance around roadways, and lengths of fire apparatus access roads shall meet the requirements of the State and San Diego County Consolidated Fire Codes. All requirements and any deviations will be at the discretion of the Fire Code Official.

S-3.6 **Fire Protection Plans.** Ensure that development located within fire hazard areas implement measures in a Fire Protection Plan that reduce the risk of structural and human loss due to wildfire.

Mitigation measures identified in the Fire Protection Plan should be implemented and may include, but are not limited to, the use of ignition resistant materials, multiple ingress and egress routes, and fire protection systems.

S-3.7 **Fire Resistant Construction.** Require all new, remodeled, or rebuilt structures to meet current ignition resistance construction codes and establish and enforce reasonable and prudent standards that support retrofitting of existing structures in high fire hazard areas.

S-3.8 **Evacuation Access.** All development proposals are required to identify evacuation routes at the Community Plan level and identify and facilitate the establishment of new routes needed to ensure effective evacuation. Evacuation routes should be incorporated into existing Community Wildfire Protection Plans where available.

S-3.9 **Fire Threat Reduction.** Reduce human-caused fires through a trespass program in concert with a high visibility prevention program in all publicly accessible wildfire prone areas.

GOAL S-4

Managed Fuel Loads. Managed fuel loads, including ornamental and combustible vegetation.

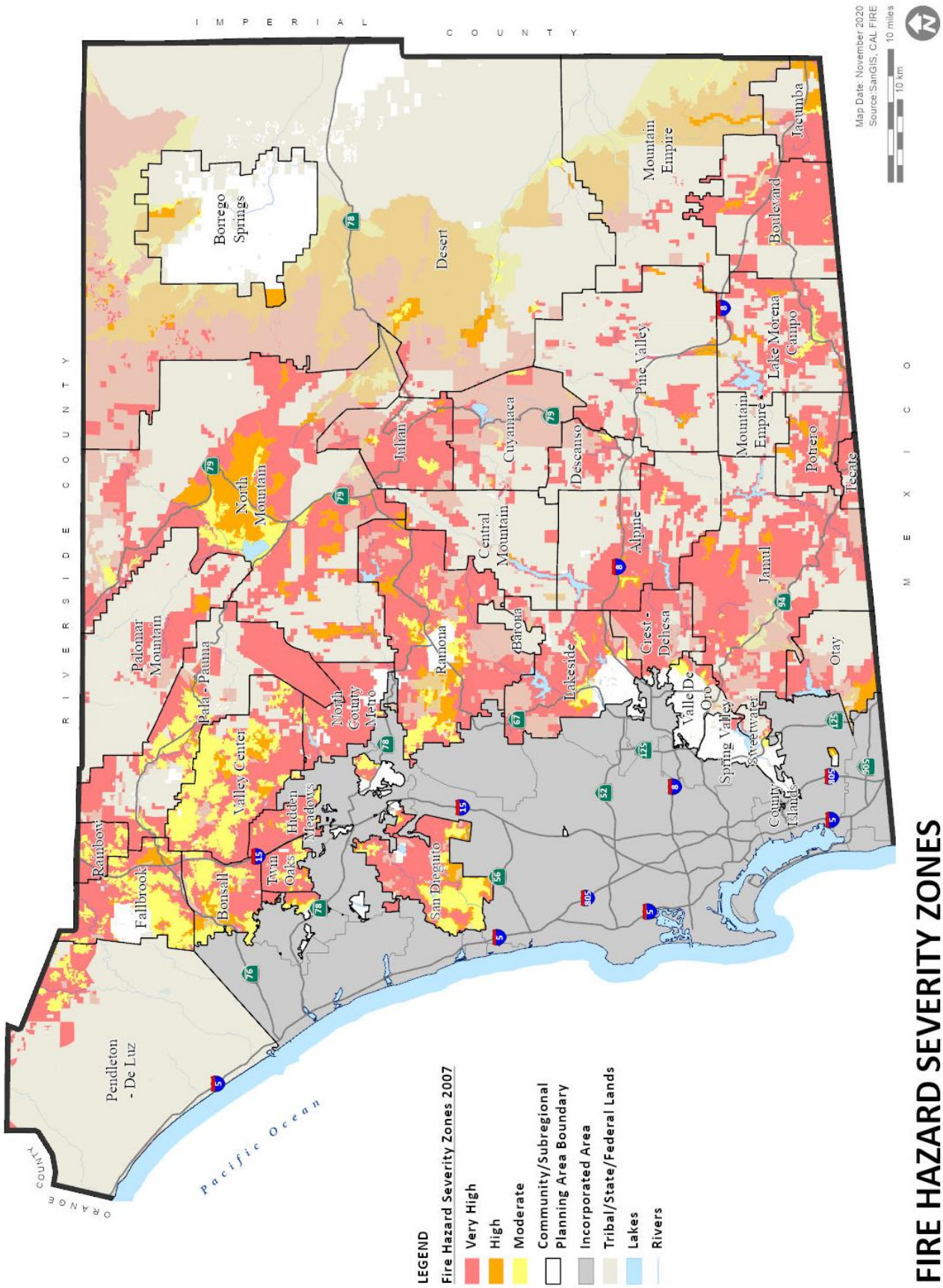
Policies

S-4.1 **Fuel Management Programs.** Support programs and plans, such as Strategic Fire Plans, consistent with state law that requires fuel management and modification, and that balance fuel management needs to protect structures with the preservation of native vegetation and sensitive habitats.

North Mountain wildfire area

S-4.2 **Coordination to Minimize Fuel Management Impacts.** Consider comments and recommendations from CAL FIRE, U.S. Forest Service, local fire districts, and wildlife agencies regarding the mitigation of impacts to habitat and species for fuel management projects.

S-4.3 **Forest Health.** Encourage the protection of woodlands, forests, and tree resources and limit fire threat through appropriate fuel management such as removal of dead, dying, and diseased trees.



FIRE HAZARD SEVERITY ZONES

San Diego County General Plan

Figure S-1

GOAL S-5

Regional Fire Protection. Regional coordination among fire protection agencies.

Sheriff Station in Alpine

Fire Station in Pine Valley

Policies

S-5.1 **Regional Coordination Support.** Advocate and support regional coordination among fire protection and emergency service providers.

S-5.2 **Fire Service Provider Agreements.** Encourage agreements between fire service providers to improve fire protection and to maximize service levels in a fair, efficient, and cost-effective manner.

S-5.3 **Reassessment of Fire Hazards**. Coordinate with fire protection and emergency service providers to reassess fire hazards after wildfire events to adjust fire prevention and suppression needs, as necessary, commensurate for both short- and long-term fire prevention needs.

S-5.4 **Regional Evacuation Coordination.** Coordinate with State and Federal landowners regarding joint use and access agreements for roadways located on state and federal lands that can be used for evacuation purposes.

GOAL S-6

Adequate Fire and Medical Services. Adequate levels of fire and emergency medical services (EMS) in the unincorporated county.

Policies

S-6.1 **Water Supply.** Ensure that water supply infrastructure adequately supports existing and future development and provides adequate water flow to combat structural and wildland fires. Water systems shall equal or exceed the California Fire Code, California Code of Regulations, or, where a municipal-type water supply is unavailable, the latest edition of National Fire Protection Association (NFPA) 1142, "Standard on Water Supplies for Suburban and Rural Fire Fighting."

S-6.2 **Funding Fire Protection Services.** Require development to contribute its fair share towards funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.

S-6.3 **Fire Protection Services for Development.** Require that new development demonstrate that fire services can be provided that meet the minimum travel times identified in **Table S-3** (Travel Time Standards from Closest Fire Station).

Travel times are calculated using accepted methodology based on the travel distance from the fire station to the farthest dwelling unit of the development. Fire stations must be staffed year-round, publicly supported, and committed to providing service. These do not include stations that are not obligated by law to automatically respond to an incident. Travel time is based on standards published by the National Fire Protection Association. Travel time does not represent total response time, which is calculated by adding the travel time to the call processing time and to the turnout/reflex time. Generally, the call processing and turnout/reflex time would add between two to three minutes to the travel time.

It is not known if any county has formally adopted NFPA 1710 and/or 1720 as a standard. Total Response Time (NFPA 1710/1720) is calculated as time the Public Safety Answering Point (PSAP) receives the emergency call, transfers it to fire communications, the alarm is processed and transmitted to responders, responders "turnout", plus travel time to the scene to initiate action. The use of response time for determining adequate service is problematic in the unincorporated County because it is subjective and varies from department to department, station to station and work shift to work shift. Reflex time (the amount of time from when the call is received by the station to when the engine leaves the station) can vary from one to three minutes. The use of travel time, as calculated by using NFPA 1142, allows us to be consistent across the County in determining adequate response, regardless of the district.

Table S-3 establishes a service level standard for fire and first responder emergency medical services that is appropriate to the area where a development is located. Standards are intended to (1) help ensure development occurs in areas with adequate fire protection and/or (2) help improve fire service in areas with inadequate coverage by requiring mitigation for service-level improvements as part of project approval.

S-6.4 **Concurrency of Fire Protection Services.** Ensure that fire protection staffing, facilities, and equipment required to serve development are operating prior to, or in conjunction with, the development. Allow incremental growth to occur until a new facility can be supported by development.

Table S-3 Travel Time Standards from the Closest Fire Station*

Travel Time	Regional Category (and/or Land Use Designation)	Rationale for Travel Time Standards**
5 min	• Village (VR-2 to VR-30) and limited Semi-Rural Residential Areas (SR-0.5 and SR-1) • Commercial and Industrial Designations in the Village Regional Category • Development located within a Village Boundary	In general, this travel time standard applies to the County's more intensely developed areas, where resident and business expectations for service are the highest.
10 min	• Semi-Rural Residential Areas (> SR-1 and SR-2 and SR-4) • Commercial and Industrial Designations in the Semi-Rural Regional Category • Development located within a Rural Village Boundary	In general, this travel time provides a moderate level of service in areas where lower-density development, longer access routes, and long distances make it difficult to achieve shorter travel times.
20 min	• Limited Semi-Rural Residential areas (>SR-4, SR-10) and Rural Lands (RL- 20) • *All* Commercial and Industrial Designations in the Rural Lands Regional Category	In general, this travel time is appropriate for very low-density residential areas, where full-time fire service is limited and where long access routes make it impossible to achieve shorter travel times.

>20 min	• Very-low rural land densities (RL-40 and RL-80)	The application of very-low rural densities mitigates the risk associated with wildfires by drastically reducing the number of people potentially exposed to this hazard. Future subdivisions at these densities are not required to meet a travel time standard. However, independent fire districts should impose additional mitigation requirements on development in these areas.

* The most restrictive standard will apply when the density, regional category and/or village/rural village boundary do not yield a consistent response time standard.

** Travel time standards do not guarantee a specific level of service or response time from fire and emergency services. Level of service is determined by the funding and resources available to the responding entity.

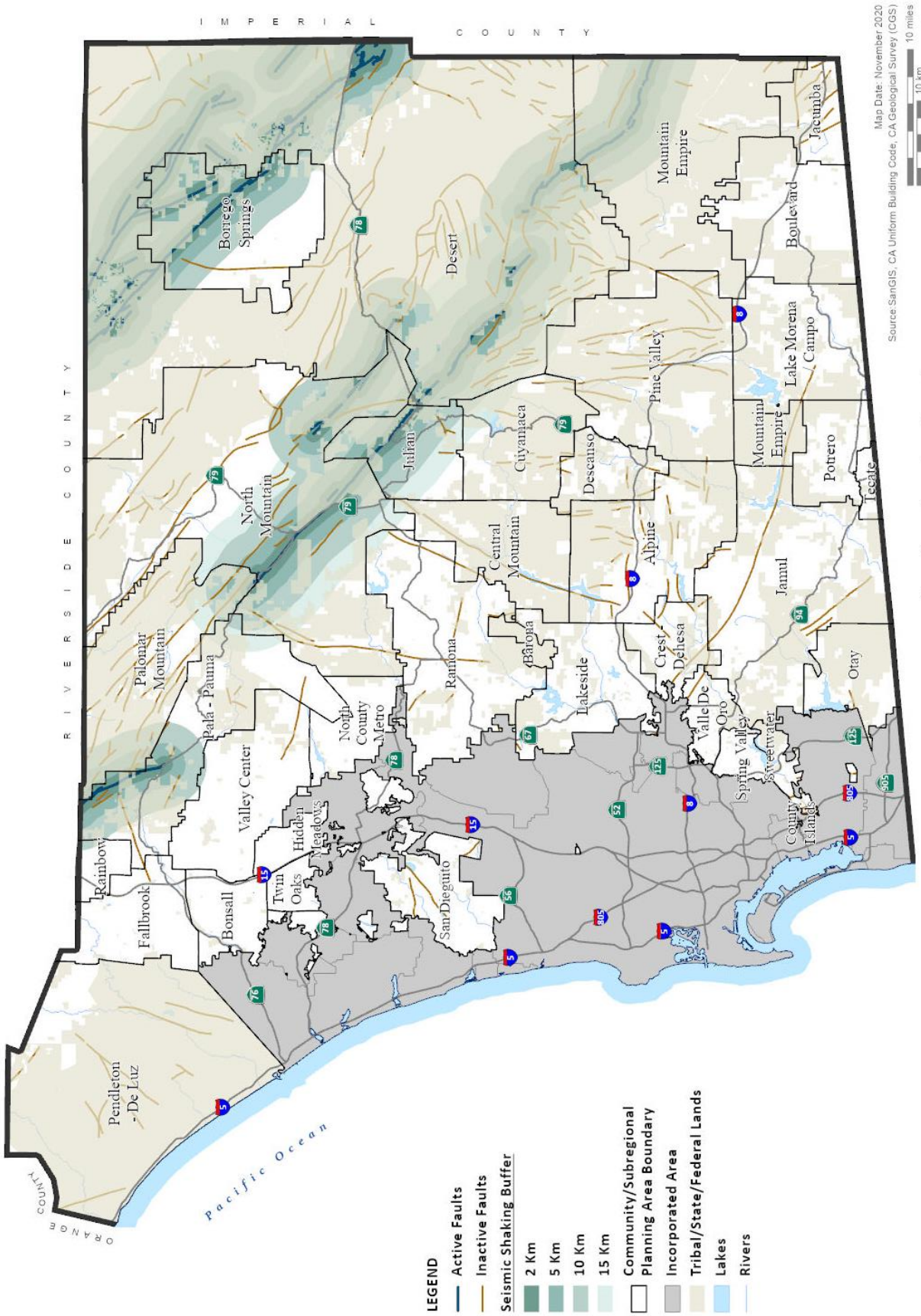
Projects with a Specific Plan classification shall meet the 5 minute maximum travel time unless if lots are larger than 1 acre.

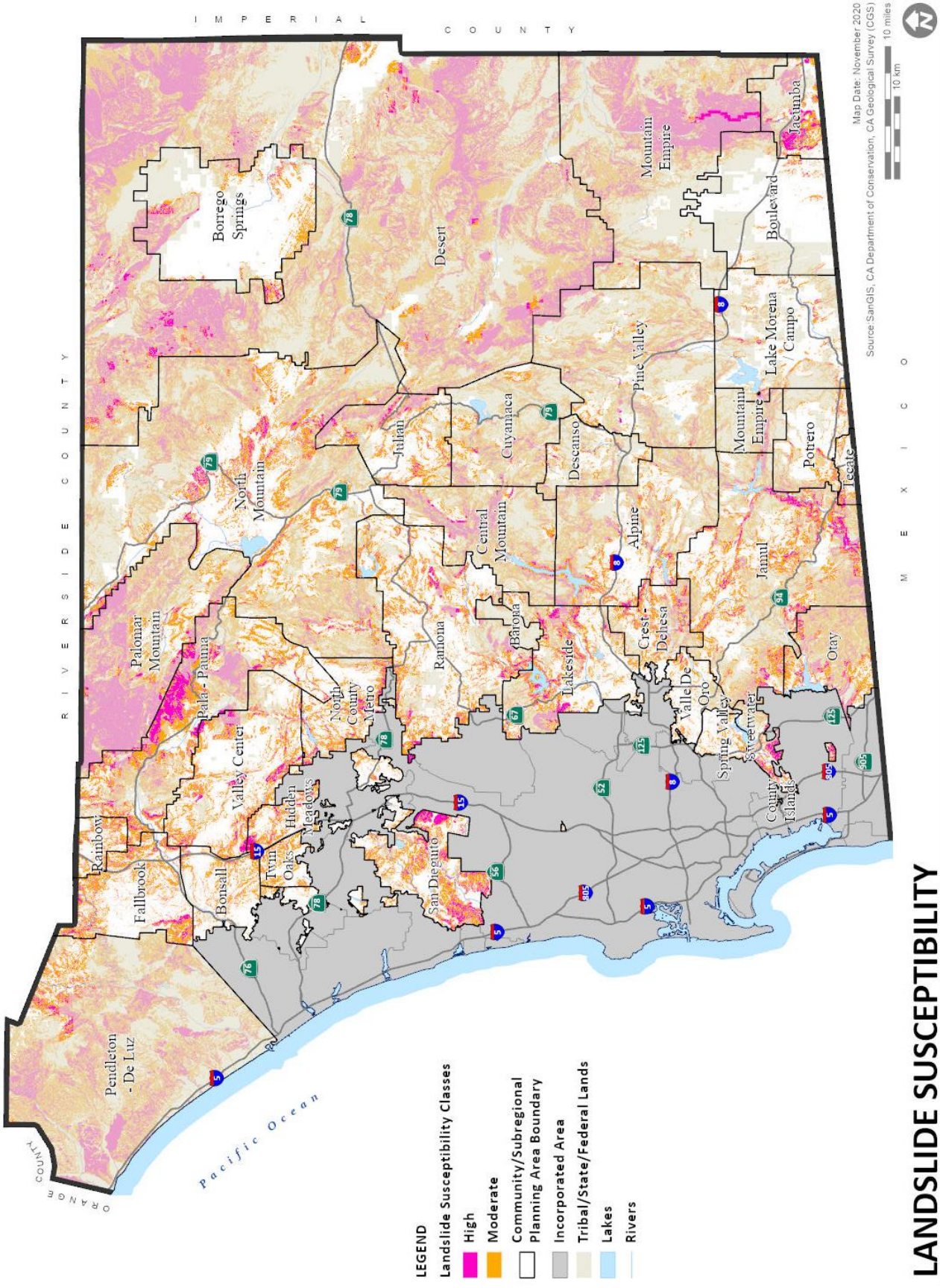
Geological and Seismic Hazards

CONTEXT

Natural geologic processes that represent a hazard to life, health, or property are considered geologic hazards. Natural geologic hazards affecting people and property in the County include earthquakes, which can cause surface fault rupture, ground shaking, landslides, and liquefaction; expansive soils; weathering; and mass wasting phenomena, such as landslides and rockfalls (See **Figure S-2** [Faults and Near Source Shaking Zones], **Figure S-3** [Landslide Susceptibility], and **Figure S-4** [Expansive Clays]). Although it is not possible to prevent or mitigate all geologic hazards, their destructive effects can be reduced to acceptable levels or avoided through careful planning and project siting and design.

Of the geological hazards, seismic hazards pose the highest potential for causing widespread damage. All of San Diego County is located within Seismic Zone 4 (Sec. 1629.4.1 of the *California Building Code* [CBC]), which is the highest Seismic Zone and, like most of Southern California, is subject to ground shaking. Active faults in the region include segments of the San Jacinto, Elsinore, and Rose Canyon fault zones. Seismic hazard policies listed below reflect State law and adopted guidelines, including the CBC, *Alquist-Priolo Earthquake Fault Zoning Act*, and the State's Guidelines for Evaluating and Mitigating Seismic Hazards in California (Special Publication 117). Landslide risks vary across the County's diverse landscape. Landslides consist of masses of rock, earth, or debris that move down a slope. Types of slope failures include rock falls, rotational (deep) slips, and shallow debris flows. Landslides can be caused by human activities such as grading, irrigation of slopes, and mining activity. Landslides also occur as a result of natural conditions such as earthquakes, heavy precipitation, weak rock/soil character, seepage of groundwater, and topography. Areas within the County subject to the greatest risk of landslides include properties on or below steep slopes. In order to reduce landslide hazards to public health and safety, land use policies are incorporated into this element that serves to avoid development in hazardous areas or require engineering solutions that mitigate dangers to proposed structures and to off-site lands.


FAULTS & NEAR SOURCE SHAKING ZONES
San Diego County General Plan
Figure S-2
Map Date: November 2020
Source: SanGIS, CA Uniform Building Code, CA Geological Survey (CGS)
10 miles
10 Km
LEGEND
Active Faults
Inactive Faults
Seismic Shaking Buffer
2 Km
5 Km
10 Km
15 Km
Community/Subregional Planning Area Boundary
Incorporated Area
Tribal/State/Federal Lands
Lakes
Rivers
IMPERIAL COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
MEXICO
Pacific Ocean
Borrego Springs
Desert
Mountain Empire
Jacumba
Boulevard
Lake Morena / Campo
Pine Valley
Julian
Cuyamaca
Descanso
Potrero
Tecate
North Mountain
Central Mountain
Palomar Mountain
Pala - Pauma
Ramona
Barona
Alpine
Crest
Dehesa
Jamul
Otay
Lakeside
North County Metro
Valley Center
Hidden Meadows
Rainbow
Fallbrook
Bonsall
Twin Oaks
San Dieguito
Valle De Oro
Spring Valley
Sweetwater
County Islands
Pendleton - De Luz


LANDSLIDE SUSCEPTIBILITY
San Diego County General Plan
Figure S-3
Map Date: November 2020
Source: SanGIS, CA Department of Conservation, CA Geological Survey (CGS)
10 miles
10 km
LEGEND
Landslide Susceptibility Classes
High
Moderate
Community/Subregional Planning Area Boundary
Incorporated Area
Tribal/State/Federal Lands
Lakes
Rivers
IMPERIAL COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
MEXICO
Pacific Ocean
Borrego Springs
Desert
Mountain Empire
Jacumba
Boulevard
Julian
Cuyamaca
Descanso
Pine Valley
Lake Morena / Campo
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Spring Valley
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San Dieguito
Pendleton - De Luz

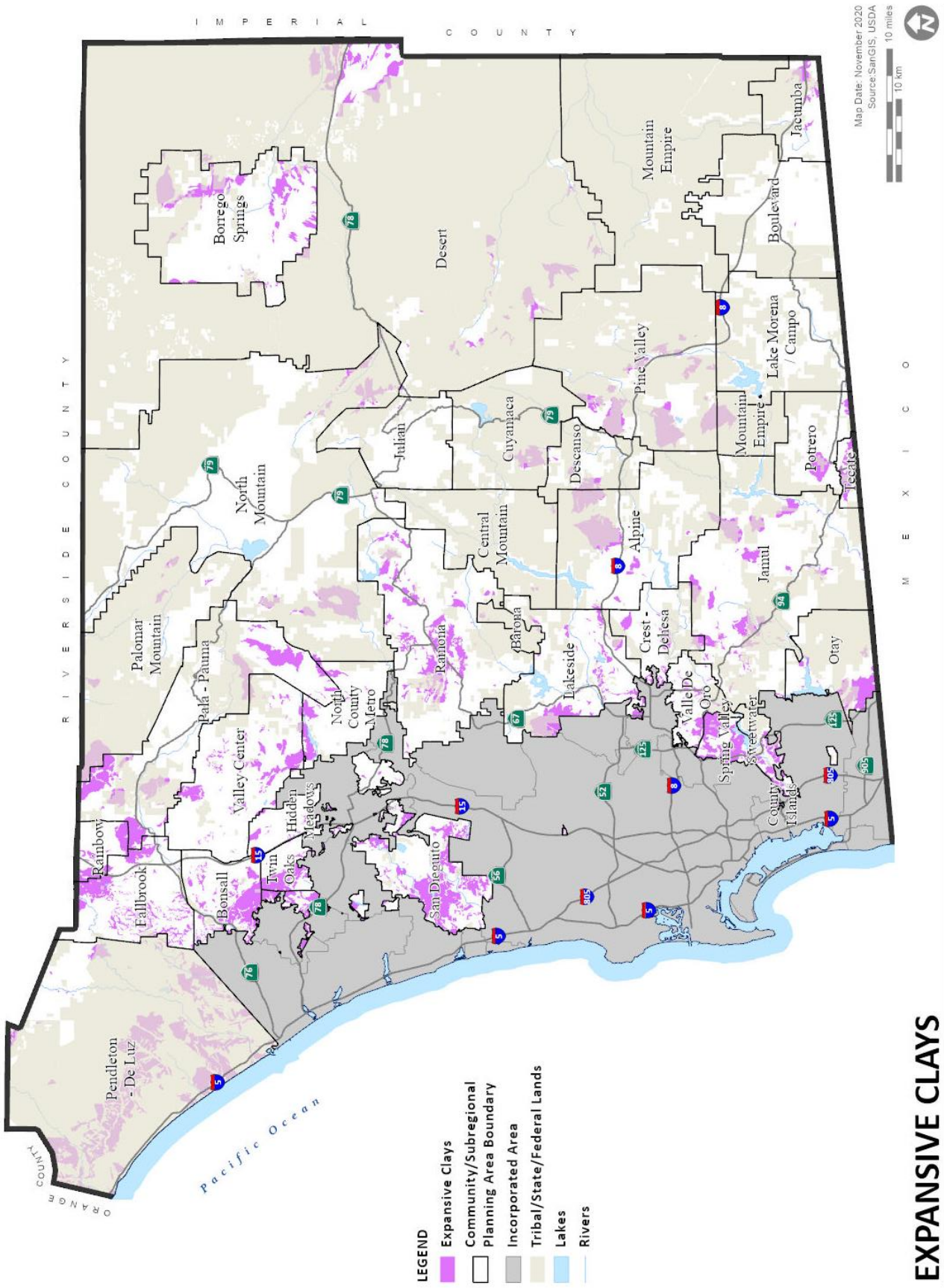


Figure S-4

RPC 2(a)

GOALS AND POLICIES

GOAL S-7

Reduced Seismic Hazards. Minimized personal injury and property damage resulting from seismic hazards.

Policies

S-7.1 **Development Location.** Locate development in areas where the risk to people or resources is minimized. In accordance with the California Department of Conservation Special Publication 42, require development be located a minimum of 50 feet from active or potentially active faults, unless an alternative setback distance is approved based on geologic analysis and feasible engineering design measures adequate to demonstrate that the fault rupture hazard would be avoided.

S-7.2 **Engineering Measures to Reduce Risk.** Require all development to include engineering measures to reduce risk in accordance with the California Building Code, Uniform Building Code, and other seismic and geologic hazard safety standards, including design and construction standards that regulate land use in areas known to have or potentially have significant seismic and/or other geologic hazards.

S-7.3 **Land Use Location.** Prohibit high occupancy uses, essential public facilities, and uses that permit significant amounts of hazardous materials within Alquist-Priolo and County special studies zones.

S-7.4 **Unreinforced Masonry Structures.** Require the retrofitting of unreinforced masonry structures to minimize damage in the event of seismic or geologic hazards.

S-7.5 **Retrofitting of Essential Facilities.** Seismic retrofit essential facilities to minimize damage in the event of seismic or geologic hazards.

S-7.6 **Evacuation Prioritization.** Identify roadways within the CIP that require seismic evaluation and retrofit that also function as evacuation routes to ensure these route improvements are prioritized.

GOAL S-8

Reduced Landslide, Mudslide, and Rock Fall Hazards. Minimized personal injury and property damage caused by mudslides, landslides, or rock falls.

Policies

S-8.1 **Landslide Risks.** Direct development away from areas with high landslide, mudslide, or rockfall potential when engineering solutions have been determined by the County to be infeasible.

S-8.2 **Risk of Slope Instability.** Prohibit development from causing or contributing to slope instability.

S-8.3 **Evacuation Route Risk.** Identify and propose mitigation actions for evacuation routes located in close proximity to active or potential landslide zones.

Flood Hazards

CONTEXT

Flooding is a persistent or temporary condition of partial or complete inundation of normally dry land areas. Flooding is commonly associated with the overflow of natural rivers or streams but can also occur near stormwater diversion facilities or in low-lying areas not designed to transport or infiltrate water at any time. The potential for flooding in San Diego County is high. Storm events are the most common cause of flooding, and areas most prone to flooding are mapped by the State, federal agencies, and the County.

Nearly every community planning area (CPA) or subregion in the unincorporated county has studied areas subject to flood inundation (although there are also known flood hazard areas in the County that have not been studied). The County of San Diego publishes maps showing studied 100-year floodplain and floodway boundaries, and 100-year floodwater surface elevations (where available), or floodplain hazard areas. These areas are mapped as 100-year floodplains in **Figure S-5** [Floodplains]. Floodplains are relatively flat areas of low lands adjoining and including the channel of a river, stream, watercourse, bay, or other body of water that is subject to inundation by the floodwaters of the 100-year frequency flood. Watercourses subject to flood control requirements by the County are affected by large drainage areas (typically one square mile and greater for FEMA mapped floodplains and 100 acres or greater tributary area for County-defined watercourses) and are shown on the County floodplain maps. A *floodway* is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood (100-year flood) without increasing the water surface elevation more than the designated height, but not to exceed more than one foot. Encroachment into the floodway by structures is generally prohibited.

Most community planning areas have between 100 to 4,700 acres of land identified as a floodplain. The exception is Borrego Springs (within the Desert Subregion), which has nearly 30,350 acres of land in its alluvial floodplain. This high number can be attributed to flash flooding that occurs in deserts. The County of San Diego Flood Hazard Map for Borrego Valley delineates boundaries of known special flood hazard areas on alluvial fans and lines of equal probability of flood depths and velocities. Alluvial fans are generally a desert phenomenon where streams emerge from canyons and deposit sand and rock in a cone-shaped formation fanning out from the canyon mouth. The potential for high-velocity flow and heavy sediment load coupled with the complex nature of alluvial fan flooding means that virtually all parts of the fan can be threatened by catastrophic flooding. The Borrego Valley Flood Management Report (October 17, 1989), however, provides methods for reducing risk to structures built on the alluvial fan.

Flooding may also occur as a result of dam failure. The failure of a dam occurs most commonly as a result of poor design/construction, lack of maintenance, or structural damage caused by an earthquake. Areas subject to inundation due to a dam failure are shown in **Figure S-6** [Dam Inundation Areas]. This event is extremely hazardous, as it will typically occur quickly and without warning. Areas directly below the dam are at the greatest risk, and, as the water moves further downstream, reduces in velocity, and becomes shallower in depth, the magnitude of the damage and potential risk to life and property decreases.

The most effective way to reduce the risk of flooding is to ensure development is located outside flood-prone areas. The County adopted its Flood Damage Prevention Ordinance in 2017, which is designed to prevent development in hazardous or sensitive areas by imposing construction standards on what is allowed to build in the floodplain. However, it is also possible to reduce flooding by constructing drainage facilities or using other design measures to mitigate hazards. Urbanization affects flooding by reducing the permeability of land surfaces, which also increases the amount of stormwater runoff and the required capacity of channels. In Village and Rural Villages and in areas containing Village densities, the General Plan policies discourage future development from locating within a floodplain but recognize that there may be instances where encroachment is warranted. Because lower density development provides greater flexibility when siting structures, future development in Semi-Rural and Rural Lands designations should be located outside mapped floodplains and natural flood control systems.

Dam in Unincorporated San Diego County

GOALS AND POLICIES

GOAL S-9

Protection of Life and Property. Minimized personal injury and property damage losses resulting from flood events.

Policies

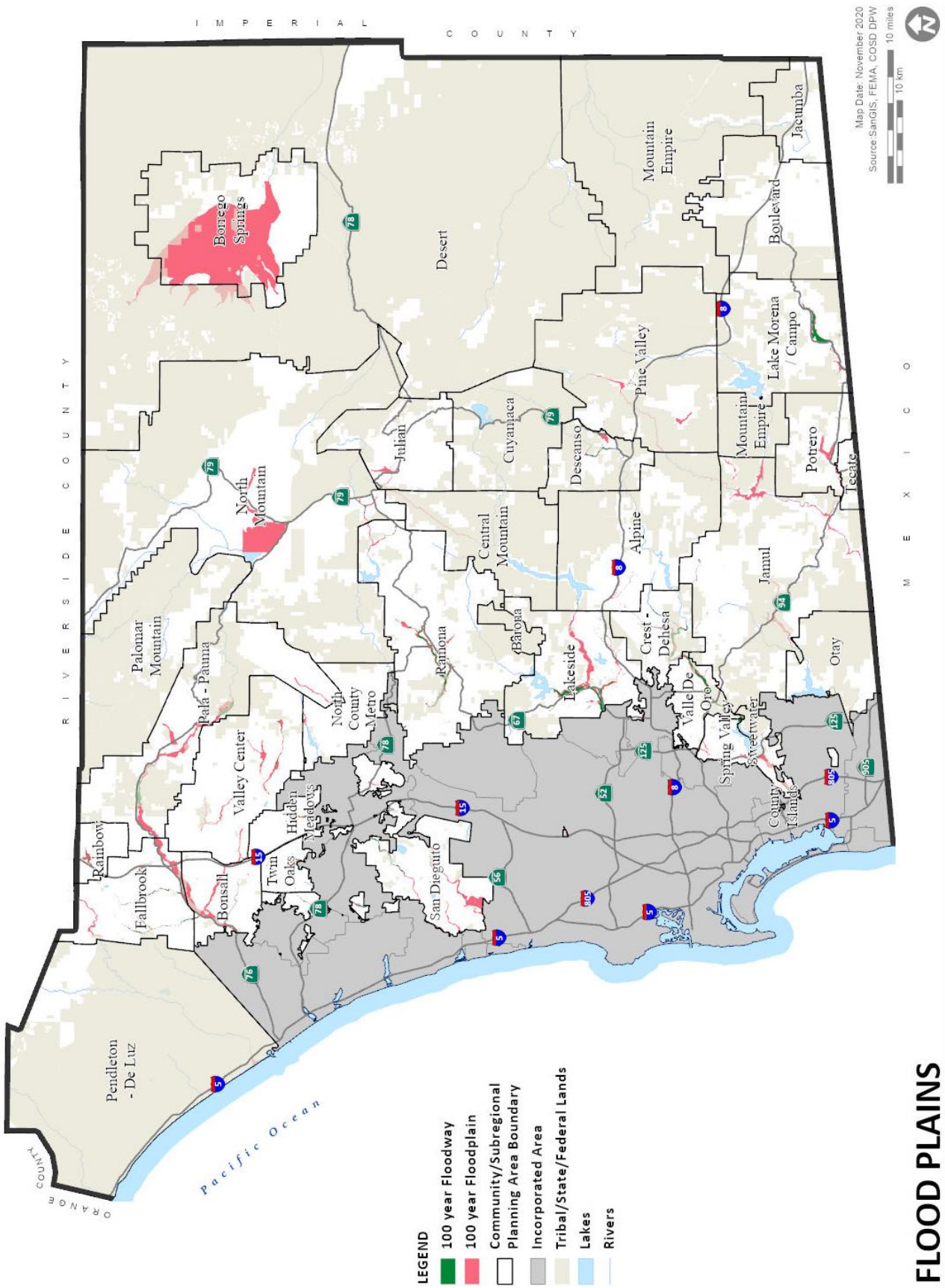
S-9.1 **Floodplain Data.** Maintain and expand floodplain data and information throughout the County, to better understand current and future floodplain conditions and changes associated with development activities and mitigation projects.

S-9.2 **Floodplain Maps.** Manage development based on federal floodplain maps. County maps shall also be referred to, and in case of conflict(s) between the County floodplain maps and the federal floodplain maps, the more stringent of restrictions shall apply.

S-9.3 **Development in Floodplains.** Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal floodproofing standards and siting criteria to prevent flow obstruction.

S-9.4 **Development in Flood Hazard Areas.** Require development within mapped flood hazard areas to be sited and designed to minimize on and off-site hazards to health, safety, and property due to flooding.

RPC 2(a)


FLOOD PLAINS
San Diego County General Plan
Figure S-5
Map Date: November 2020
Source:SanGIS, FEMA, COSD DPW
10 miles
10 km
LEGEND
100 year Floodway
100 year Floodplain
Community/Subregional Planning Area Boundary
Incorporated Area
Tribal/State/Federal Lands
Lakes
Rivers
IMPERIAL COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
MEXICO
Pacific Ocean
Borrego Springs
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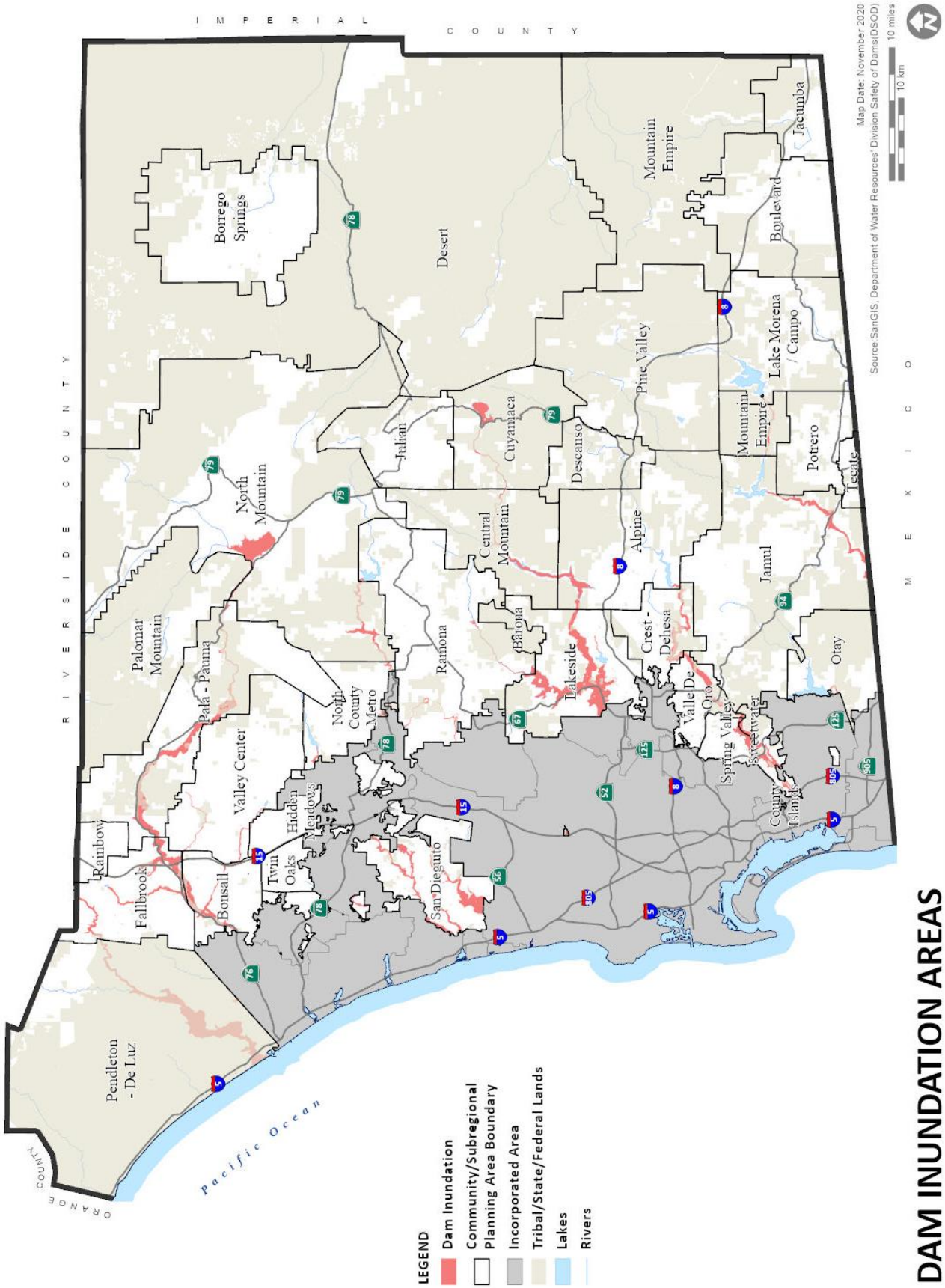
IMPERIAL COUNTY
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County Islands
Pendleton - De Luz
LEGEND
Dam Inundation
Community/Subregional Planning Area Boundary
Incorporated Area
Tribal/State/Federal Lands
Lakes
Rivers
Map Date: November 2020
Source: SanGIS, Department of Water Resources' Division Safety of Dams(DSOD)
10 miles
10 km
DAM INUNDATION AREAS
San Diego County General Plan

Figure S-6

S-9.5 **Development in Villages.** Allow new uses and development within the floodplain fringe (land within the floodplain outside of the floodway) only when environmental impacts and hazards are mitigated. This policy does not apply to floodplains with unmapped floodways. Require land available outside the floodplain to be fully utilized before locating development within a floodplain. Development within a floodplain may be denied if it will cause significant adverse environmental impacts or is prohibited in the community plan. Channelization of floodplains is allowed within villages only when specifically addressed in community plans.

A higher level of flexibility for floodplain encroachment within Villages is provided where future growth is planned and where fewer options are available for locating development outside the floodplain.

S-9.6 **Development in the Floodplain Fringe**. Prohibit development in the floodplain fringe when located on Semi-Rural and Rural Lands to maintain the capacity of the floodplain, unless specifically allowed in a community plan. For parcels located entirely within a floodplain or without sufficient space for a building pad outside the floodplain, development is limited to a single-family home on an existing lot or those uses that do not compromise the environmental attributes of the floodplain or require further channelization.

S-9.7 **Development in Dam Inundation Areas**. Prohibit development in dam inundation areas that may interfere with the County's emergency response and evacuation plans.

S-9.8 **Evacuation Route Development.** Identify secondary evacuation routes in community plan areas that are susceptible to flood-related impacts to ensure adequate evacuation access is available.

GOAL S-10

Floodway and Floodplain Capacity. Floodways and floodplains that have acceptable capacity to accommodate flood events.

Policies

S-10.1 **Land Uses within Floodways.** Limit new or expanded uses in floodways to agricultural, recreational, and other such low intensity uses and those that do not result in an increase in flood levels during the occurrence of the base flood discharge, do not include habitable structures, and do not substantially harm, and fully offset impacts to, the environmental values of the floodway area. This policy does not apply to minor renovation projects, improvements required to remedy an existing flooding problem, legal sand or gravel mining activities, or public infrastructure.

S-10.2 **Use of Natural Channels.** Require the use of natural channels for County flood control facilities except where necessary to protect existing structures from a current flooding problem and where natural channel use is deemed infeasible. The alternative must achieve the same level of biological and other environmental protection, such as water quality, hydrology, and public safety.

S-10.3 **Flood Control Facilities.** Require flood control facilities to be adequately sized, constructed, and maintained to operate effectively.

S-10.4 **Stormwater Management.** Require development to incorporate low impact design, including site design, source control, and other measures to minimize stormwater impacts on drainage and flood control facilities and promote groundwater recharge, where feasible. In addition, require projects that are classified as Priority Development Projects to also incorporate pollutant control and hydromodification management measures.

S-10.5 **Development Site Improvements.** Require development to provide necessary on- and off-site improvements to stormwater runoff and drainage facilities.

S-10.6 **Stormwater Hydrology.** Ensure development avoids diverting drainages, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area's existing hydrology.

Increases in velocities and peak flow rates can result in flooding, erosion, and other problems downstream. Decreases can deprive biological resources of a needed water source.

Additional goals and policies that relate to development in flood hazard areas are contained in the Land Use Element, including the requirement to document and annually review floodways and floodplains.

Climate Change

CONTEXT

Global climate change is expected to intensify the regional and local impacts of existing environmental hazards within unincorporated San Diego County. The primary effects of climate change include increased temperatures and changes in precipitation patterns. These factors, either individually or in combination, could contribute to an increase in the frequency and intensity of secondary climate effects such as human health hazards, drought, extreme heat events, extreme precipitation and flooding, landslides, wildfires, and sea-level rise. The level of impact from these climate change-related events will vary across the unincorporated county due to physical, social, and economic characteristics.

Climate change may negatively impact water supply, threaten biological resources, and reduce human health and safety. Rising sea levels will result in coastal erosion, flooding, infrastructure damage, or saltwater intrusion in groundwater aquifers. Other environmental concerns include a decline in water quality, reduced availability and overdrawing of groundwater resources, and declining soil health. Vulnerabilities of water resources also include risks related to the degradation of watersheds, alteration of ecosystems, and loss of habitat.

Addressing climate change requires an integrated approach that targets both the sources of climate change and the effects. Efforts to reduce the sources of climate change are termed climate change mitigation, greenhouse gas emissions (GHG) mitigation, or climate action. Efforts to reduce harm from the effects of a changing climate are referred to as climate adaptation and resilience.

The purpose of climate adaptation planning is to seek strategies to reduce vulnerability to projected climate change effects, increase the local capacity to adapt, and build resilience. A climate resilient county is one that is prepared for the effects of climate change, continues to provide essential services, protects the most vulnerable during hazardous events, and continually learns and adjusts in the face of change and disruption.

The County's existing climate change mitigation efforts are laid out in the County of San Diego Climate Action Plan (CAP). The CAP, adopted by the County of San Diego Board of Supervisors on February 14, 2018, identifies strategies and measures to reduce the County's contribution of GHG emissions to the atmosphere to meet 2020 and 2030 GHG emissions targets, and to demonstrate progress towards the State's 2050 GHG reduction goal. In response to a June 12, 2020, Court of Appeal ruling, the County has rescinded and will be revising its 2018 CAP and related Supplemental Environmental Impact Report (EIR). The court ruling struck down the CAP's EIR and required rescission of the CAP but did not find fault with its 26 GHG reduction measures. Thus, the County has continued to implement GHG reduction measures. To address the court ruling, the CAP and EIR will be revised in partnership with residents, businesses, and environmental groups. While the CAP may be sufficient to address

GHG emissions, it does not address future adaptation needs.

The County has prepared a Vulnerability Assessment and Adaptation Report that builds upon prior climate change efforts and focuses on climate change adaptation and resilience. This report identifies the unincorporated county's exposure to climate change effects, the sensitivity of populations and community assets to climate change effects, and the County's existing adaptive capacity to address impacts associated with climate change. These potential impacts are ranked into a vulnerability scoring in conformance with the 2020 update of the California Adaptation Planning Guide (APG 2.0).

The unincorporated county is expected to experience warming, along with variable precipitation patterns over the next several decades. These projected changes are a result of global increases in GHG emissions which result in a warming effect. With increases in average maximum temperatures in the unincorporated county it is expected that other dependent systems (plants, animals, and ecosystems) could change, which may increase risks associated with wildfires and flooding. In addition to increasing temperatures, climate models also project intensifying episodes of precipitation in the future that could cause flooding in new areas or more damage caused by severe weather events. In the coming decades, dry years are likely to become even drier, while wet years will become wetter. These factors will lead to several secondary climate impacts, including human health hazards, drought, extreme heat events, extreme precipitation and flooding, landslides, wildfires, and sea-level rise. As these climate change-related hazards become more frequent and intense over time, threats to population groups and physical assets are expected to increase without human intervention.

The following goals and policies are intended to build upon the County's prior climate change efforts and focus on climate change adaptation and resilience.

GOAL S-11

Climate Adaptation. Increase resilience and protect populations from the anticipated effects of climate change.

Policies

S-11.1 Vulnerability Assessment and Adaptation Report. Periodically update the County's Vulnerability Assessment and Adaptation Report ensuring implementation progress is monitored.

S-11.2 Community Plan Vulnerabilities. Integrate policies and recommendations from the Vulnerability Assessment and Adaptation Report into future community plan updates within the County.

S-11.3 Changing Conditions. Ensure future planning and development projects integrate climate change projections into design solutions and engineering requirements.

S-11.4 Increased Resilience. Promote design solutions and best practices that ensure future developments and infrastructure can adapt to climate change effects.

S-11.5 Resilient Communities. Increase community resilience to climate change and protect vulnerable populations.

S-11.6 **Resilient Transportation Systems.** Increase the resilience of transportation systems and protect critical transportation infrastructure from climate change.

S-11.7 **Resilient Energy Resources.** Increase the resilience of energy resources and protect critical energy infrastructure and systems from the increased risks associated with climate change.

S-11.8 **Resilient Water Resources.** Protect water resources vulnerable to climate change and ensure a safe and reliable supply of water.

S-11.9 **Resilient Natural Systems.** Protect biodiversity and habitat vulnerable to climate change.

S-11.10 **Emergency Services.** Ensure that emergency services have adequate capacity to address increased need due to climate change-related impacts.

Hazardous Materials

CONTEXT

Hazardous materials are generally defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or future hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials typically require special handling, reuse, and disposal because of their potential to harm human health and the environment. The use of hazardous products is common among households, businesses, and construction activities. However, the quantity, concentration, and/or types of these products are often not significant enough to pose a substantial risk to human health and safety or to the environment; therefore, do not meet the definition of "hazardous materials." Instead, they are often referred to as household hazardous wastes, universal waste, and electronic waste.

Hazardous materials are more often associated with select commercial, industrial, and agricultural operations, and their use is highly regulated by federal and state law. Operations meeting the definition of a Hazardous Waste Facility must obtain a permit or grant of authorization from the State Department of Toxic Substance Control.

Sites that have been contaminated by a release of hazardous materials also pose a risk to human health and safety or to the environment. Location, type, and extent of contamination must be considered in determining the appropriate reuse of such sites. Not all sites have been identified; therefore, site assessments are used to determine the presence or likelihood of contamination in areas that are suspect.

GOALS AND POLICIES

GOAL S-12

Controlled Hazardous Material Exposure. Limited human and environmental exposure to hazardous materials that pose a threat to human lives or environmental resources.

Policies

S-12.1 **Land Use Location.** Require that land uses involving the storage, transfer, or processing of hazardous materials be located and designed to minimize risk and comply with all applicable hazardous materials regulations.

S-12.2 **Industrial Use Restrictions.** Restrict industrial uses that store, process, or transport significant amounts of hazardous material to areas designated as High Impact Industrial.

S-12.3 **Hazards-Sensitive Uses.** Require that land uses using hazardous materials be located and designed to ensure sensitive uses, such as schools, hospitals, daycare centers, and residential neighborhoods, are protected. Similarly, avoid locating sensitive uses near established hazardous materials users or High Impact Industrial areas where incompatibilities would result.

S-12.4 **Contaminated Lands.** Require areas of known or suspected contamination to be assessed prior to reuse. The reuse shall be in a manner that is compatible with the nature of the contamination and subsequent remediation efforts.

S-12.5 **Development Adjacent to Agricultural Operations.** Require development adjacent to existing agricultural operations in Semi-Rural and Rural Lands to adequately buffer agricultural areas and ensure compliance with relevant safety codes where pesticides or other hazardous materials are used.

Law Enforcement

CONTEXT

The San Diego County Sheriff is responsible for providing law enforcement services in the unincorporated county and to certain cities under contract. The General Plan Land Use Maps identify where future development will occur, which can be used by the Sheriff in conjunction with forecasts from contract cities to prepare facility and service plans. As higher density residential and commercial areas typically produce more calls for service, these areas have been identified as preferred locations of future Sheriff Facilities in the unincorporated county. Additionally, 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, including natural surveillance, access control, maintenance, and territorial reinforcement (or encouraging owners of private spaces to exercise control over their area by challenging intruders). CPTED does not eliminate crime within a neighborhood, but it can dramatically reduce the likelihood of theft and other crimes.

GOALS AND POLICIES

GOAL S-13

Adequate Law Enforcement Facilities. Timely development of law enforcement facilities in locations that serve the unincorporated areas of the County.

Policies

S-13.1 New Law Enforcement Facilities. Coordinate new law enforcement facilities and services with new development in ways that sustain the provision of comprehensive services at levels consistent with substantially similar areas of the County.

Fallbrook Sheriff substation

GOAL S-14

Safe Communities. Law enforcement facilities and services that help maintain safe communities.

Policies

S-14.1 Sheriff Facility Locations. Locate Sheriff facilities to best serve existing and planned development and the corresponding demand for services.

S-14.2 Sheriff Facilities in Non-Residential Areas. Locate future Sheriff facilities in commercial, industrial, or mixed-use areas; they may also be located within residential areas when other sites are unavailable or unsuitable based on circulation, geography, proximity to demand, and other factors that impact the practical provision of services.

GOAL S-15

Crime Prevention. Crime prevention through building and site design.

Policies

S-15.1 Vehicular Access to Development. Require development to provide vehicular connections that reduce response times and facilitate access for law enforcement personnel, whenever feasible.

S-15.2 Development Safety Techniques. Require development within Village areas to utilize planning and design techniques, as appropriate, that deter crime.

S-15.3 Crime Prevention. Coordinate with appropriate agencies and the community to reduce crime in all neighborhoods by improving communication and relationships with communities and through educational programs that address important safety issues.

Examples of design features include the following:

- *Avoiding landscaping that might create blind spots or hiding places*
- *Centrally locating open green spaces and recreational uses so that they are visible from nearby homes and streets*
- *Designing streets to discourage cut-through or high-speed traffic*
- *Installing paving treatments, plantings, and architectural design features, such as columned gateways, to guide visitors to desired entrances and away from private areas*
- *Installing walkways in locations safe for pedestrians*
- *Designing lots, streets, and homes to encourage interaction between neighbors*
- *Including mixed land uses that increase activities on the street*
- *Siting and designing buildings oriented for occupants to view streets and public spaces*

Airport Hazards

CONTEXT

Aircraft accidents represent a hazard to the areas immediately surrounding airports. Specific areas of potential aircraft accidents are called safety zones because they are established to protect public safety. Land use restrictions in the safety zones are defined by each airport's Airport Land Use Compatibility Plan (ALUCP). In addition to safety zones, an ALUCP identifies land use compatibility by airspace protection criteria, noise contours, and areas of aircraft overflight.

In addition to State and federal laws and regulations, ALUCPs guide property owners and jurisdictions in determining what types of new land uses are appropriate around airports. As part of the General Plan Update, the County will coordinate with the San Diego County Regional Airport Authority to bring its land use plans into conformance with the adopted ALUCPs. The Safety Element establishes generalized policies to protect public safety and ensure future land uses remain compatible with airport operations.

GOALS AND POLICIES

GOAL S-16

Airport Zone Hazards. Development within airport hazard zones that minimize the risk of personal injury to both flight occupants and people and property damage on the ground as well as protect airport operations from incompatible land uses.

Policies

S-16.1 **ALUCP Updates.** Periodically review and coordinate with the San Diego Airport Land Use Commission on updates and modifications to ALUCPs conducted for airport facilities within San Diego County.

S-16.2 **Land Use Compatibility.** Require land uses surrounding airports to be compatible with the operation of each airport.

S-16.3 **Airport Operational Plans.** Require operational plans for new public/private airports and heliports, as well as future operational changes to existing airports, to be compatible with existing and planned land uses that surround the airport facility.

Specific concerns include heights of structures near airports and activities which can cause electronic or visual impairments to air navigation or which attract large numbers of birds (such as landfills, wetlands, water features, and cereal grain fields).

S-16.4 **Hazardous Obstructions within Airport Approach and Departure.** Restrict development of potentially hazardous obstructions or other hazards to flight located within airport approach and departure areas or known flight patterns and discourage uses that may impact airport operations or do not meet Federal or State aviation standards.

S-16.5 **Private Airstrip and Heliport Location.** Locate private airstrips and heliports outside of safety zones and flight paths for existing airports where they are compatible with surrounding established and planned land use, and in a manner to avoid impacting public roadways and facilities.