

LAGUNA NIGUEL

GENERAL PLAN EXISTING CONDITIONS REPORT



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De Novo Planning Group

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1 INTRODUCTION

California law requires every city and county to adopt a comprehensive, long-term general plan for its physical development and update it periodically. A city's General Plan serves as a blueprint for the future, guiding decision-making for growth and development through a framework of goals, policies, and programs. It addresses issues that impact the entire city, such as land use, building placement, transportation networks, parks and open space, and public safety. All city plans, zoning, and development projects must be consistent with the General Plan.

Laguna Niguel adopted its General Plan in 1992. Except for the Housing and Land Use Elements, most of the elements remain largely unchanged since that original adoption. As identified in the City's Laguna Niguel Strategic Plan under Goal No. 5: Economic and Community Development, Strategy No. 3, a comprehensive update of the General Plan is identified as an action item to be completed between Fiscal Years 2021-2025.



The General Plan Update process includes a two-phased approach:

- **Phase 1:** A baseline evaluation of the 1992 General Plan and the preparation of focused studies assessing traffic, market trends, and fiscal conditions.
- **Phase 2:** Analysis of existing conditions not covered in Phase 1 (contained within this Existing Conditions Report), community outreach and engagement, development of the General Plan Update itself, and the preparation of a Program Environmental Impact Report (PEIR) and associated technical documents evaluating the potential environmental impacts of the General Plan Update.

This introductory chapter provides background on the City of Laguna Niguel, summarizes the contents of this Existing Conditions Report, and describes how the General Plan will be used to guide future planning and development decisions.

1.1 BACKGROUND

Laguna Niguel is home to approximately 64,0000 residents and is approximately 14.7 square miles in land area. This includes about 5.6 square miles (38%) for residential uses and 5.7 square miles (39%) designated to parks and open space, with the remaining 3.5 square miles (23%) dedicated to commercial uses, mixed uses, public/institutional facilities, and rights-of-way. In the 2025–2026 Fiscal year, the City of Laguna Niguel has a 80-million-dollar budget and has nearly a 56-million-dollar General Fund. Seventy-two percent (72%) of Laguna Niguel's 26,187 housing units are owner-occupied. Over one-third of Laguna Niguel is designated as open space and park area. This significant amount of open space is one of the key features defining the character and form of the City. The City has two community parks, 23 neighborhood parks, three mini-parks, one dog park, two county regional parks, two small county parks, and a skate park.

Key priorities for the City include well-planned growth, public safety, community aesthetics, economic development, and enhancing overall quality of life. This includes balancing the preservation of Laguna Niguel's established neighborhoods and facilitating high-quality development and economic growth in targeted areas that provide expanded opportunities for dining, entertainment, shopping, and public gathering spaces.

Laguna Niguel's history is rooted in indigenous heritage, Mexican land grants, ranching traditions, and visionary urban planning, all of which have contributed to the City's modern-day character and landscape.

The area was originally inhabited by the Acjachemen (Juaneño) people, who lived in the region for thousands of years. The name "Niguel" traces back to "Niguili," a native village once located near Aliso Creek. In the late 1700s, Spanish missionaries established Mission San Juan Capistrano, bringing the area under mission control.

Following Mexico's independence from Spain in 1821, the mission lands, including what is now Laguna Niguel, were divided into private land grants. In 1842, Rancho Niguel, encompassing approximately 13,316 acres, was granted to Juan Avila. For decades, the region's rolling hills and valleys supported cattle and sheep ranching. In 1895, Lewis Moulton and Jean Pierre Daguerre purchased Rancho Niguel and surrounding properties, continuing and expanding the area's ranching legacy through the mid-1900s.

The modern development of Laguna Niguel began in 1959, when Cabot, Cabot & Forbes established the Laguna Niguel Corporation and acquired approximately 7,200 acres from the Daguerre family to develop one of California's first master-planned communities. To achieve their vision, the firm retained Victor Gruen and Associates to design a comprehensive community plan. Their visionary plan incorporated principles of neighborhood clustering, open space preservation, and pedestrian connectivity in a setting of rolling hills and coastal proximity in south Orange County. This approach set the foundation for the City's long-term growth, community character, and high quality of life that residents continue to enjoy today.

INTRODUCTION

Land sales began in 1961 in the Monarch Bay and Laguna Terrace subdivisions. In 1971, the AVCO Community Developers, Inc. acquired the Laguna Niguel Corporation and moved forward with development as originally envisioned.

During the early years of development, the Laguna Niguel Homeowners Association, later to become the Laguna Niguel Community Council, served in an important advisory capacity to the Orange County Board of Supervisors on land use issues. In 1986, Laguna Niguel residents, looking for local governance, took the first step toward cityhood by forming a Community Services District. Three years later, on November 7, 1989, 89% of the voters favored incorporation and on December 1, 1989, Laguna Niguel became the 29th city in Orange County.

1.2 EXISTING CONDITIONS REPORT CONTENTS

The Existing Conditions Report (ECR) provides an overview of Laguna Niguel's existing land uses, community character, utilities, hazards, public safety, conservation, community health, and the regulatory framework. Maps, graphics, and tables are included throughout to complement the text and serve as visual references. In addition to providing a contextual summary of current conditions, the ECR will also serve as a resource for the "existing setting" sections of the project's PEIR. The following topic areas are addressed in the ECR:

Chapter 2 Land Use and Community Character

This chapter addresses Laguna Niguel's historical and current land use context, including the existing General Plan, land use patterns, local planning considerations, and community character. It provides a baseline of existing conditions to support the General Plan Update process and will be used when formulating and considering alternate growth and land use scenarios for the City.

For the purposes of the Laguna Niguel General Plan Update, the "Planning Area" studied is defined as the area within the City's jurisdictional boundary. It is the Planning Area that is included in the analysis and planning for the approximate 20-year horizon of the City's General Plan Update. This is discussed further in Chapter 2.



Chapter 3 Utilities and Community Services

This chapter describes the existing conditions and regulatory context regarding community services and utilities, including water, wastewater, stormwater and drainage, public safety services, parks and recreational resources, and schools within the City. These facilities and services provide a framework that supports growth and development in the City. This chapter describes existing service levels, available resources, and planned expansion of services and infrastructure.

Chapter 4 Hazards, Safety, and Noise

This chapter provides a summary of the existing setting and conditions associated with natural and human-made hazards that may pose a danger to City residents, employees, and visitors including: dangers from hazardous materials sites (i.e. Superfund sites, pipelines, and sites with the potential for chemical explosion); fire hazards; flood hazards; aircraft hazards; and emergency response. Known hazardous conditions listed in available state and county databases are also described.

Additionally, this chapter includes descriptions of the characteristics of sound and noise and a description of transportation, stationary, and construction noise sources within the City. A description of the noise monitoring survey results, tabularized noise exposure contours, and an existing conditions noise contour map that reflects traffic and stationary noise sources are included. This section also provides current information on ground vibration thresholds and summarizes the existing vibration environment.

Chapter 5 Conservation

This chapter discusses conservation issues related to cultural and historical resource preservation, air quality, greenhouse gases, biological resources, geologic and mineral resources, hydrology and water quality, and visual resources in and around the City. This chapter also discusses groundwater resources, hydrologic hazards, and geologic hazards.

Chapter 6 Community Health and Wellness

This chapter addresses a wide range of topics related to the health and well-being of City residents and workers. A community's overall health depends on many factors, including the environment in which people live and work. A healthy living environment reduces risks and facilitates healthy lifestyles. Key indicators used to establish a community health baseline include: obesity rates, opportunities for physical activity, healthy food and healthcare access, and local health and wellness programs.

Chapter 7 Regulatory Environment

This chapter outlines the regulatory framework guiding the General Plan Update, including applicable federal, state, and local laws, policies, and programs.

Appendix A Glossary of Key Terms

A glossary of key words and acronyms to support the Existing Conditions Report is included as Appendix A.



1.3 GENERAL PLAN OVERVIEW

State law requires every city and county in California to prepare and maintain a planning document called a general plan. A general plan is a “constitution” or “blueprint” for the future physical and economic development of a city or county. All future planning decisions and project approvals must be consistent with the general plan, including but not limited to: area plans, specific plans, master plans, subdivisions, public works projects, public services, and zoning decisions.

A general plan has four defining features:

- **General.** As the name implies, a general plan provides general guidance across several topical areas, such as land use, transportation, infrastructure, public safety, environmental sustainability, and resource management.
- **Comprehensive.** A general plan covers a wide range of topics, including the following state-mandated elements: land use, circulation/mobility, housing, conservation, open space, noise, and safety.. Cities and counties with identified disadvantaged communities must also address environmental justice in their general plans. Communities may also include optional elements to reflect local priorities.
- **Long-Range.** A general plan provides guidance on achieving a long-range vision for the future a city or county. To help achieve this vision, a general plan includes goals and policies that address both near-term and long-term needs. The City of Laguna Niguel General Plan Update will look ahead approximately 20 years.

- **Integrated and Coherent.** A general plan provides a unified framework based on a consistent set of assumptions and projections to assess future community needs (e.g., housing, employment, public services, and infrastructure). This cohesive approach helps communicate the vision for the local jurisdiction to the community and provides landowners, businesses, and developers greater clarity and certainty about how planning decisions will be made and implemented.

1.4 USING THE GENERAL PLAN

The General Plan is used by the City Council, appointed commissions and committees, and City staff to make decisions with direct and indirect land use implications. It also provides a framework for inter-jurisdictional coordination of planning efforts among officials and staff of the City and other government agencies such as the county, state, and federal agencies.

The General Plan is the basis for a variety of regulatory mechanisms and administrative procedures. California Planning Law requires consistency between the General Plan and its implementation programs. They include zoning and subdivision ordinances, capital improvement programs, specific plans, environmental impact procedures, and building and housing codes.

Over time, the City's population will change, its goals will be redefined, and the physical environment in which its residents live and work will be altered. In order for the General Plan to be a useful document, it must be monitored and periodically revised to respond to and reflect changing conditions and needs. As such, a general plan should be comprehensively updated approximately every 15–20 years to reflect current conditions and emerging trends.

The City's General Plan should also be user-friendly. To this end, the Laguna Niguel General Plan Update is divided into two primary documents: 1) the Existing Conditions Report (ECR), which provides a snapshot of current conditions, and 2) the General Plan Policy Document, which outlines the City's goals and policies to guide future decisions-making.

INTRODUCTION

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2 LAND USE AND COMMUNITY CHARACTER

This chapter addresses land use in Laguna Niguel, including topics related to the current General Plan, existing land use patterns, local planning context, and community character. This information assists in the General Plan Update process by providing a baseline to be used when formulating and considering potential land use goals and policy changes.

This chapter includes the following sections:

- 2.1 Planning Area
- 2.2 Current General Plan
- 2.3 Current General Plan Land Use Designations
- 2.4 Opportunity Areas
- 2.5 Existing Land Use Patterns (On-the-Ground)
- 2.6 Local Planning Context
- 2.7 Community Character



2.1 PLANNING AREA

The **City Limits** includes the area within the City's corporate boundary, over which the City exercises land use authority and provides public services. A city's **Sphere of Influence** (SOI) is the probable physical boundary and service area of a local agency, as adopted by a Local Agency Formation Commission (LAFCO). Although adjacent to an unincorporated part of Orange County, the City does not have an SOI. For the purposes of the Laguna Niguel General Plan Update, the **Planning Area** is defined as the area within the City's corporate boundary that is included in the analysis and planning for the approximate 20-year horizon of the City's General Plan Update. Figure 2-1 shows the Laguna Niguel Planning Area boundaries.

2.2 CURRENT GENERAL PLAN

The General Plan is a planning document used to guide long-term City growth and development. The General Plan consists of numerous elements (i.e., Chapters), goals, policies, and implementation actions that work to shape the future of the City. The City of Laguna Niguel's first General Plan was adopted in 1992. Except for the Housing and Land Use Elements, most of the elements are original per the 1992 adoption. Pursuant to the 2023 iteration of the Laguna Niguel Strategic Plan, Goal #5: Economic and Community Development, Strategy 3, a comprehensive update of the City's General Plan is identified as an action item to be completed between Fiscal Years 2021–2025.

2.2.1 Land Use Element

The Land Use Element of the General Plan establishes the planned land use pattern for the City based primarily on the community's vision and goals for the future. Decision-makers and community members look to the Land Use Element to understand the type of development allowed across different locations within the City. Additionally, the goals and policies in the Land Use Element will affect numerous issues in other General Plan Elements, including those concerned with housing, open space and conservation, public facilities, growth management, public safety, and noise. For comprehensive planning purposes, the current General Plan separated the City of Laguna Niguel into 14 Community Profile Areas. A summary of each is provided below in Section 2.2.4.

2.3 CURRENT GENERAL PLAN LAND USE DESIGNATIONS

Figure 2-2 shows the current General Plan Land Use Map, which identifies land use designations within the Planning Area. These land use designations identify the types and nature of development allowed in certain areas. There are nine broad categories of land use designations listed and described below. Some parcels have more than one designation (where essentially two designations are combined and both applicable to a parcel), as shown on Figure 2-2.

- **Residential Detached:** Intended to provide for the development of one detached single-family dwelling unit per individual lot/parcel.
- **Residential Attached:** Intended to provide for the development of attached single-family residential dwelling units, as well as multi-family attached townhomes, apartments, and condominium projects on a single or multiple legal lots/parcels.
- **Neighborhood Commercial:** Intended to provide for a variety of neighborhood-serving commercial uses. A typical neighborhood commercial center (generally between one and 10 acres) consists of several small retailers, restaurants, and/or personal service uses that provide daily convenience goods and services.
- **Community Commercial:** Intended to provide for a diverse range of commercial uses serving the entire community. Community commercial centers are larger planned shopping complexes which provide a broader range of goods and services and serve a greater trade area than neighborhood centers.
- **Professional Office:** Intended to provide for professional offices, corporate headquarters, research and development, and administrative offices. Other uses that are determined to be compatible with the primary use, such as limited supporting retail operations may also be allowed.

- **Public/Institutional:** Intended to provide for a wide range of public, quasi-public, and special purpose facilities that provide various governmental or social services to the community.
- **Parks and Recreation:** Intended to provide for active recreational uses and activities within open space areas. Such uses include ballfields and other playing fields; active parks; sports courts and playgrounds; and community and neighborhood recreational facilities. Passive recreational activities may also be included as an ancillary part of the recreation complex. In selected situations, cultural facilities such as theaters, museums, or other similar specialized uses with a recreational value may fit with this designation.
- **Open Space:** Intended to preserve areas for passive recreation, visual enhancement, or resource conservation. These areas may include natural resources, undeveloped canyons and hillsides, landscaped slopes or buffers, and trails. Active sports or other organized recreational activities are generally discouraged in these areas. This designation includes those areas of the community that are primarily open and unimproved, except for recreational, or other public use features, such as trails, view areas, benches, and picnic tables.
- **Industrial/Business Park:** Intended to provide for a variety of compatible light manufacturing, wholesaling and office uses supportive of a contemporary business center environment.

2.4 OPPORTUNITY AREAS

The current General Plan identifies three Opportunity Areas that offer special economic and community development opportunities, each described in further detail below and shown in Figure 2-3.

Opportunity Area 1 (Community Profile Area 1): Country Village/Narland Business Center

The **Country Village/Narland Business Center** area is located in the northwest corner of the City, south of Pacific Park and east of Alicia Parkway. This area was envisioned to be the City's largest business, commercial, and retail hub.

At the time of the current General Plan's adoption, this opportunity area was designated for a mix of Community Commercial, Professional Office, Industrial/Business Park, and Public/Institutional land uses. A significant portion of the area, previously undeveloped, was subsequently developed with the Marketplace at Laguna Niguel and major big-box retailers (Walmart, Costco, and Kohl's). The plan also envisioned the creation of public plazas and gathering spaces along with the expansion on the Chet Holifield Federal Building, Birtcher Business Center (comprised of the Laguna Niguel Promenade, Laguna Niguel Business Center, and Laguna Design Center), and Aliso Village properties.

Opportunity Area 2 (Community Profile Area 4): Camino Capistrano/Cabot Road Business Area

The **Camino Capistrano/Cabot Road Business area** (also referred to as the Laguna Niguel Gateway Area) is located in the northeast corner of the City near the I-5 Freeway and includes the Laguna Niguel/Mission Viejo Metrolink transit station. This area is governed by the Gateway Specific Plan, originally adopted in 1999.

At the time of the Specific Plan's original adoption, the area was designated for Community Commercial, Professional Office, Industrial/Business Park, and Public/Institutional uses. In November 2011, the Gateway Specific Plan was updated to add Residential Attached and Mixed-Use land use designations in support of market demands and trends toward transit-oriented multi-family and mixed-use development.

Opportunity Area 3 (Community Profile Area 14): Town Center

The **Town Center area** is centrally located and generally bound by Niguel Road, Crown Valley Parkway, and Pacific Island Drive; Alicia Parkway runs through its center. This area, which includes Laguna Niguel City Hall and property owned by the County of Orange, was envisioned as a special focal point for the City.

The Laguna Niguel City Center Mixed Use Project, approved by the City Council on June 21, 2022, set a foundation for an updated "downtown" vision within this opportunity area. Prioritizing placemaking, the planned project incorporates specialty retail, restaurants, office, community-oriented event/programmable spaces, integrated residential apartment homes, a new community library, and extensive walkable open spaces, paseos, and plazas. The Town Center is envisioned to continue to provide a mix of land uses supported by policies, intended to ensure gradual and thoughtful transformation of this area into a vibrant commercial and civic hub. Future redevelopment of aging and fragmented commercial development within the opportunity area would focus on creating connected and complete neighborhoods with a mix of services, employment and shopping opportunities, housing types, parks, and open space.

2.4.1 Community Profile and Sub Profile Areas

For comprehensive planning purposes, the current (1992) General Plan divided Laguna Niguel into 14 Community Profile Areas and 103 Sub Profile Areas. The 14 Community Profile Areas were delineated based on factors such as land use types, neighborhoods, major streets, natural features, homeowners' association boundaries, and Traffic Analysis Zones (TAZ). The current (1992) Community Profile and Sub-Profile Areas Map for the City is presented in Figure 2-4. A summary of each Community Profile Area is provided below. Each is described in more detail in Chapter 2 of the current (1992) General Plan. As part of the General Plan Update, Community Profile Area and Sub Profile Area boundaries were slightly modified. An updated community profile and sub-profile areas map for the City is presented in the Land Use Element of the General Plan.

Each of the profile areas summarized below includes information on the primary land uses, along with other notable attributes. These profile areas are further divided into multiple sub-profile areas. The Land Use Chapter of the current General Plan provides both narrative and table summaries of residential and commercial development for each subprofile area. These summaries also account for other land uses, such as public/institutional, hospitality, and managed care facilities. Any proposed development applications that exceed the land use limits within their respective subprofile area require a General Plan Amendment.

LAND USE AND COMMUNITY CHARACTER

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COMMUNITY PROFILE AREA 1

Community Profile Area 1 is one of three Opportunity Areas referred to as Country Village/Narland Business Center and includes approximately 320 acres. The area is located within the northwestern portion of the City and is generally bounded by Pacific Park Drive to the north, Laguna Niguel Regional Park to the south, Alicia Parkway and the City of Aliso Viejo to the west, and La Paz Road to the east.

The profile area is one of the City's largest business districts and includes the Chet Holifield Federal Building Property (commonly referred to as the "Ziggurat Building" because of its distinctive step-like pyramid resemblance). The seven-story building consists of approximately one million square feet and is partially occupied by roughly 3,000 government employees. As one of the City's largest employers, the property plays a significant role in the local economy. A combination of retail, restaurant, business park, and office land uses are provided throughout the profile area. This includes several shopping centers (the Marketplace at Laguna Niguel, Plaza de La Paz, Laguna Niguel Promenade, Aliso Village, and the Laguna Design Center), along with major big-box retailers (Costco Wholesale, Kohl's, Walmart, and Home Depot). Table 2-1 shows the existing household and commercial summary of Community Profile Area 1.



LAND USE AND COMMUNITY CHARACTER



Table 2-1: Community Profile Area 1 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
1	A	0	0.00	0	0.00	386,000	41.24
	B	0	0.00	0	0.00	305,220	31.10
	C	0	0.00	0	0.00	1,050,580	88.28
	D	0	0.00	0	0.00	491,570	15.03
	E	0	0.00	0	0.00	146,601	12.83
	F	0	0.00	0	0.00	207,583	12.52
	G	0	0.00	0	0.00	121,536	14.56
	H	0	0.00	0	0.00	0	0.00
	I	0	0.00	0	0.00	350,626	39.42
	Totals	0	0.00	0	0.00	3,059,716	254.98

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE C: SCE SUBSTATION & CHET HOLIFIELD FEDERAL BUILDING MECHANICAL EQUIPMENT.

COMMUNITY PROFILE AREA 2

Community Profile Area 2 includes approximately 574.5 acres and is located within the northwestern area of Laguna Niguel. It is generally bounded by Pacific Park Drive to the north, Yosemite Road to the south, La Paz Road to the west and the City of Laguna Hills to the east.

This profile area mainly consists of Residential Detached and Attached land uses, but also includes the Chabad Jewish Center of Laguna Niguel, the Sea Country Senior and Community Center, Orange County Fire Authority (OCFA) Station No. 39, and Laguna Niguel Elementary School.

Established single-family residential neighborhoods in this area include Village Niguel Heights, Lake Chateau, Lake Park, Village Niguel Homes (all built in the 1980s-1990s), and San Joaquin Hills (built in the late 1990s-2015). Table 2-2 shows the existing household and commercial summary of Community Profile Area 2.



LAND USE AND COMMUNITY CHARACTER



Table 2-2: Community Profile Area 2 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
2	A	0	0.00	392	19.02	0	0.00
	B	0	0.00	372	16.96	0	0.00
	C	0	0.00	243	12.52	0	0.00
	D	0	0.00	311	30.30	22,506	6.96
	E	327	37.92	185	15.30	0	0.00
	F	0	0.00	0	0.00	0	0.00
	G	113	11.04	0	0.00	0	0.00
	H	939	119.55	0	0.00	0	0.00
	I	110	17.04	0	0.00	0	0.00
	J	303	30.93	0	0.00	0	0.00
	K	0	0.00	0	0.00	34,985	3.78
	Totals	1,792	216.48	1,503	94.09	57,491	10.74

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE D: 1,440 SF OCFA FIRE STATION #39; 10,111 SF CHABAD JEWISH CENTER.

SUBPROFILE E: 21,000 SF AT&T SUBSTATION; LAGUNA NIGUEL ELEMENTARY SCHOOL FY 22/23 ENROLLMENT – 401 STUDENTS.

SUBPROFILE F: 21,060 SF SEA COUNTRY SENIOR & COMMUNITY CENTER.

SUBPROFILE H: MNWD WATER STORAGE TANK.

COMMUNITY PROFILE AREA 3

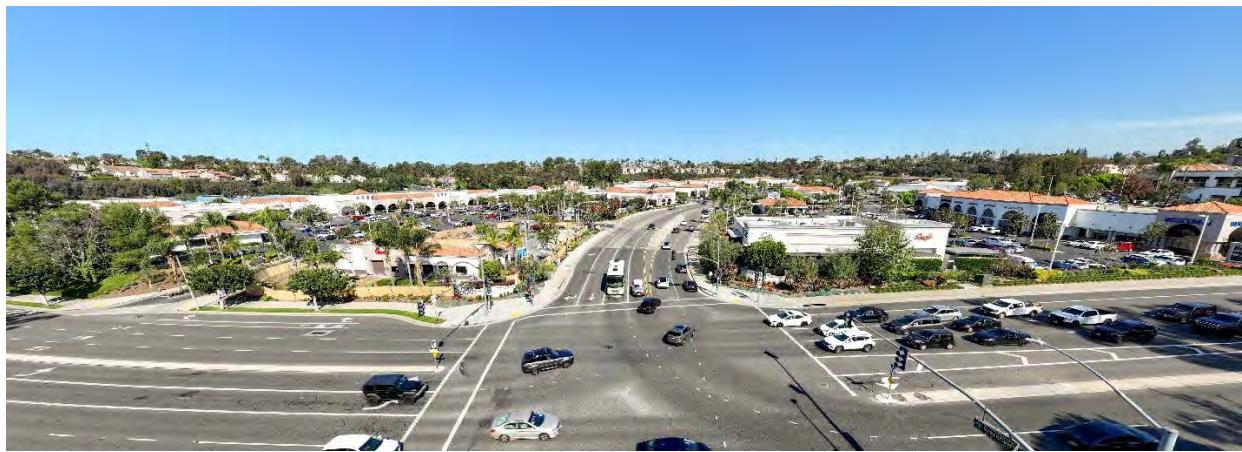
Community Profile Area 3 includes approximately 526 acres and is located within the northeastern area of Laguna Niguel. It is generally bounded by unincorporated Orange County and the City of San Juan Capistrano to the south, Crown Valley Parkway and Golden Lantern to the west, and the San Joaquin Hills Transportation Corridor (SR 73) to the north and east.

This profile area mainly consists of Residential Detached and Attached land uses, but also includes a shopping center (Center at Rancho Niguel), smaller neighborhood-serving commercial properties (Lantern Plaza, a gas/service station, and the former Armstrong's Garden Nursery), and the Niguel Hills Middle School, which includes an adjacent vacant 2.5-acre surplus parcel adjoining the school campus¹.

Established single-family residential neighborhoods in this area include Colinas de Capistrano and Rolling Hills (built in the 1980s-1990s) and the undeveloped 19-acre SunPointe subdivision located at the terminus of Avenida De Caballo. The older single-family tract neighborhoods of Crown Park and portions of Niguel Hills (north of Golden Lantern) are also located in this profile area.



¹ Adjoining the Niguel Hills Middle School is a 2.5 acre vacant property owned by the Capistrano Unified School District. This surplus school property is designated for Public/Institutional, Residential Attached (maximum of 30 units), and Parks and Recreation land uses. If the site is developed as a residential land use, a park of between 0.5 and 1.0 acres is required to be dedicated to the City by the property owner.



These two older tract developments are distinctive for their age (built in the 1970s) and the fact that they are not governed by an HOA. Both communities were originally constructed as ranch-style single-story homes. Over time, these neighborhoods have become more eclectic characterized by a broader range of architectural styles, property renovations, and streetscape landscaping compared to those governed by HOAs. Table 2-3 shows the existing household and commercial summary of Community Profile Area 3.

Table 2-3: Community Profile Area 3 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
3	A	0	0.0	0	0.00	448,642	35.24
	B	320	54.68	0	0.00	0	0.00
	C	468	118.68	192	29.27	0	0.00
	D	0	0.0	264	21.87	0	0.00
	E	174	39.6	0	2.45	0	0.00
	F	0	0.0	0	0.00	24,467	3.19
	Totals	962	213.0	456	53.59	473,109	38.43

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: MNWD WATER STORAGE TANK; NIGUEL HILLS MIDDLE SCHOOL FY 22/23 ENROLLMENT – 720 STUDENTS.

COMMUNITY PROFILE AREA 4

Community Profile Area 4 comprises one of the three Opportunity Areas referred to above as the Laguna Niguel Gateway Area and includes approximately 315 acres located in the northeastern area of Laguna Niguel. It is generally bounded by the City of Laguna Hills to the northwest, the City of Mission Viejo to the north, the I-5 Freeway to the east, and the City of San Juan Capistrano to the south. Both the Orange County Flood Control Oso Creek Galvin Basin and BNSF/Amtrak/Metrolink railroad traverse this planning area.

The profile area features a diverse range of well-established office, retail (including Costco Wholesale), restaurant, auto-service, auto sales (Mercedes Benz, GMC/Cadillac, and Hyundai dealerships), and industrial uses. Additionally, this area includes various commercial and business park properties that often serve as incubator spaces for startups and small businesses.

Many of these sites were developed in the 1960s and 1970s. In 1999, the City adopted the Laguna Niguel Gateway Specific Plan, introducing new land use regulations and development standards to encourage investment and promote redevelopment in the area. To further stimulate revitalization, the City adopted a comprehensive update to the Specific Plan in 2011, adding Residential Attached and Mixed-Use land use designations in support of market demand and to further incentivize investment and redevelopment of aging and underdeveloped properties. As an outgrowth of this update, several properties were subsequently consolidated and redeveloped with high-density residential apartments or mixed-use developments along Cabot Road and Forbes Road.



LAND USE AND COMMUNITY CHARACTER



The redeveloped properties on Forbes Road (north of Crown Valley Parkway) include dedicated ground floor commercial space. The Laguna Niguel/Mission Viejo Metrolink transit station is also located within this profile area.

Distinctive to this profile area are additional provisions specifically tailored for the Laguna Niguel Gateway Area related to permissible land uses and development capacity (e.g., residential density and commercial Floor Area Ratio maximums). Table 2-4 shows the existing household and commercial summary of Community Profile Area 4.

Table 2-4: Community Profile Area 4 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
4	A	0	0.00	0	0.00	76,480	3.10
	B	0	0.00	0	0.00	215,028	19.65
	C	0	0.00	0	0.00	0	0.00
	D	0	0.00	709	9.87	0	0.00
	E	0	0.00	648	18.48	110,128	*
	F	0	0.00	142	2.14	173,900	5.24
	G	0	0.00	0	0.00	192,660	14.94
	H	0	0.00	0	0.00	95,654	14.94
	I	0	0.00	0	0.00	111,185	15.01
	J	0	0.00	0	0.00	125,977	0.00
	Totals	0	0.00	1,499	30.49	1,111,023	76.70

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE B: SDGE SUBSTATION.

SUBPROFILE D: WATERMARK LAGUNA NIGUEL MANAGED CARE FACILITY - 110 UNITS.

SUBPROFILE H: LAGUNA NIGUEL/MISSION VIEJO METROLINK TRANSIT STATION.

SUBPROFILE K: 33-ROOM HOTEL.

COMMUNITY PROFILE AREA 5

Community Profile Area 5 includes approximately 586 acres and is located within the north central area of Laguna Niguel. It is generally bounded by the City of Laguna Hills to the north, Crown Valley Parkway to the south and east, and La Paz Road to the west.

This profile area mainly consists of Residential Detached and Attached land uses, but also includes Mission Lutheran Church, Marian Bergeson Elementary School, and a neighborhood-serving commercial center (Moulton Plaza).

Established single-family residential neighborhoods in this area include Crown Royale, Nueva Vista, Windrose, Rancho Niguel, Sea Country at Rancho Niguel, Sonterra (all built in the 1980s-1990s), and Reggio (built in the late 1990s). This profile area also includes The Estates at Rancho Niguel, a community of custom single-family homes (built in the mid-1990s-2000s).

Table 2-5 shows the existing household and commercial summary of Community Profile Area 5.





Table 2-5: Community Profile Area 5 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
5	A	0	0.00	423	20.58	0	0.00
	B	0	0.00	1,090	58.24	0	0.00
	C	233	31.87	0	0.00	17,082	1.70
	D	151	13.25	92	0.00	0	0.00
	E	0	0.00	176	15.80	0	0.00
	F	488	55.42	0	0.00	12,100	1.80
	G	210	27.89	0	0.00	0	0.00
	H	280	49.54	29	1.38	0	0.00
Totals		1,362	177.97	1,810	96.00	29,182	3.50

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE C: 27,662 SF MISSION LUTHERAN CHURCH.

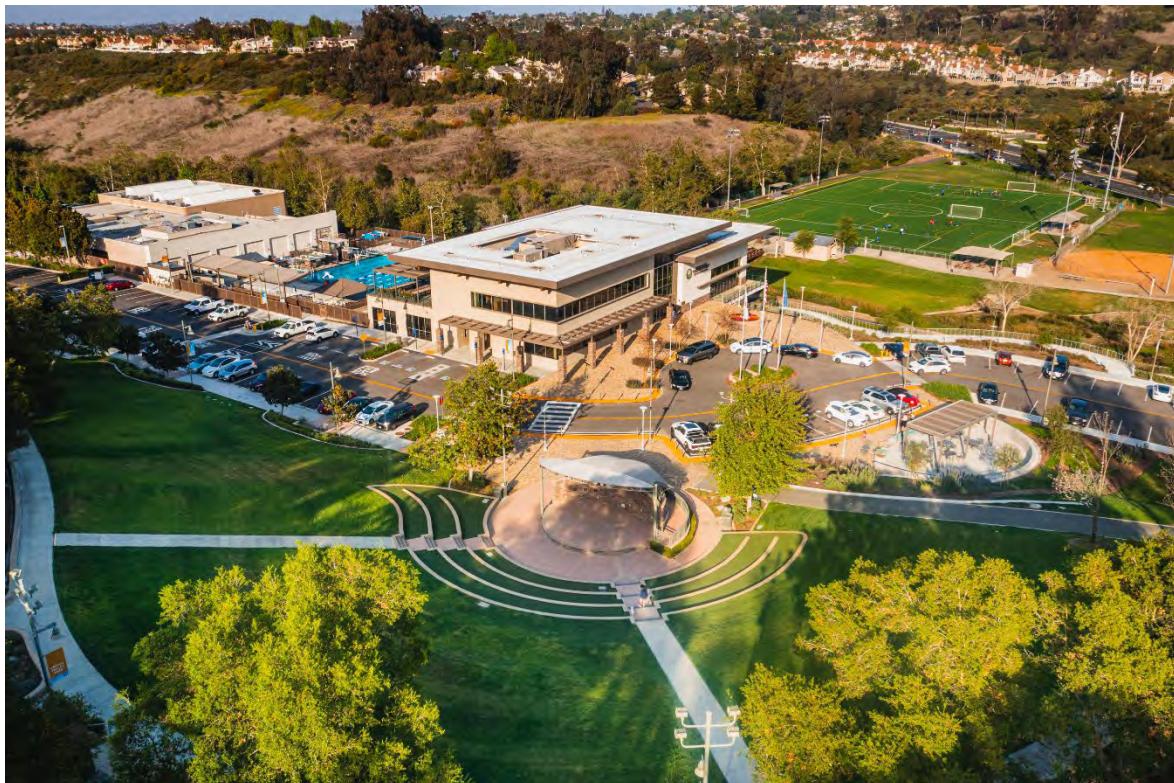
SUBPROFILE F: MARIAN BERGESON ELEMENTARY SCHOOL FY 22/23 ENROLLMENT – 502 STUDENTS.

SUBPROFILE H: SDG&E METERING STATION.

COMMUNITY PROFILE AREA 6

Community Profile Area 6 includes approximately 794.8 acres and is located within the north-central area of Laguna Niguel. It is generally bounded by the La Paz Sports Park and Aliso Village to the north, Crown Valley Parkway to the south, Alicia Parkway to the west, and La Paz Road to the east.

This profile area consists mostly of Residential Detached and Attached land uses. However, it also includes prominent Open Space and Parks and Recreation features. This includes Crown Valley Park with a range of amenities, highlighted by a recently remodeled and expanded community center, aquatic facilities, sports fields, amphitheater, botanical garden, and separate YMCA facilities. Additionally, the area is comprised of OC Parks' Laguna Niguel Regional Park surrounding Laguna Niguel Lake.



LAND USE AND COMMUNITY CHARACTER

Established single-family residential neighborhoods in this area include Kite Hill, Niguel Ridge (primarily built in the 1980s-1990s), Sunrise at Laguna Niguel (built in the mid-1990s), and La Veta (built in the 1970s-1980s). The La Veta tract development is distinctive due to its age, lack of an HOA, and that it was originally developed with a blend of Mediterranean and ranch style single- and two-story homes. Compared to neighborhoods with HOA oversight, La Veta is



considerably more eclectic and is currently characterized by a variety of architectural styles, property renovations, and streetscape landscaping that have evolved over time. Table 2-6 shows the existing household and commercial summary of Community Profile Area 6.

Table 2-6: Community Profile Area 6 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
6	A	0	0.00	0	0.00	0	0.00
	B	629	120.02	0	0.00	0	0.00
	C	94	5.28	0	0.00	0	0.00
	D	200	23.70	0	0.00	0	0.00
	E	0	0.00	68	19.22	0	0.00
	F	0	0.00	0	0.00	0	0.00
	G	201	49.37	0	0.00	0	0.00
Totals		1,124	198.37	68	19.22	0	0.00

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: MNWD REGIONAL SEWAGE TREATMENT PLANT.

SUBPROFILE F: 48,000 SF CROWN VALLEY PARK – COMMUNITY CENTER; 30,460 SF CROWN VALLEY PARK – YMCA.

COMMUNITY PROFILE AREA 7

Community Profile Area 7 includes approximately 490.2 acres and is located within the western area of Laguna Niguel. It is generally bounded by Aliso Creek Road to the north, Pacific Island Drive to the south, Highlands Avenue to the west, and Alicia Parkway to the east. The western portion of this profile area is located within the Aliso Creek Local Coastal Program.

This profile area mostly consists of Residential Detached and Attached land uses, but also includes Moulton Elementary School, and two religious institutions (Laguna Niguel Seventh-Day Adventist Church and Church of Jesus Christ of Latter-day Saints).

Established single-family residential neighborhoods in this area include Niguel Woods, Crown Valley Highlands (built in the late 1960s-1970s), Laguna Crest, Niguel Vista, Hillcrest Village Homes (all built in the 1980s-1990s), and Hillcrest Estates (built in the late 1990s-2000s). Table 2-7 shows the existing household and commercial summary of Community Profile Area 7.





Table 2-7: Community Profile Area 7 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
7	A	186	33.38	0	0.00	0	0.00
	B	321	48.85	48	4.75	0	0.00
	C	0	0.00	358	35.70	0	0.00
	D	0	0.00	416	31.42	0	0.00
	E	374	67.54	170	0.00	0	0.00
	F	126	18.18	0	0.00	0	0.00
	Totals	1,007	167.95	992	71.87	0	0.00

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: 27,000 SF CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS.

SUBPROFILE E: 24,388 SF LAGUNA NIGUEL SEVENTH-DAY ADVENTIST CHURCH.

SUBPROFILE F: MOULTON ELEMENTARY SCHOOL FY 22/23 ENROLLMENT – 552 STUDENTS.

COMMUNITY PROFILE AREA 8

Community Profile Area 8 includes approximately 1,001.7 acres and is located within the far western portion of Laguna Niguel. It is generally bounded by the Aliso and Wood Canyons Regional Park to the north and west, Sea View Park and Club House Drive to the south, and Highlands Avenue and Crown Valley Parkway to the east. The western portion of this profile area is located within the Aliso Creek Local Coastal Program.

This profile area mostly consists of Residential Detached and Attached land uses and portions of the Aliso and Wood Canyons Regional Park.

Established single-family residential neighborhoods in this area include Belle Maison, Niguel Summit (including subcommunities), and Charter Terrace (built in the 1980s-1990s). The communities of Palmilla and Coronado Pointe in this profile area include both tract and custom home properties (built in the 1990s-2000s). Table 2-8 shows the existing household and commercial summary of Community Profile Area 8.



LAND USE AND COMMUNITY CHARACTER

Table 2-8: Community Profile Area 8 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
8	A	0	0.00	255	17.02	0	0.00
	B	138	21.43	0	0.00	0	0.00
	C	148	39.57	0	0.00	0	0.00
	D	11	2.66	165	8.12	0	0.00
	E	431	67.71	0	0.00	0	0.00
	F	40	8.72	348	31.67	0	0.00
	G	0	0.00	0	0.00	0	0.00
	Totals	768	140.09	768	56.81	0	0.00

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: MNWD STORAGE TANK.

COMMUNITY PROFILE AREA 9

Community Profile Area 9 includes approximately 791.7 acres and is located within the south-central area of Laguna Niguel. It is generally bounded by the Town Center Opportunity Area to the north, the City of Dana Point to the south, Crown Valley Parkway to the west and Niguel Road to the east.

The El Niguel Golf and Country Club (built in the early 1960s) and the Salt Creek Corridor Regional Park are prominent features within this profile area. The remainder of the area mostly consists of Residential Detached and Attached land uses but also includes two neighborhood-serving commercial centers (Clubhouse Plaza and Clubhouse Corner) and the Laguna Niguel Raquet Club.

Established single-family residential neighborhoods in this area include Greens East, Links Pointe (built in the 1970s), Crest De Ville, El Niguel Heights (built in the 1980s-1990s), Pacesetters (southwest of Niguel Road) and Vista Del Niguel (built in the mid-1960s-1980s). The South Peak community within this profile area includes both tract and custom home properties (built in the mid-1980s-2000s).

The older Pacesetters and Vista Del Niguel neighborhoods are distinguishable in that they date back to the early-mid 1960s when the first homes in Laguna Niguel were built. These neighborhoods are not governed by HOAs. The Pacesetters tract, southwest of Niguel Road (commonly referred to as Pacesetters I), was built as ranch-style single-story homes amongst tiered streets and rolling hills. A number of the properties in this development include sizable slopes owned by individual homeowners. The Vista Del Niguel neighborhood is comprised of large single- and two-story homes along the periphery of the golf course's fairway and greens. There is no prevailing architectural style in these neighborhoods. These contributing factors have notably led to Pacesetters and Vista Del Niguel becoming more eclectic over time, characterized by a broader range of architectural styles, property renovations, and landscaped streetscapes compared to those with HOA oversight. Table 2-9 shows the existing household and commercial summary of Community Profile Area 9.

LAND USE AND COMMUNITY CHARACTER



Table 2-9: Community Profile Area 9 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (sf)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
9	A	263	73.68	130	9.59	0	0.00
	B	30	8.12	0	0.00	0	0.00
	C	251	62.95	0	0.00	0	0.00
	D	0	0.00	0	0.00	18,144	2.95
	E	66	10.55	319	30.62	0	0.00
	F	311	63.48	0	0.00	0	0.07
	G	0	0.00	0	0.00	51,587	9.90
	Totals	921	218.77	449	40.20	69,731	12.92

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE B: INCLUDES PORTIONS OF THE 18-HOLE EL NIGUEL COUNTRY CLUB.

SUBPROFILE E: INCLUDES PORTIONS OF THE 18-HOLE EL NIGUEL COUNTRY CLUB AND THE EL NIGUEL RACQUET CLUB.

COMMUNITY PROFILE AREA 10

Community Profile Area 10 includes approximately 809.3 acres and is located within the eastern portion of Laguna Niguel. It is generally bounded by Crown Valley Parkway and Golden Lantern to the north, the Marina Hills development to the south, Niguel Road to the west, and the City of San Juan Capistrano to the east.

This profile area mainly consists of Residential Detached and Attached land uses, but also includes three religious institutions (Saint Timothy's, Grace Church², and Christian Science Church and Reading Room), five schools (Childtime Preschool, Crown Valley Elementary School³, Hidden Hills Elementary School, and McDowell Elementary School), and a neighborhood-serving commercial center (the Grove).

Established single-family residential neighborhoods in this area include Chatelain, Somerset Point, Seagate Niguel, Vista Mar, Vista Monte, Sterling Niguel, Altamar, and portions of Laguna Heights (built in the 1980s-mid-1990s). The older single-family tract neighborhoods of Niguel Hills and Pacesetters (northeast of Niguel Road commonly referred to as



² A state-licensed senior and assisted living facility has been approved for an undeveloped portion of the Grace Church property.

³ Crown Valley Elementary School is currently leased from the Capistrano Unified School District by Community Roots Academy and Orange County Academy of Sciences and Arts charter schools.

LAND USE AND COMMUNITY CHARACTER

Pacesetters II) are also located in this profile area. Additionally, there is a small pocket of four individually developed lots with custom two-story single-family homes at the terminus of Los Arboles Drive.

The Niguel Hills and Pacesetters tract developments are distinctive due to their age and the fact that they are not governed by HOAs (built in the 1960s and 1970s). Both communities were originally built as ranch-style single-story homes amongst tiered streets and rolling, though Pacesetters does include a modest amount of original two-story homes. A number of properties within these developments include sizable slopes owned by individual homeowners. These factors have notably led to these neighborhoods becoming more eclectic over time, characterized by a broader range of architectural styles, property renovations, and landscaped streetscapes compared to those governed by HOAs. Table 2-10 shows the existing household and commercial summary of Community Profile Area 10.

Table 2-10: Community Profile Area 10 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (sf)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
10	A	908	216.58	34	2.27	0	0.00
	B	0	0.00	0	0.00	45,562	6.97
	C	120	16.97	176	10.48	0	0.00
	D	751	92.23	0	0.00	0	0.00
	E	316	72.74	0	0.00	0	0.00
	F	90	7.46	189	11.05	0	0.00
	G	0	0.00	344	18.61	0	0.00
	Totals	2,185	405.99	743	42.42	45,562	6.97

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: 42,270 SF SAINT TIMOTHY'S CHURCH; 10,950 SF GRACE CHURCH; CROWN VALLEY ELEMENTARY SCHOOL (LEASED BY COMMUNITY ROOTS ACADEMY CHARTER SCHOOL FY 22/23 ENROLLMENT - 783 STUDENTS; OCASA CHARTER SCHOOL FY 22/23 ENROLLMENT - 249 STUDENTS).

SUBPROFILE B: 8,286 SF CHRISTIAN SCIENCE CHURCH & READING ROOM; McDOWELL ELEMENTARY PRIVATE SCHOOL FY 22/23 ENROLLMENT - 90 STUDENTS.

SUBPROFILE G: HIDDEN HILLS ELEMENTARY SCHOOL FY 22/23 ENROLLMENT - 327 STUDENTS.

COMMUNITY PROFILE AREA 11

Community Profile Area 11 includes approximately 1,292.5 acres and is located within the southeastern area of Laguna Niguel. It is generally bounded by Hidden Hills Road to the north, Beacon Hill Way to the south, Niguel Road to the west, and the City of San Juan Capistrano to the east.

Chapparosa Park and the Salt Creek Corridor Regional Park are prominent features in this profile area characterized by a deeply cut channel and rolling grassland along with several sports and recreational amenities (e.g., sports fields, playgrounds, and trails), and expansive open space. The remainder of the profile area mainly consists of Residential Detached and Attached land uses, but also includes a shopping center (Laguna Heights shopping center), Beacon Hill KinderCare, George White Elementary School, and OCFA Station No. 49.



Established single-family residential neighborhoods in this area include Laguna Heights and Marina Hills (including their respective subcommunities), Siena, and Summerwalk (built in the 1980s-1990s). Table 2-11 shows the existing household and commercial summary of Community Profile Area 11.



Table 2-11: Community Profile Area 11 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (sf)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
11	A	0	0.00	1,287	53.07	0	0.00
	B	200	40.99	128	18.07	0	0.00
	C	617	141.19	144	65.13	0	0.00
	D	0	0.00	192	8.97	151,811	15.22
	E	30	10.75	950	53.38	0	0.00
	F	206	48.05	0	0.00	0	0.00
	G	707	93.76	647	13.15	0	0.00
	H	0	0.00	0	0.00	0	0.00
	I	0	0.00	0	0.00	11,607	1.70
	Totals	1,760	334.73	3,348	211.77	163,418	16.92

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE E: 10,000 SF OCFA FIRE STATION #49; GEORGE WHITE ELEMENTARY SCHOOL FY 22/23

ENROLLMENT – 396 STUDENTS.

SUBPROFILE H: MNWD WATER STORAGE TANK.

COMMUNITY PROFILE AREA 12

Community Profile Area 12 includes approximately 1,213.3 acres and is located within the southeastern area of Laguna Niguel. It is generally bounded by Beacon Hill Way to the north, the City of Dana Point to the south, Niguel Road to the west, and the City of San Juan Capistrano to the east. The profile area is situated along a series of rolling hills with distant views of the ocean and surrounding hills.

The profile area mainly consists of Residential Detached and Residential Attached land uses, but also includes a shopping center (Ocean Ranch Village), Saint Anne's School (preschool through middle school), Aegis assisted living and memory care for seniors, and Malcolm Elementary School.

Established single-family residential neighborhoods in this area include Beacon Hill (along with its subcommunities), Bear Brand Ridge, Bear Brand at Laguna Niguel, Niguel Coast, San Marin, Quissett Bay, and Westgate Cove (built in the 1980s-1990s). This area also includes Bear Brand Ranch and Ocean Ranch at Bear Brand, both of which consist of large custom single-family homes. Bear Brand Ranch, in particular, includes some of the largest lots in Laguna Niguel spanning several acres. The eastern ridgeline of this profile area within Bear Brand Ranch includes multiple undeveloped residential estate properties above the City of San Juan Capistrano. Table 2-12 shows the existing household and commercial summary of Community Profile Area 12.





Table 2-12: Community Profile Area 12 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
12	A	124	208.89	0	0.00	0	0.00
	B	54	7.01	114	8.20	0	0.00
	C	266	45.89	0	0.00	0	0.00
	D	412	116.32	0	0.00	0	0.00
	E	574	108.45	290	41.43	0	0.00
	F	36	5.54	136	0.00	0	0.00
	G	0	0.00	0	0.00	0	0.00
	H	317	47.21	105	10.57	0	0.00
	I	0	0.00	371	34.45	0	0.00
	J	0	0.00	0	0.00	199,776	17.13
Totals		1,783	539.30	1,016	94.65	199,776	17.13

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE F: MALCOLM ELEMENTARY SCHOOL FY 22/23 ENROLLMENT – 548 STUDENTS.

SUBPROFILE G: AEGIS MANAGED CARE FACILITY – 78 UNITS.

SUBPROFILE I: ELECTRICAL SUBSTATION; SAINT ANNE'S CATHOLIC PRIVATE SCHOOL FY 22/23 ENROLLMENT – 671 STUDENTS.

COMMUNITY PROFILE AREA 13

Community Profile Area 13 includes approximately 648.8 acres and is located within the southwestern portion of Laguna Niguel. It is generally bounded by Sea View Park and Club House Drive to the north, the cities of Dana Point and Laguna Beach to the south, Aliso and Wood Canyons Regional Park to the west, and Crown Valley Parkway to the east. The western portion of this profile area is located within the South Laguna Specific Plan/Local Coastal Program.

The profile area consists of Residential Detached and Attached land uses and expansive open space areas along coastal hills and canyons.

West of Pacific Island Drive, established single-family residential neighborhoods include Laguna Sur, Monarch Pointe, and Pinnacle at Monarch (built from the late 1980s to the 2020s, with some remaining vacant lots). These communities feature a mix of tract and large custom homes developed by individual property owners that extend to the profile area's western ridgeline above the City of Laguna Beach.



East of Pacific Island Drive, established single-family residential neighborhoods include Villa Pacifica (built in the 1970s), Laguna Woods (built in the 1980s), Niguel West (built from the early 1960s), and Monarch Summit (an age-restricted community built in the 1970s). This area also includes an approximate 60-acre undeveloped property northeast of the Pacific Island Drive and Crown Valley Parkway intersection that is designated for one detached home and a guest house bounded by sloping open space.



Niguel West is particularly notable for its early development, with portions representing some of the first homes built in Laguna Niguel in the early 1960s. An estimated 70 homes within Niguel West were designed by renowned architect George Bissell, known for his mid-century modern style featuring flat and peaked cantilevered roofs, post-and-beam structures, full glass facades, large private entry courtyards, and expansive views. The remainder of the neighborhood consists of more traditional architectural styles built in the 1970s to early 1980s. A portion of Niguel West is governed by an HOA, while the older properties that predate the HOA's establishment are not. Table 2-13 shows the existing household and commercial summary of Community Profile Area 13.



Table 2-13: Community Profile Area 13 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
13	A	159	47.82	253	33.84	0	0.00
	B	114	14.34	626	76.20	0	0.00
	C	192	38.00	0	0.00	0	0.00
	D	0	4.50	0	0.00	0	0.00
	Totals	465	104.66	879	110.04	0	0.00

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES: SUBPROFILE A: MNWD STORAGE TANK.

SUBPROFILE B: MNWD STORAGE TANKS (2).

COMMUNITY PROFILE AREA 14

Community Profile Area 14 is one of three Opportunity Areas referred to as Town Center and includes approximately 118 acres. The area is generally bounded by the intersections of Crown Valley Parkway/Niguel Road, Alicia Parkway/Niguel Road and Alicia Parkway/Crown Valley Parkway and the County of Orange owned property west of Alicia Parkway.

The profile area includes a mix of existing Community Commercial, Professional Office, and Public/Institutional land uses. Notable civic facilities include Laguna Niguel City Hall, the former County Justice Center (closed in 2008), Laguna Niguel Branch Library, OCFA Station No. 5, a County maintenance yard, and undeveloped County-owned land⁴.



⁴ In 2022, the City Council approved a mixed-use project (Laguna Niguel City Center Mixed Use Project) on the approximate 25-acre County-owned property adjacent to Laguna Niguel City Hall. The project features retail, restaurants, offices, community-oriented event spaces, new library, and residential apartments. The General Plan Amendment (GPA 19-01) accompanying the project established specific criteria for allowing the multi-family dwelling units. As of Spring 2025, construction of the project has yet to commence.

LAND USE AND COMMUNITY CHARACTER



Other land uses in this profile area include a United States Post Office, shopping centers (Town Center, Crown Valley Mall, and Laguna Niguel Plaza), smaller single- and multi-tenant commercial sites and office buildings, four gas/services stations, Crestavilla Senior Living, and the Laguna Niguel Presbyterian Church. Table 2-14 shows the existing household and commercial summary of Community Profile Area 14.

Table 2-14: Community Profile Area 14 Existing Household and Commercial Summary

Community Profile Area	Subprofile	Total Existing Households (DU)				Total Existing Commercial (SF)	
		Residential Detached	Acreage	Residential Attached	Acreage	Commercial SF	Acreage
14	A	0	0.00	0	0.00	296,430	29.10
	B	0	0.00	0	0.00	164,727	20.57
	C	0	0.00	0	0.00	0	28.27
	D	0	0.00	0	0.00	92,596	11.60
	Totals	0	0.00	0	0.00	553,753	89.54

SOURCE: CITY OF LAGUNA NIGUEL, MARCH 2025.

NOTES SUBPROFILE A: 14,400 SF SOUTH COUNTY POST OFFICE; 38,814 SF LAGUNA NIGUEL PRESBYTERIAN CHURCH.

SUBPROFILE B: CRESTAVILLA MANAGED CARE FACILITY – 201 UNITS.

SUBPROFILE C: 41,000 SF LAGUNA NIGUEL CITY HALL; 14,400 SF LAGUNA NIGUEL LIBRARY; 30,000 SOUTH COUNTY COURT HOUSE (CLOSED); 7,555 SF OCFA FIRE STATION #5.

2.5 EXISTING LAND USE PATTERNS (ON-THE-GROUND)

When discussing land use, it is important to distinguish between planned land uses as described in the current General Plan and *existing* land uses that reflect existing on-the-ground development.

The land use pattern within Laguna Niguel is the result of several master planned communities and specific plans that were approved by the County of Orange over several decades, prior to the City's incorporation in 1989. These Planned Communities (PC) are the Laguna Niguel PC, Country Village PC, Colinas de Capistrano PC, Beacon Hill PC, Bear Brand Hill PC, Bear Brand PC, Narland Business Center PC, and Marina Hills PC. These PC were implemented through Feature Plans, Area Plans, and Site Plans which established specific land uses, development standards, circulation routes, and infrastructure systems.

Figure 2-5 is a citywide map depicting the on-ground land uses within Laguna Niguel. As the map illustrates, Open Space/Parks and Recreation are the most prominent land use across the City, followed by Residential Detached and Residential Attached land uses. Commercial uses are primarily located along the major corridors, such as Crown Valley Parkway, Alicia Parkway, La Paz Road, and Golden Lantern.

2.6 LOCAL PLANNING CONTEXT

As the City undertakes its General Plan Update, it must consider its relationship to other ongoing projects within the City and in neighboring jurisdictions. To assist with this consideration, this section present information on known projects that are recently approved, under construction, or currently under review in the City of Laguna Niguel and in the surrounding cities, such as Dana Point, San Juan Capistrano, Aliso Viejo, Laguna Beach, Laguna Hills, Mission Viejo, and adjacent unincorporated areas of Orange County.

Table 2-15 summarizes the major development projects within the City, as of December 2024. Minor site permit applications and minor discretionary review projects are not included.

Table 2-15: City of Laguna Niguel Major Development Projects

Project Name	Location	Project Description	Status
City of Laguna Niguel			
Laguna Niguel City Center Mixed Use Project	Approximately 25 acres in area, generally bounded by Pacific Island Drive to the north, Alicia Parkway to the east, Crown Valley Parkway to the south, and multifamily residential communities to the west (APN 656-242-18).	General Plan Amendment, Zone Change, Zoning Code Amendment, Site Development Permit, Use Permit, and Vesting Tentative Tract Map to develop a new mixed-use project consisting of approximately 158,600 square feet of commercial space (e.g., retail shops, restaurants, office space), a new 16,300 square foot community library, 275 residential apartment homes, parking structure, and extensive walkable open spaces, paseos, and plazas.	Approved
Grace Church	24600 La Plata Drive	Site Development Permit for the remodel and modest expansion of an existing church and a new 108-unit Senior Living Center.	Approved
The Village	30001 Crown Valley Parkway	Site Development Permit for a modest expansion and remodel to the existing shopping center.	Approved
Chick-fil-A	28201 Crown Valley Parkway	Site Development Permit for a modest expansion and exterior modifications to the existing Chick-fil-A drive-through.	Approved
SunPointe	Southern terminus of Avenida Del Caballo	Site Development Permit, Minor Adjustment, and Vesting Tentative Tract Map to facilitate the subdivision, grading, and development of 53 single-family homes.	Approved
Cove @ El Niguel	30667 Crown Valley Parkway	Site Development Permit, Minor Adjustment, and Tentative Tract Map to redevelop a 4.2-acre property with a proposed 22-unit townhome-style residential development. The site previously contained 41 homes demolished following the Via Estoril Landslide in March 1998.	Approved

LAND USE AND COMMUNITY CHARACTER

Project Name	Location	Project Description	Status
South Forbes Multi-Family Residential	27942 Forbes Road	Site Development Permit for six-story multi-family development consisting of 309 units and a parking structure.	Under Construction
CUSD Site (Paseo De Colinas) Townhomes	29001 Paseo De Colinas	Site Development Permit for a 24-unit townhome development at a Capistrano Unified School District surplus land site.	Under Review
City of Dana Point			
Victoria Apartments (Doheny Village Housing Project)	26126 Victoria Blvd	306-unit multi-family residential; part of broader Doheny Village Specific Plan.	Under Review
Dana Point Harbor Revitalization	Dana Point Harbor	Marina rebuild, commercial core, parking garage, hotels.	Under construction
City of San Juan Capistrano			
MissionPlace	31776 El Camino Real	Demolition of the existing Playhouse building and construction of two 2-story buildings and a 4-level parking structure with approximately 24,850 square feet of retail, restaurant and office uses.	Permit Under Review
Distrito La Novia /San Juan Meadows	Northeast of La Novia Avenue, Valle Road to San Juan Creek Road	A 154-acre mixed use residential and commercial project site generally located east of Interstate 5 and Valle Road. The Distrito La Novia Portion of the project, located north of La Novia, is entitled for 130 attached residential dwelling units and a commercial and office use mixed development.	Rough grading permit issued. Construction not yet approved
Swallows Creek	30700 Rancho Viejo Road	Demolition of a 123,000 square foot former industrial building and construction of three warehouse buildings totaling 136,310 square feet. The project also obtained	Under Construction

Project Name	Location	Project Description	Status
		conditional use permit approval to allow for Building #3 to be utilized for vehicle sales.	
French Hotel	31841, 318443, 31861, and 31871 Camino Capistrano	The project proposes a 70-room hotel, with related accessory uses (pool, spa, gym, parking), spread throughout the 1.79-acre site that is currently home to the Domingo Yorba Adobe and Manuel Garcia Adobe, listed on the City's Inventory of Historic & Cultural Landmarks and the National Register of Historic Places. As part of this project, the adobes will be rehabilitated and incorporated into the hotel operations.	Entitlements Under Review
San Juan Plaza	32211, 32221, 32231, 32241, 32261, 32281 Camino Capistrano	Request to develop a 488,180 SF, 5-story, mixed-use building comprised of 278 units totaling 316,282 SF of market rate and affordable housing, 14,881 SF of retail, restaurant, and other commercial uses, and 400 parking stalls.	Entitlements Approved, Pending Building Permit Submittal
Camino Twelve	25642 Camino Del Avion	A request to develop a 0.57-acre residential property with 12 townhomes, within two buildings, on the southeast corner of Camino Del Avion and Del Obispo Street.	Entitlements Approved Pending Building Permit Submittal
Saint John Chrysostom American Coptic Orthodox Church	29582 Trabuco Creek Road	A request to construct a church campus, over 4 phases, for the St. John Chrysostom American Coptic Church, which upon build out would consist of a 9,124 sq. ft. primary church building, a 5,390 sq. ft. multi-purpose building, a 3,722 sq. ft. bookstore building with a coffee shop and meeting space and a 3,122 sq. ft. barn church located on a 3.61 acre-site.	Entitlements Under Review

LAND USE AND COMMUNITY CHARACTER

Project Name	Location	Project Description	Status
Forster Mixed-Use Project	31872, 31878, and 31882 Camino Capistrano	A request to construct a mixed-use project, which includes a residential component which would consist of 95 market-rate apartment units located within three-story and four-story buildings, a resort-style pool and a 3,271 sq. ft. clubhouse building. The commercial component would consist of a single-story 4,294 sq. ft. restaurant adjacent to Camino Capistrano and a 3,100 sq. ft. fitness center. The mixed-use project would be supported by 176 parking stalls	Entitlements Under Review
Performing Arts Center	31872 El Camino Real	A request to construct a Performing Arts Center which would be located on the eastern portion of the City-owned Historic Town Center (HTC) Park. The conceptual development plans identify that the Performing Arts Center would provide approximately 40,241 sq. ft. of floor area with 367 total seats.	Entitlements Under Review
Chipotle	31787 Del Obispo Street	A Request to construct a Chipotle Mexican Grill Restaurant with a Mobile Order Drive-Through Pick-Up Window	Entitlements Under Review
San Juan Hills Golf Course Driving Range	32120 San Juan Creek Road	A request to reconfigure and change the driving range layout, parking lot, and guest services.	Under Construction
Los Rios Theater	26762 Verdugo St	A request to establish a live entertainment venue, restaurant, and bar replacing the existing movie theater.	Entitlements Under Review
Capistrano Business Park - Residential	27122 - 27136 Paseo Espada, 27121 - 27131 & 27231 Calle Arroyo	A request to amend the General Plan land use designation and zoning standards for Ortega Planned Community, Comprehensive Development Plan (CDP) 78-01, Sector B, to allow conversion of up to 69 commercial tenant suites into residential units within the portion of Capistrano Business Park addressed Espada	Entitlements Under Review

Project Name	Location	Project Description	Status
		27122-27136 Paseo Espada. The request includes an amendment to the General Plan land use designation for the remaining portion of Capistrano Business Park and an additional parcel occupied by Casa de Amma, addressed as 27121 - 27131 & 27231 Calle Arroyo, to pros relieve inconsistencies with the land use and existing uses.	
Saint Margaret's Episcopal Student Commons	31732 Rancho Viejo Road	Replace previously existing school administrative office with a new two-story 35,400 sq. ft. student commons building, removal of 29 trees, new landscaping and hardscape and grading of the project site which includes 426 cubic yards of fill, 226 cubic yards of cut resulting in 200 cubic yards of import.	Under Construction
Vermeulen Ranch Center Sign Program	32382 Del Obispo Street	Modifications to the existing Vermeulen Ranch Sign Program including exceptions to the sign code, and additional design elements and landscaping.	Approved and pending building permit submittal
City of Aliso Viejo			
27081 Aliso Creek Road	27081 Aliso Creek Road	On March 20, 2025, Shea Homes Southern California ("Applicant") submitted an application to demolish three existing office buildings to construct a 137-unit, residential community at 27081 Aliso Creek Road. A total of 7 residential units will be deed restricted as affordable units.	Currently Under Review
26800-26970 Aliso Viejo Parkway	26800-26970 Aliso Viejo Parkway	On November 12, 2024, Lennar Homes of California, Inc. submitted a pre-application to demolish five, two-story office buildings to accommodate the construction of a 215-unit, residential community at the corner of Aliso Viejo Parkway and Pacific Park Drive (26800-26970 Aliso	Currently Under Review

LAND USE AND COMMUNITY CHARACTER

Project Name	Location	Project Description	Status
		Viejo Parkway). A total of 22 townhome units will be deed restricted as affordable units.	
15 Argonaut	15 Argonaut	On February 10, 2025, LaTerra Storage Partners II, LLC ("Applicant") submitted a preapplication to demolish an existing office building to accommodate the construction of a self-storage facility at 15 Argonaut. The Project is proposed as a three-story, 149,328 square foot building and will maintain the existing entry/exit at the south property line.	Currently Under Review
95 Argonaut	95 Argonaut	On October 24, 2024, Meritage Homes/MLC Holdings, Inc. submitted a general plan amendment, zone change, tentative tract map, site development permit, and a development agreement application to demolish an existing office building to accommodate the construction of a 61-unit, town home community at 95 Argonaut. Three of these units will be deed restricted to very low income households.	Currently Under Review
400-600 Freedom Lane	400-600 Freedom Lane	On October 23, 2024, Meritage Homes/MLC Holdings, Inc. submitted a tentative tract map and site development permit application to construct a 134-unit, town home community on a 7.06-acre vacant parcel located at 400-700 Freedom Lane. A total of seven (7) units will be available for Very-Low income households.	Currently Under Review
The Commons	west of Aliso Creek Road, between the San Joaquin Hills Transportation Corridor (State Route 73) and Enterprise	The Commons at Aliso Viejo Town Center is an established commercial center located west of Aliso Creek Road, between the San Joaquin Hills Transportation Corridor (State Route 73) and Enterprise totaling 25 acres.	Permit Issuances in Progress for Tenants
City of Laguna Beach			

Project Name	Location	Project Description	Status
Fire Station No. 4 Replacement	31796 Coast Highway (corner of Coast Highway and 5 th Avenue)	The project will provide a replacement fire station for the existing Fire Station No. 4 located at 31646 2 nd Avenue. The existing station has seismic integrity issues and is not adequately sized to meet the modern needs of the fire department and the National Fire Protection Association (NFPA) standards for fire station design.	Currently Under Review
City of Laguna Hills			
The Village at Laguna Hills	24155 Laguna Hills Mall	On January 6, 2025, the City received a request from MGP Fund X Laguna Hills, LLC ("MGP") seeking to initiate negotiations on proposed Major Project Modifications to the existing Development Agreement for the Village at Laguna Hills. According to MGP, these requested modifications reflect shifts in economic and market conditions and would require amendments to the approved Development Agreement.	Approved March 8, 2022
23161 Mill Creek (Toll Brothers/Khoshbin)	23161 Mill Creek	On April 2, 2025, the Community Development Department received a revised application for the proposed 36-unit residential development located at 23161 Mill Creek Drive. The project includes developing 36 attached condominium units within 18 buildings.	Deemed Incomplete May 1, 2025
Terravita	23272, 23282, 23422, 23382, 23332 Mill Creek Drive; 24461,24411 Ridge Route Drive	Proposed Terravita residential development located at the northeast corner of Mill Creek Drive and Ridge Route Drive. The project includes 254 attached single-family units and 210 multi-family units.	Deemed Complete on April 18, 2025; Processing
Oakbrook Plaza	24422 Avenida de la Carlota	Housing development project at 24422 Avenida De La Carlota (APN No. 620-429-04) consisting of 240 age restricted multiple-family residential units.	Deemed Complete April 11, 2024; Processing

LAND USE AND COMMUNITY CHARACTER

Project Name	Location	Project Description	Status
Ralph's Fuel Station	25594-25632 Alicia Parkway	Proposed fuel station facility with Pre-fabricated kiosk	Approved September 10, 2024
Circle K (Mobil)	25491 Alicia Parkway	Proposal for a new convenience store with associated fuel sales consisting of a 5,200 s.f. convenience store and a fuel canopy with 5 fuel pumps.	Approved June 12, 2023

SOURCE: CITY OF LAGUNA NIGUEL, DECEMBER 2024. AVAILABLE AT: [HTTPS://STORYMAPS.ARCGIS.COM/STORIES/EE1F2C3DC8C64154B84E40B0A422740A](https://STORYMAPS.ARCGIS.COM/STORIES/EE1F2C3DC8C64154B84E40B0A422740A). ACCESSED DECEMBER 18, 2024. DOHENY VILLAGE PLAN, 2024. AVAILABLE AT: [HTTPS://DOHENYPLAN.COM/](https://DOHENYPLAN.COM/). ACCESSED JULY 17, 2025. DANA POINT HARBOR, 2025. AVAILABLE AT: [HTTPS://DANAPOINTHARBOR.COM/REVITALIZATION/](https://DANAPOINTHARBOR.COM/REVITALIZATION/). ACCESSED JULY 17, 2025. THE CITY OF SAN JUAN CAPISTRANO, LAST UPDATE APRIL 2025. AVAILABLE AT: [HTTPS://SANJUANCAP.MAPS.ARCGIS.COM/APPS/MAPTOUR/INDEX.HTML?APPID=46BD1839D2EA4A5A92595B5E4E6BE1CB](https://SANJUANCAP.MAPS.ARCGIS.COM/APPS/MAPTOUR/INDEX.HTML?APPID=46BD1839D2EA4A5A92595B5E4E6BE1CB). ACCESSED JULY 17, 2025. CITY OF ALISO VIEJO, MAJOR PROJECTS. AVAILABLE AT: [HTTPS://AVCITY.ORG/412/MAJOR-PROJECTS](https://AVCITY.ORG/412/MAJOR-PROJECTS). ACCESSED JULY 17, 2025. CITY OF LAGUNA BEACH, CAPITAL IMPROVEMENT PROJECTS. AVAILABLE AT: [HTTPS://WWW.LAGUNABEACHCITY.NET/GOVERNMENT/DEPARTMENTS/PUBLIC-WORKS/ENGINEERING/PROJECTS/CAPITAL-IMPROVEMENT-PROJECTS](https://WWW.LAGUNABEACHCITY.NET/GOVERNMENT/DEPARTMENTS/PUBLIC-WORKS/ENGINEERING/PROJECTS/CAPITAL-IMPROVEMENT-PROJECTS). ACCESSED JULY 17, 2025. CITY OF LAGUNA HILLS, PLANNING DEVELOPMENT PROJECTS. AVAILABLE AT: [HTTPS://WWW.LAGUNAHILLSCA.GOV/566/PLANNING-DEVELOPMENT-PROJECTS](https://WWW.LAGUNAHILLSCA.GOV/566/PLANNING-DEVELOPMENT-PROJECTS). ACCESSED JULY 17, 2025.

2.6.1 Land Uses Surrounding the Planning Area

Laguna Niguel is surrounded by several local jurisdictions including the City of Dana Point to the south; the City of San Juan Capistrano to the east; the County of Orange (Aliso and Woods Canyon Regional Park) and the City of Laguna Beach to the west; and the cities of Aliso Viejo, Laguna Hills, and Mission Viejo to the north. The following land uses are identified along common boundaries and areas near Laguna Niguel:

City of Dana Point (south)

- Prof./Admin.
- Recreation/Open Space
- Neighborhood Commercial
- Community Commercial
- Residential (3.5-7 du/ac)
- Residential (7-14 du/ac)
- Residential (14-22 du/ac)

City of San Juan Capistrano (east)

- General Open Space
- Planned Community
- Very Low Density Residential (0-1.0 du/ac)
- Medium Density Residential (3.6-5.0 du/ac)

County of Orange (Aliso and Woods Canyon Regional Park) (west)

- Open Space

City of Laguna Beach (west)

- Open Space

City of Aliso Viejo (northwest)

- Professional Office
- Community Commercial
- Residential Medium Density (18 du/ac)
- Open Space Preservation
- Open Space Recreation
- Community Facilities

City of Laguna Hills (north)

- Community Commercial
- Estate Residential (3.5 du/ac)
- Open Space
- Park

City of Mission Viejo (northeast)

- Business Park
- Office Professional
- Commercial Highway (Commercial Intensive Overlay Area)
- Community Facility
- Commercial Regional (Commercial Intensive Overlay Area)



2.7 COMMUNITY CHARACTER

A community's character is strongly shaped by both its physical appearance and feel, , some qualities of which are tangible while others are more intangible. Laguna Niguel's character is largely defined by its abundant open space, predominantly single-family residential neighborhoods, proximity to the coastline, community-serving commercial areas, regional amenities, and employment centers.

2.7.1 Elevation

Laguna Niguel occupies a hilly basin near the southern end of the San Joaquin Hills, a small coastal mountain range in southern Orange County. According to USGS, the average elevation in the City of Laguna Niguel is 400 feet; elevations range from near sea level to 936 feet at the southwest corner of the City. Low ridges dissect much of the Laguna Niguel area. Most of these mountain ridges, some of them attaining heights of one or two hundred feet, run northeast to southwest, delineating the hydrography of the area. Figure 2-6 illustrates the Planning Area's topography.

2.7.2 Open Space

The abundance of open space is one of the most endearing characteristics of Laguna Niguel. More than one-third of the City is preserved as dedicated open space and parks and recreation areas, including natural hillsides, hiking and biking trails, amenitized parks, sports fields, and a range of community-serving recreation facilities.. Residents have access to over 5,000 acres of open space when taking into account areas adjacent to the City but outside the City limits including Aliso and Wood Canyons Wilderness Park (including portions of the Aliso Creek Corridor), the Salt Creek Corridor Regional Park, and other County open space areas. The Salt Creek Corridor Regional Park provides a continuous open space system and trail connections through the City of Dana Point to the coast.

2.7.3 Residential Neighborhoods

Laguna Niguel is predominately a detached single-family residential community. Residential uses account for most of the total land area. There are nearly 200 distinct neighborhoods or subdivisions, with most of the detached single-family communities within a HOA. However, the older communities of Crown Park, La Veta, Niguel Hills, Pacesetters, Vista Del Niguel, which were established in the 1960s through the 1970s are not within an HOA.

2.7.4 Housing Age and Conditions

Table 2-16 shows the age of Laguna Niguel's housing stock using data from the 2023 American Community Survey (ACS) 5-Year Estimates. This table shows that the majority of housing units in Laguna Niguel were constructed prior to 1990 and are now more than 30 years old. Typically, housing over 30 years in age is more likely to have major rehabilitation needs that may include new plumbing, roof repairs, foundation work, and other repairs. The age of the City's housing stock indicates a potentially significant need for continued code enforcement, property maintenance, and housing rehabilitation programs to address housing deterioration.

Table 2-16: Age of Housing Stock in City of Laguna Niguel

Year Structure Built	Number of Units	Percentage of Total
Built 2020 or later	176	0.6%
Built 2010 to 2019	1,723	6.3%
Built 2000 to 2009	1,409	5.1%
Built 1990 to 1999	5,670	20.6%
Built 1989 or earlier	18,185	66.9%
Total	27,163	100%

SOURCE: U.S. CENSUS BUREAU, AMERICAN COMMUNITY SURVEY – DP04 SELECTED HOUSING CHARACTERISTICS, 2023 5-YEAR ESTIMATES DATA PROFILES, [HTTPS://DATA.CENSUS.GOV](https://data.census.gov), ACCESSED DECEMBER 18, 2024.

2.7.5 Commercial Areas

Retail, office, industrial, and public/institutional land uses currently account for approximately 15.3% of the City's total land area. Most retail land uses are concentrated within neighborhood and community shopping centers such as Town Center, the Marketplace at Laguna Niguel, Plaza de la Paz, Ocean Ranch Village, Laguna Niguel Promenade, Crown Valley Mall, Laguna Niguel Plaza, Laguna Heights, and the Center at Rancho Niguel.

The majority of office and industrial uses are located within the Country Village/Narland Business Center (Community Profile Area 1), Town Center (Community Profile Area 14), and Camino Capistrano/Cabot Road Business Area, commonly known as the Laguna Niguel Gateway Area (Community Profile Area 4). The Town Center area consists of a concentrated mix of office, public facility, and retail uses. The Country Village/Narland and Business Center and the Camino Capistrano/Cabot Road Business Area include a mix of retail, office, and light industrial land uses.



LAND USE AND COMMUNITY CHARACTER

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2.8 REFERENCES

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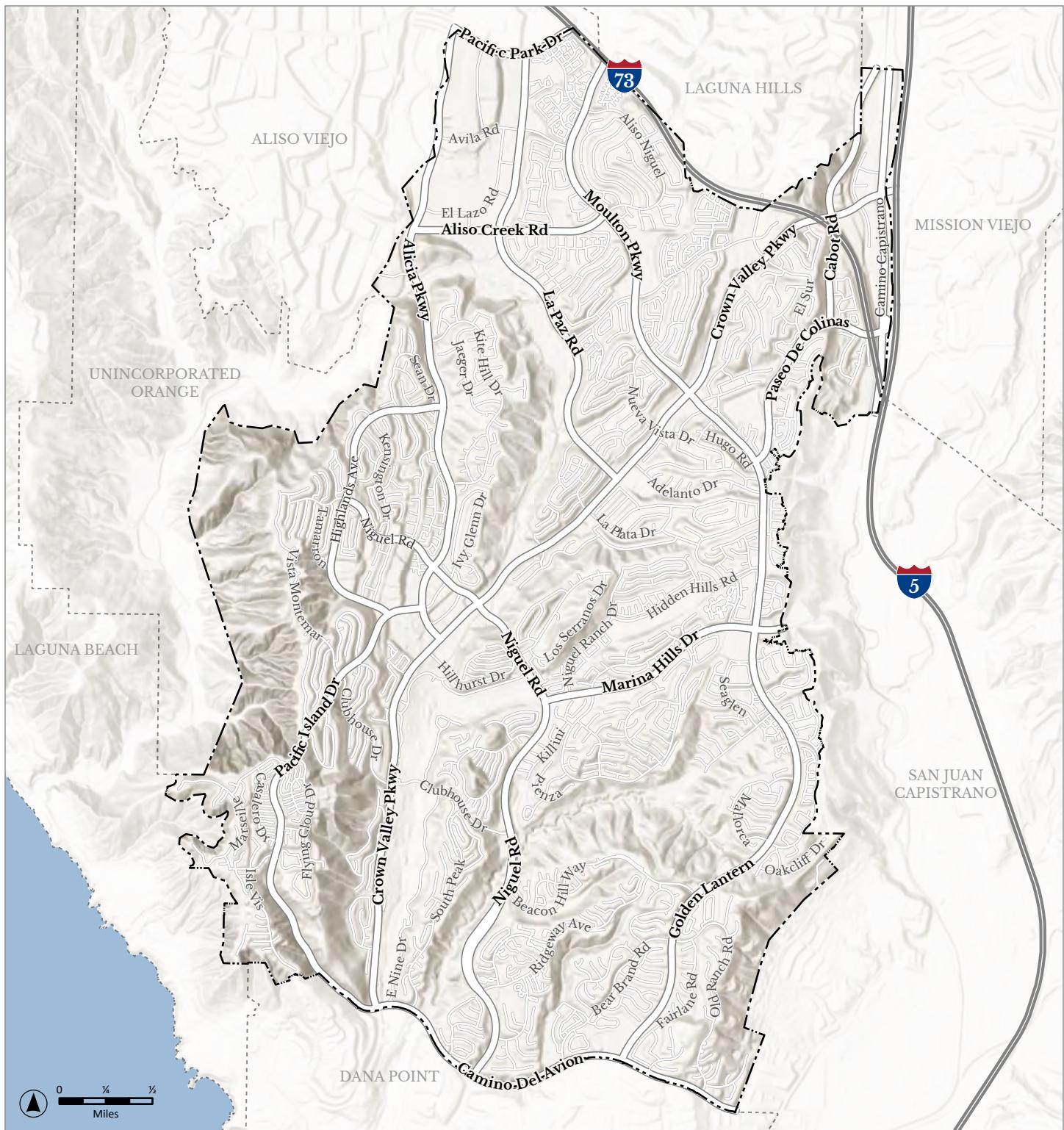
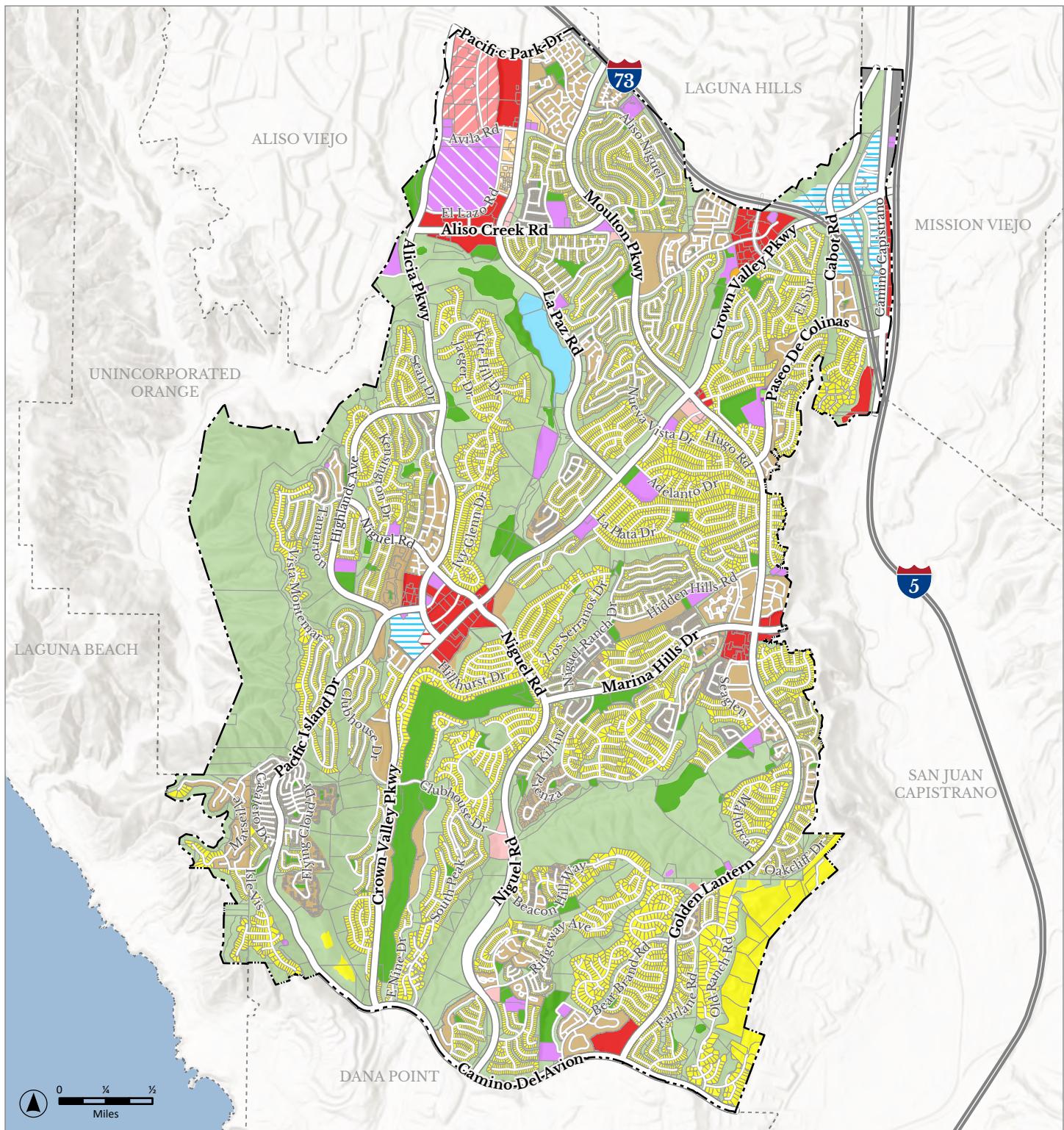


Figure 2-1.

Planning Area

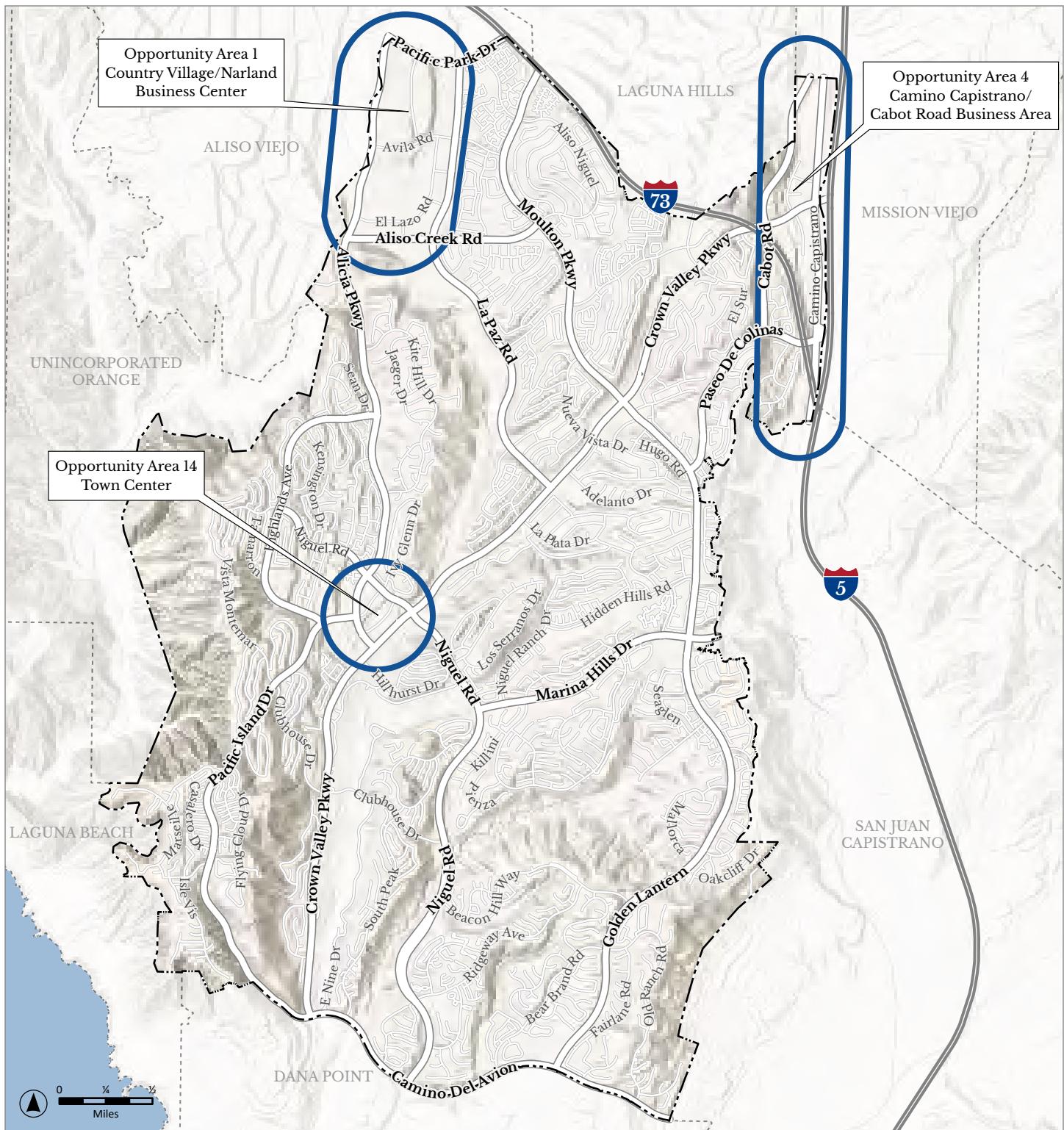


Data sources: City of Laguna Niguel Official General Plan Map, 9-11-2023; Orange County GIS.

LEGEND

Laguna Niguel City Boundary	PI: Public/Institutional	CC/PO: Community Commercial; Professional Office	PI/PO: Public/Institutional; Professional Office	PI/RA/PR: Public/Institutional; Residential Attached; Parks and Recreation
RD: Residential Detached	PR: Parks and Recreation	CC/PO/PI: Professional Office; Community Commercial; Professional Office; Public/Institutional	PO/I/BP: Professional Office; Industrial/Business Park	CC/PO/PI/RA: Community Commercial; Professional Office; Public/Institutional; Residential Attached
RA: Residential Attached	OS: Open Space	I/BP/PO/CC: Industrial/Business Park; Professional Office; Community Commercial	CC/PO/PI/RA: Community Commercial; Professional Office; Public/Institutional; Residential Attached	Water
CN: Neighborhood Commercial				
CC: Community Commercial				
PO: Professional Office				

Figure 2-2.
Current General Plan Land Use Map



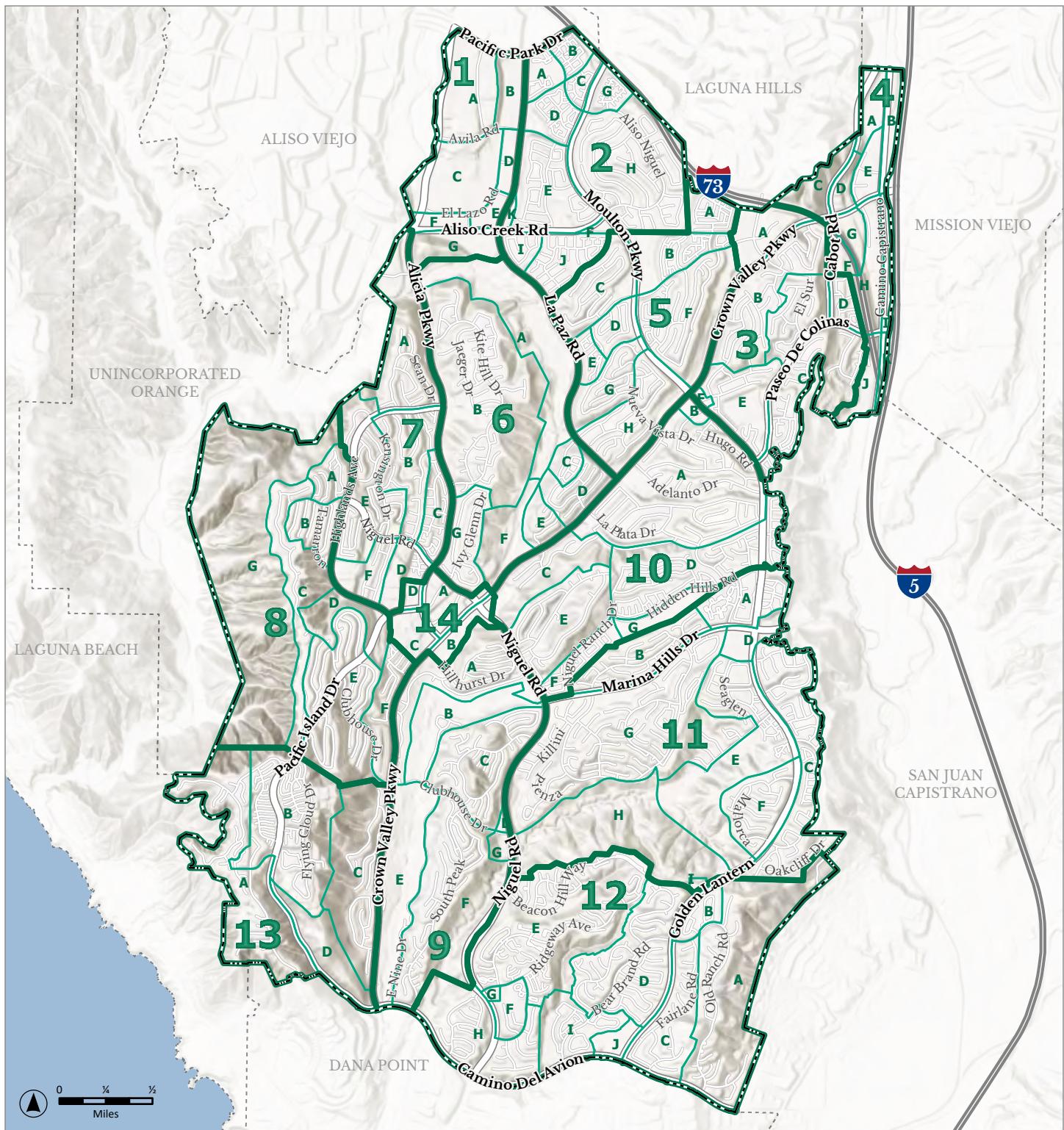
Data sources: City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
September 25, 2024.

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions
- Existing Opportunity Areas

Figure 2-3.
Existing Opportunity Areas



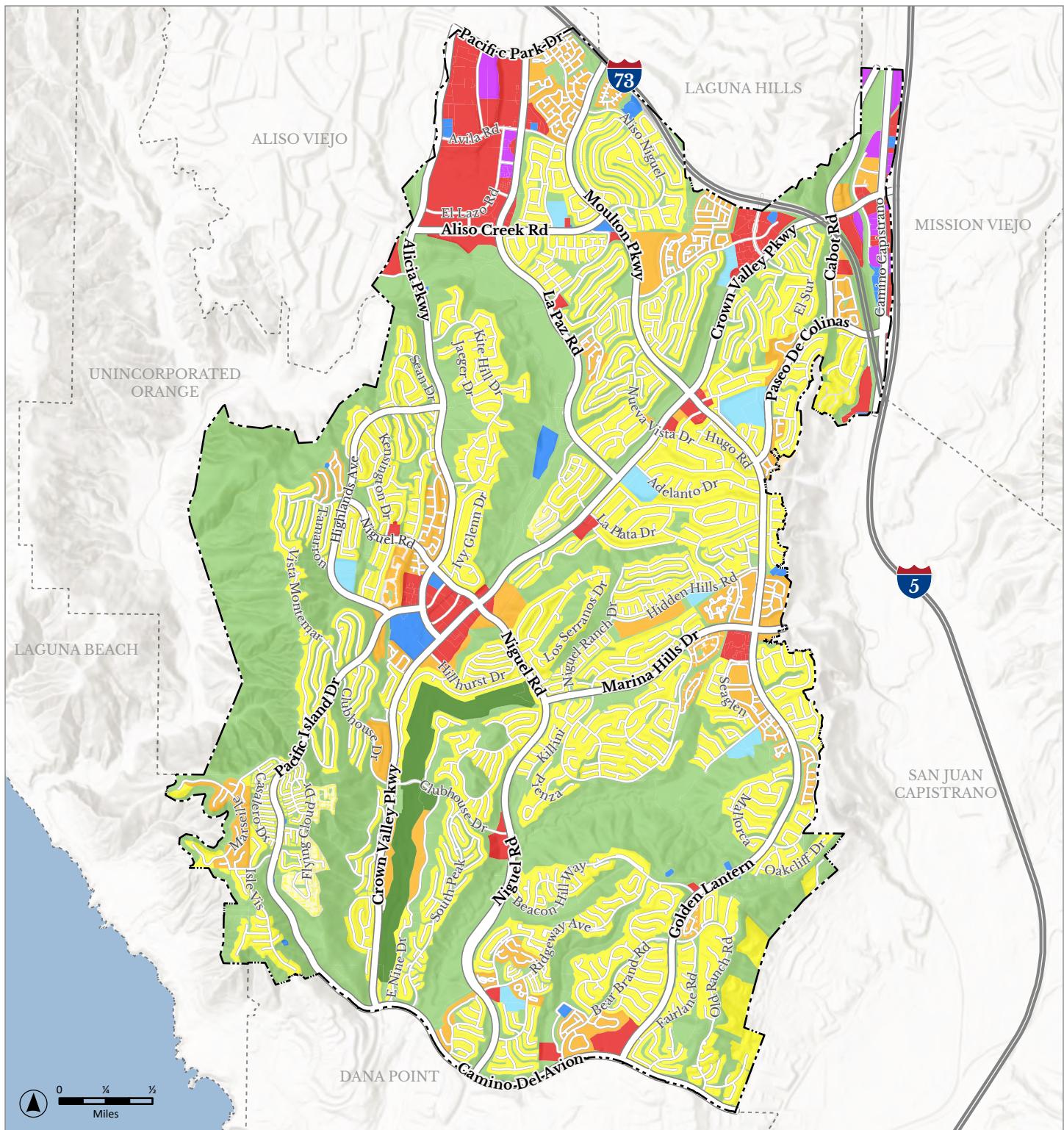
Data sources: City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
September 22, 2025.

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions
- Community Profile Areas
- Community Sub-Profile Areas

Figure 2-4.
1992 Community Profile Areas



Data sources: Orange County GIS; ParcelQuest; Google Maps and Imagery.

Prepared for the City of Laguna Niguel by De Novo Planning Group

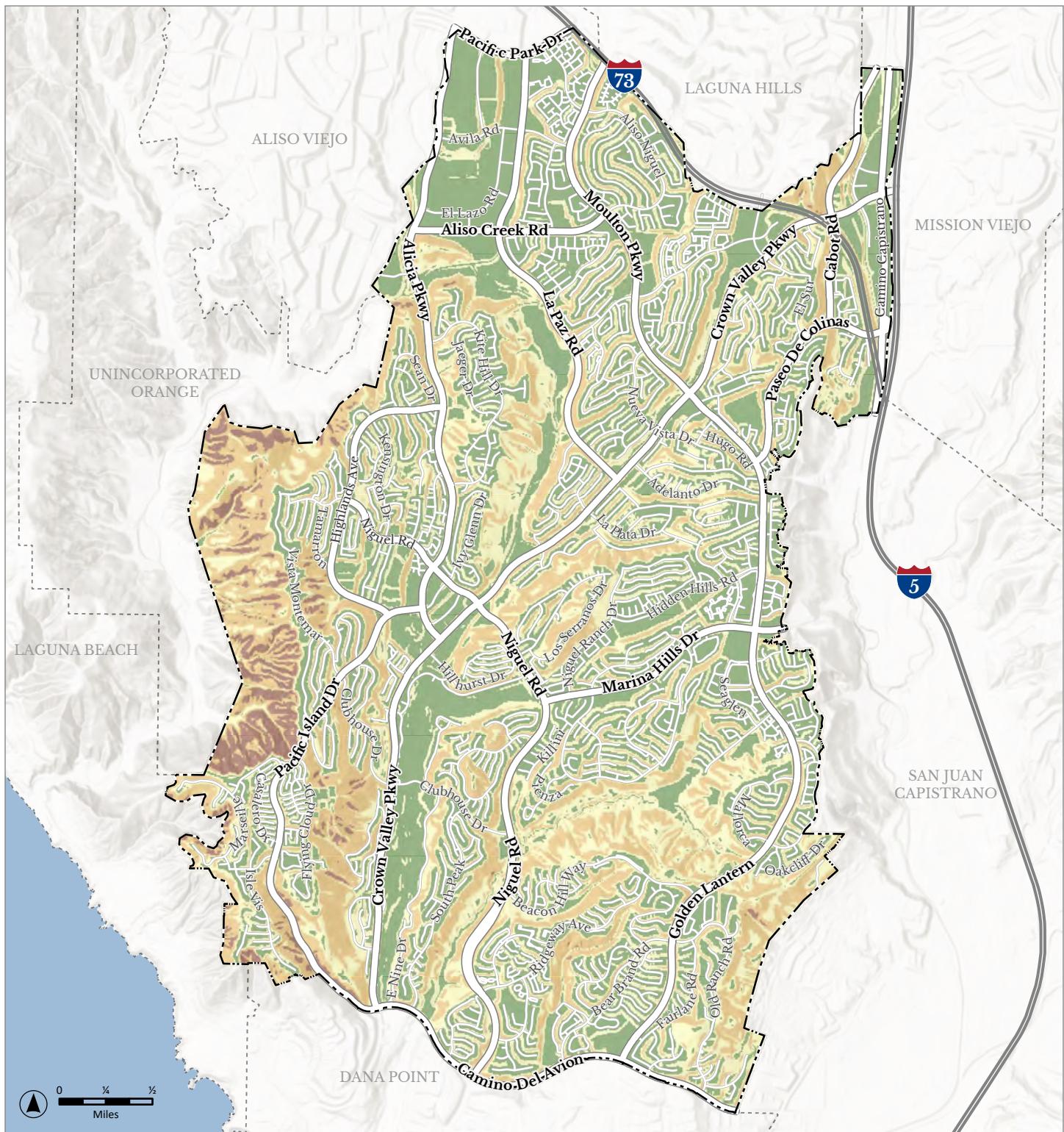
July 2, 2024.

LEGEND

<input type="checkbox"/> Laguna Niguel City Boundary	Residential Common Area	<input type="checkbox"/> Golf Course
<input type="checkbox"/> Other Jurisdictions	Commercial	<input type="checkbox"/> Public Facility
<input type="checkbox"/> Residential Single Family	Industrial	<input type="checkbox"/> School
<input type="checkbox"/> Residential Multiple Family	Park/Open Space/Recreation	

Figure 2-5.

On-Ground Land Uses



Data sources: U.S. Geological Survey, 20190917, USGS 13 arc-second n34w118 1 x 1 degree; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
July 2, 2024

LEGEND

Laguna Niguel City Boundary

Other Jurisdictions

Slope

$\leq 5\%$	$>15 - 30\%$
$>5 - 15\%$	$>30\%$

Figure 2-6.

Topography

3 UTILITIES AND COMMUNITY SERVICES

This chapter addresses utilities and community services within Laguna Niguel. Utility services include the provision of water, wastewater (sewer), stormwater and drainage, solid waste disposal, electricity, and natural gas. Community services include fire protection, law enforcement, parks and recreation, schools, libraries, and other public facilities.

This chapter includes the following sections:

- 3.1 Water
- 3.2 Wastewater
- 3.3 Stormwater and Drainage
- 3.4 Solid Waste
- 3.5 Electricity and Natural Gas
- 3.6 Public Safety
- 3.7 Parks and Recreation
- 3.8 Schools, Libraries, and Other Public Facilities

3.1 WATER

This section describes the City's water demands, water supplies, water distribution system, and area plans. The existing Laguna Niguel General Plan addresses the topics of water resources within the Public Facilities Element. The information included here is summarized from an infrastructure report prepared by Fuscoe Engineering in April 2024, located in Appendix A: Infrastructure Analysis.

3.2.1 Existing Water System

The Moulton Niguel Water District (MNWD) is the regional water purveyor for Laguna Niguel. MNWD's services include the provision of potable water, recycled water, and wastewater. Within MNWD's regional water infrastructure, the City accounts for approximately 1,529,222 ft (290 miles) of distribution and transmission pipelines ranging in diameter from 3" to 54" (Fuscoe, 2024). The City's Public Works Department coordinates with MNWD on water system upgrades and issues encroachment permits when improvements are needed. See Figure 3-1 for the existing water system facilities.

MNWD's infrastructure for potable water storage, transmission, and distribution were specifically designed to meet fire flow requirements across the City. This includes numerous pump stations, reservoirs, and interconnections between pressure zones to ensure a reliable water supply and system redundancy. Within Laguna Niguel, MNWD manages 8 potable pressure zones, 10 pump stations, and 12 storage reservoirs (Fuscoe, 2024). The MNWD service area



includes a total of 28 reservoirs serving customers both everyday water uses and firefighting needs.¹

3.2.2 Existing Water Supply

MNWD's supply is primarily from imported potable water and locally sourced recycled water. For the past five years, approximately 79% of the total water supply has come from the Metropolitan Water District of Southern California (MWD or Metropolitan) and the Municipal Water District of Orange County (MWDOC), with the majority of it being treated at MWDs Robert B. Diemer Water Treatment Plant (WTP) located north of Yorba Linda (Fuscoe, 2024). The remaining 21% of the water supply is recycled water, which is treated either at Diemer WTP or the Baker WTP, the backup facility, in Lake Forest. And if necessary, MNWD can also purchase recycled water from South Coast Water District (SCWD). See Table 3-1 for the list of existing water supply resources available to MNWD.

Table 3-1: Existing Water Supply Resources

Water Supply	Additional Details	Actual Volume (AF)
Purchased or Imported Water	Drinking water purchased from MWDOC	23,083
Recycled Water	Recycled water produced locally	5,013
Total		28,096

SOURCE: MNWD, 2021. 2020 URBAN WATER MANAGEMENT PLAN, TABLE 4-1.

¹ Moulton Niguel Water District (MNWD), 2023. Popular Annual Financial Report. <https://www.mnwd.com/wp-content/uploads/FYE23-PAFR-Final-Draft.pdf>, accessed September 20, 2024

Imported Water

MNWD has entitlements and written contracts with the Municipal Water District of Orange County (MWDOC) to receive imported potable water from MWD via the regional distribution system located in Orange County (Fuscoe, 2024). MNWD receives water entitlements and contracts to demonstrate water supply reliability and the stability of the physical water delivery system. Although pipeline capacity rights do not guarantee the availability of water, they do guarantee the ability to convey water when it is available. Some of the regional imported water lines that serve the MNWD service area include the following facilities:

- **Joint Transmission Main or Joint Local Agency Pipeline (JTM)** – The JTM is jointly owned by MNWD and five other water purveyors, including SCWD, which operates the JTM under contract. MNWD serves Laguna Niguel via the JTM.
- **Eastern Transmission Main (ETM)** – The ETM is jointly owned by MNWD and the Santa Margarita Water District (SMWD). MNWD is responsible for operations through an agreement with SMWD. MNWD serves Laguna Niguel via the ETM.
- **Allen McColloch Pipeline (AMP)** – The AMP terminates in the northeast section of Mission Viejo at the El Toro Water District R-6 Reservoir and conveys water primarily to Mission Viejo and Laguna Hills. MNWD does not serve the City through the AMP.
- **South County Pipeline (SCP)** – The SCP is jointly owned by several local water purveyors SMWD, MNWD, SCWD, and others. Water from the AMP is conveyed via the SCP, which MNWD uses to serve Laguna Niguel.

Recycled Water

MNWD collaborates with other agencies in South Orange County to expand recycled water programs and reduce the dependence on imported water. Currently, 21% of MNWD's water demands are met by recycled water distributed through 142 miles of pipelines. MNWD also owns two Advanced Wastewater Treatment (AWT) facilities, 13 pump stations for recycled water, 13 pressure reducing stations, and 5 storage reservoirs. MNWD aims to reduce reliance on imported water and maximize resource reuse. The projected annual demand for their recycled water system is 8,000 acre-feet. Within Laguna Niguel, MNWD operates and maintains approximately 349,221 ft (66 miles) of recycled water distribution and transmission lines ranging in size from 28" to 24". Most of the lines were constructed in the 1990s and 2000s and are made from pressure-rate polyvinyl chloride (PVC) (61%) (Fuscoe, 2024). See Figure 3-2 for the map of existing recycled water facilities within the City.

3.2.3 Water Capacity Assessment

The management of water systems within Laguna Niguel involves multiple entities including MNWD, SCWD, and the City's Public Works Department. The broader responsibility for the public water system, including capacity assessments and oversight of private water improvements affecting public systems, is MNWD's responsibility. Locally the City's Public Works Department plays a role in overseeing water improvement projects within the public right of way and oversees private properties through the encroachment permit process. This collaborative approach between MNWD and the City ensures that water capacity, maintenance, and development applications within the City are addressed comprehensively.

Urban Water Management Plans (UWMP)

Through the Urban Water Management Plan (UWMP) reporting, MNWD uses population growth, climate scenarios, water supplies, water conservation, large development projects, and approved specific plans to estimate future water demands and evaluate the ability to meet this demand through various water supply sources over a 20-year projection. The California Water Code requires this document, and it is updated every five years; the latest was prepared in 2020 (Fuscoe, 2024).

2020 MNWD Long Range Water Reliability Plan (LRWRP) Update

Long-range water supply planning is essential to ensure MNWD and its service areas have access to adequate water supplies. MNWD's 2020 LRWRP Update assesses future water supply scenarios and creates a long-term strategy for all of MNWD's customers. Given that the MNWD relies on imported water, the 2020 LRWRP Update addresses the potential risks from droughts and climate variability. The 2020 LRWRP Update identifies reliability risks, presents a framework for water resiliency, and identifies potential water supply projects. Some specific goals include the development of water supply during outages, expanding water storage for up to 10,000 AF through the Baker WTP and Upper Chiquita Reservoir. The 2020 LRWRP Update also discusses MNWD's plans to continually expand the recycled water system through the Recycled Water Optimization Study, feasibility studies, and joint local water supply reliability planning.²

Backflow Prevention Program

The primary objective of the cross-connection control/backflow prevention program is to protect MNWD's public potable water system from possible contamination. Protection is accomplished by requiring the installation of an approved backflow prevention assembly for any private connections to the public water system (Fuscoe, 2024).

² Moulton Niguel Water District, 2020 Long-Range Water Reliability Plan Update. Available at: https://www.mnwd.com/wp-content/uploads/2021/03/Final_2020-LRWRP-Update_03082021.pdf

3.2.4 Water Demands

Water demands throughout the City are incorporated into MNWD's regional 2020 Urban Water Management Plan (UWMP). Within its service area, MNWD estimated that residential uses (single-family and multi-family) accounted for nearly 57% of all water use during Fiscal Year (FY) 2019–2020. The single-family land use is the largest sector, using approximately 13,964 acre-feet per year (AFY), which is approximately 50% of total water use, followed by recycled water for irrigation at 5,013 AFY (18%), potable irrigation uses at 2,645 AFY (9%), commercial use at 2,316 AFY (8%), and multi-family use at 1,914 AFY (7%). Water loss represented approximately 2,224 AFY (8%) and other potable hydrant uses represented less than 20 AFY (1%) of total water use. See Table 3-2, for a summary of existing water demands throughout MNWDs service area.

Table 3-2: Orange County Water Demands (2020)

Land Use Type ¹	Level of Treatment	Volume (AF)
Residential – Single Family	Drinking Water	13,964
Residential – Multi-Family	Drinking Water	1,914
Commercial and Institutional	Drinking Water	2,316
Landscape/ Irrigation	Drinking Water	2,645
Landscape/ Irrigation	Recycled Water	5,013
Losses		2,224
Potable Hydrant	Drinking Water	20
Total		28,096

SOURCE: MNWD, JUNE 2021. 2020 URBAN WATER MANAGEMENT PLAN, TABLE 4-1

NOTE: 1) THE DISTRICT DOES NOT HAVE ANY INDUSTRIAL WATER USE WITHIN ITS SERVICE AREA.

Water Capital Improvement Plans

Over the next 10 years, MNWD plans to invest over \$460.3 million in water and wastewater infrastructure through its capital improvement plans (CIP). The focus will be on improving reservoir rehabilitation, pump stations, transmission mains, valves, and future water reliability projects. Water supply and reliability investments are based on various water capacity assessments, including the MNWD's 2020 LRWRP Update and the new Computerized Maintenance Management System (CMMS). The CMMS is an asset management planning, tools, and data to inform the renewal and replacement of the MNWD's infrastructure. Some of these projects and their estimated completion schedules are described in Appendix A: Infrastructure Analysis.

3.2.5 References

Fuscoe Engineering, Inc. 2024. *City of Laguna Niguel General Plan Update, Existing Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality*. Appendix A: Infrastructure Analysis. Prepared April 1, 2024.

Moulton Niguel Water District, 2020. *Long-Range Water Reliability Plan Update*. Available at: https://www.mnwd.com/wp-content/uploads/2021/03/Final_2020-LRWRP-Update_03082021.pdf

Moulton Niguel Water District (MNWD), 2023. *Popular Annual Financial Report*. <https://www.mnwd.com/wp-content/uploads/FYE23-PAFR-Final-Draft.pdf>, accessed September 20, 2024

Moulton Niguel Water District, June 2021. *2020 Urban Water Management Plan, Table 4-1*

Orange County Water District, 2015. *Groundwater Management Plan*. Available at: https://www.ocwd.com/wp-content/uploads/groundwatermanagementplan2015update_20150624.pdf

3.2 WASTEWATER

This section describes the City's wastewater infrastructure, wastewater flows, and previous infrastructure planning. The General Plan addresses the topic of wastewater services within the Public Facilities Element. The information included here is summarized from an infrastructure report prepared by Fuscoe Engineering in April 2024, located in Appendix A: Infrastructure Analysis.

Existing Sewer System

MNWD and SCWD are responsible for the local wastewater facilities in Laguna Niguel. MNWD collects wastewater through a network of collectors, gravity lines, lift stations, and force mains, with a primary focus on residential areas (Fuscoe, 2024). See Figure 3-3 for the existing sewer system facilities in the City.

Moulton Niguel Water District (MNWD)

Within Laguna Niguel, the MNWD maintains approximately 1,166,372 ft (221 miles) of sewers lines and service laterals range in size from 4" to 48". The majority of the sewer lines throughout the City were constructed in the 1980s (54%) and are constructed from polyvinyl chloride (PVC) (54%) and vitrified clay pipe (VCP) (43%). The entire gravity sewer system includes manholes that facilitate cleaning and maintenance of the local sewer infrastructure.

MNWD has decreased wastewater flows over the years through active and passive conservation measures. MNWD operates and maintains Plant 3A and the AWT facilities at the RTP and prioritizes the protection of public health, the environment, and compliance with regulatory and public health agencies by performing regular sampling, monitoring, and testing of wastewater treatment (Fuscoe, 2024).

Regionally, MNWD is a member of the South Orange County Wastewater Authority (SOCWA), MNWD actively contributes flow to three regional treatment plants and two ocean outfalls. Other facilities that MNWD owns and operates are described below:

- **Advanced Wastewater Treatment Facility (AWT)** – MNWD owns and operates the AWT facilities located at the Regional Treatment Plant (RTP). The AWT treats water to Title 22 standards for recycled water and supplies up to 20% of the District's total water demands and has a recycled water capacity of 9.4 MGD.
- **Wastewater Treatment Plant 3A** – Located in the City of Mission Viejo, Plant 3A has a maximum capacity of 6 MGD and treats water from MNWD and SMWD. On average Plant 3A treats approximately 1.8 MGD. MNWD owns 72% of the treatment capacity and actively collaborates with Santa Margarita Water District (SMWD). Effluent undergoes secondary or tertiary treatment depending on the disposal method, ocean outfall or recycled water.

South Orange County Wastewater Authority (SOCWA)

SOCWA, was established in the 1970s, and consists of ten governmental agencies, including the City of Laguna Niguel, Laguna Beach, San Clemente, and others (Fuscoe, 2024). The management of treatment and disposal of wastewater involves proportionate cost-sharing among member agencies based on deliveries and ownership of the plants. Some of SOCWA's regional facilities include the following:

- **Coastal Treatment Plant (CTP)** – Located in the City of Laguna Niguel and constructed in 1983, the CTP has a capacity of 6.7 million gallons per day (MGD). Currently the CTP has an average daily use of 2.9 MGD, with a production of 1.5 MGD of recycled water. The treatment processes at the plant include screening, grit removal, primary clarification, secondary treatment, secondary clarification, anaerobic digestion, and thickening. The District does not currently use capacity at the CTP but owns 29% of the treatment capacity. MNWD's participation and funding obligations for the CTP will end in 2030.
- **JB Latham Treatment Plant (JBLTP)** – Located in the City of Dana Point and constructed in 1964, the JBLTP operates as a conventional activated sludge treatment facility with a total capacity of 13 MGD and currently utilizing 6 MGD. The treatment processes at the facility includes screening, grit removal, primary clarification, secondary treatment, secondary clarification, anaerobic digestion, and solids dewatering. MNWD owns 23% of the liquid treatment capacity and 22% of the solid's treatment capacity.
- **Regional Treatment Plant (RTP)** – Located in the City of Laguna Niguel and constructed in 1982, the RTP is a key facility with a total liquid waste capacity of 12 MGD and 20 MGD in solid waste. Currently the RTP is operating at an average of 7.3 MGD and generates up to 7.3 MGD of recycled water. The treatment processes at the facility includes screening, grit removal, primary clarification, secondary treatment, secondary clarification, anaerobic digestion, and solids dewatering. MNWD owns 100% of the liquid treatment capacity, 100% of the recycled water treatment facilities, and nearly 60% of solids treatment capacity.

- **Aliso Creek Ocean Outfall** – The Aliso Creek Ocean Outfall was constructed in 1979 and extends 1.5 miles off of Aliso Creek Beach. The outfall discharges highly treated wastewater into the Pacific Ocean and handles a capacity of 9.3 MGD. Water quality testing is conducted monthly at 21 ocean and 12 beach monitoring sites.
- **San Juan Creek Ocean Outfall** – The San Juan Creek Ocean Outfall was constructed in 1978 and extends 2.2 miles off of the Doheny State Beach. The outfall discharges highly treated wastewater into the Pacific Ocean and handles a capacity of 10.5 MGD. Water Quality testing is conducted monthly at 21 ocean and 9 beach monitoring sites.

South Coast Water District (SCWD)

SCWD's involvement in the City's sewer distribution primarily revolves around wastewater conveyance. SCWD has several connections with MNWD to support wastewater conveyance from the City. Due to local topography, SCWD extends its sewer service beyond its boundaries to certain customers, thus avoiding the need for constructing and operating sewer lift stations in neighboring districts, such as MNWD.

One area with approximately 650 customers is within MNWD's service area boundary, but sewer by gravity drains to SCWD's wastewater system. The District also has a contractual obligation to provide up to 1.44 MGD to MNWD at the Joint Reservoir. However, MNWD only accepts flow from the District during emergencies or routine maintenance periods. Historically, MNWD's intake from the Joint Reservoir during the summer months has not exceeded approximately 1.0 MGD (Fuscoe, 2024).

Orange County Sanitation District

Orange County Sanitation District (OCSD) is a regional agency with trunklines throughout Orange County. OCSD shares overlapping operational authority throughout the cities and sewer agency districts within the county, including the City of Laguna Niguel. In general, OCSD owns and maintains the larger trunklines while the cities and agencies that form OCSD own and maintain the smaller laterals. OCSD relies on the cooperation and resources of the 27 satellite cities and agencies to maintain the smaller laterals and to implement FOG control programs for the FSEs that discharge directly to the local collection systems.³

3.2.6 Existing Sewer Flows

Sewer flows throughout Laguna Niguel are a part of MNWDs 2020 UWMP. Within its service area the District estimated that 11,590 AF of wastewater was treated. 6,101 AF was discharged, and 5,489 AF was recycled within the Districts service area. Flows were discharged into Aliso Creek Channel and San Juan Ocean Outfalls. See Table 3-3 for a summary of existing sewer flows throughout MNWDs service area.

Table 3-3: Existing Sewer Flows-Regional

MNWD Wastewater Collection	Treatment Plant	Treated Wastewater (AF)	Treated Discharge (AF)	Recycled Wastewater (AF)
Metered – Wastewater received by SOCWA	Regional Treatment Plant	8,680	3,995	4,685
Metered – Wastewater received by MNWD	3A Treatment Plant	1,761	957	804
Estimated – Wastewater received by SOCWA	JB Latham Treatment Plant	1,149	1,149	0
Total		11,590	6,101	5,489

SOURCE: MNWD, JUNE 2021. 2020 URBAN WATER MANAGEMENT PLAN, TABLE 6-3.

³ Orange County Sanitation District, 2024. Sewer System Management Plan. <https://www.ocsan.gov/home/showpublisheddocument/29880/638622493219500000>, accessed September 19, 2024.

3.2.7 Existing Sewer Capacity Assessment

The sewer system management responsibilities within the City are shared between MNWD, SCWD, and the City's Public Works Department (Fuscoe, 2024). Larger sewer facilities are regionally overseen by MNWD in collaboration with SCWD. Locally, the City's Public Works Department issues encroachment permits to MNWD or SCWD for sewer improvement projects including inspection of backfill above the pipe and surface restoration. For private properties, the City's Building Department is in charge of permitting and inspecting private sewer improvements. This collaborative approach between regional and local agencies ensures comprehensive management, covering both public and private aspects of sewer and wastewater infrastructure within the City.

3.2.8 References

Fuscoe Engineering, Inc. 2024. *City of Laguna Niguel General Plan Update, Existing Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality*. Appendix A: Infrastructure Analysis. Prepared April 1, 2024.

Moulton Niguel Water District, June 2021. *2020 Urban Water Management Plan, Table 6-3*.

3.3 STORMWATER AND DRAINAGE

Provided below is a discussion of the stormwater drainage and flood control systems that serve the City. The existing Laguna Niguel General Plan addresses the topics of stormwater and drainage services within the Public Facilities Element. The information included here is summarized from an infrastructure report prepared by Fuscoe Engineering in April 2024, located in Appendix A: Infrastructure Analysis.

3.3.1 Existing Drainage Facilities

The City has a storm drain system composed of catch basins and storm drains, which conveys stormwater runoff through roadways and underground infrastructure. Storm drain pipelines, channels, and facilities within the City range from 192" to 18" in diameter with a total length of approximately 389,498 ft (74 miles). The majority of the pipelines are owned by the City and are made from reinforced concrete pipe (RCP) (Fuscoe, 2024). The City's Public Works Department and Orange County Flood Control District (OCFCD) work together to monitor and maintain their respective storm drainage infrastructure to ensure the system functions effectively. Most storm flows will be conveyed in the City's roadways, to City-owned catch basins and storm drain systems. From there, the flows are discharged into OCFCD channels and are ultimately discharged into the Pacific Ocean.

3.3.2 Stormwater and Flood Control

The National Flood Insurance Act (1968) established the National Flood Insurance Program, which is based on the minimal requirements for flood plain management and is designed to minimize flood damage within Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administers the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a 1% chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps (FIRMs) were developed to identify areas of flood hazards within a community.

According to the Flood Zone Determination⁴, the majority of the City is designated as unshaded Zone X, with varying flood zones surrounding the waterbodies and wetland areas (Fuscoe, 2024). Unshaded Zone X is defined as the area determined to be outside the 100 and 500-year flood and mandatory flood insurance is not required. This and other flood zones and floodways throughout the City are described in Table 3-4 and shown in Figure 3-4. Although the majority of the City is not subject to flooding hazards as defined by FEMA, localized flooding and/or ponding can still occur during large rain events due to the inadequacy of existing drainage facilities including drainage inlets, culverts, catch basins, storm drain pipes, curbs, and gutters (Fuscoe, 2024).

⁴ Federal Emergency Management Agency, *Flood Maps*. Available at: <https://www.fema.gov/flood-maps>

Table 3-4 FEMA Flood Zone Designations

Zone Designation	Zone	Zone Description
Special Flood Hazard Area – With or Without Base Flood Elevation or Depth	Zone A	Areas with a 1% annual chance of flooding and -a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are available within these zones.
	Zone AE	The base floodplain where base flood elevations are provided.
	Zone AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are available at selected intervals within these zones.
Other Areas of Flood Hazard	Zone X	<u>Shaded</u> : Area of 500-year flood; area subject to the 100-year flood with average depths of less than 1 foot or with contributing drainage area less than one square mile; and areas protected by levees from the base flood.

SOURCE: FEMA, GLOSSARY. AVAILABLE AT: [HTTPS://WWW.FEMA.GOV/ABOUT/GLOSSARY](https://www.fema.gov/about/glossary).

Although flooding is a risk present throughout the City, the City's Public Works Department has implemented a regular annual maintenance program to minimize the reoccurrence of flooding in specific locations. The Public Works Department has identified that there are catch basins at Adelanto Drive and Crown Valley Parkway that may lead to flooding without regular maintenance. Additional ongoing maintenance is crucial for the City's 13 wetland areas present throughout the City, as these areas convey runoff from regional tributaries and could be prone to flooding without routine maintenance.

3.3.3 Existing Flood Plain Mapping

The National Flood Insurance Act (1968) established the National Flood Insurance Program, which is based on the minimal requirements for flood plain management and is designed to minimize flood damage within Special Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is the agency that administers the National Flood Insurance Program. Special Flood Hazard Areas (SFHA) are defined as areas that have a 1% chance of flooding within a given year, also referred to as the 100-year flood. Flood Insurance Rate Maps (FIRMs) were developed to identify areas of flood hazards within a community.

Master Plan of Drainage

The last update to the City's Master Plan of Drainage was published in 1971 and prepared for the County of Orange. As a resource the document provides a basis for historic drainage deficiencies, requirements, planning objectives, and capital improvement programs. OC Public Records provided the original document for this master plan alongside other subsequent drainage documents that will be discussed in more detail in the following sections, as they outline a more up-to-date look at the City and its drainage facilities. An updated Storm Drain Master Plan has been added to the City's CIP and is planned to start phasing in Fiscal Year 2025/2026.

3.3.4 Storm Drainage Capacity Assessment

In managing the storm drainage infrastructure and systems within the City, responsibilities are shared between OCFCD and the City's Public Works Department. Additional regional resources for watershed protection and flood conveyance include the following:

South Orange County Integrated Regional Watershed Management Plan (SOCIRWMP)

The SOCIRWMP is a regional watershed-based plan that prioritizes, identifies, and promotes multi-beneficial storm drainage improvements. It is a partnership between 21 cities and water/wastewater agencies in South Orange County. As a member, the City benefits from collaborative resource projects focused on improving storm drain capacity, water quality, water supply reliability, and flood management.

Watershed Infiltration and Hydromodification Management Plan (WIHMP)

The WIHMP is an GIS initial screening tool for determining the suitability of infiltration BMPs at a watershed and sub-watershed level. Suitability is based on lands uses, soils, slope, ownership, channel morphology, and local drainage systems. These projects aim to meet the regional management goals and are essential in the timing, funding, design, and permitting of storm drainage improvements throughout the region.

Orange County Flood Control District (OCFCD) Infrastructure Maintenance

The OCFCD performs regular operations and maintenance for the County of Orange flood control facilities. OCFCD ensures that regional flood control facilities are able to handle flows from storm drains and other runoff that is channeled into the bay or ocean. Services that they provide include the following: on-site investigations, technical assistance with evaluating river and stream bank erosion, emergency flood response, maintenance and inspection of flood levees and flood control facilities owned by the County of Orange, channel and creek restoration and improvement projects, and illegal dumping mitigation. OCFCD has conducted routine spring and fall 2023 inspections for a majority of the storm drain channels and water bodies within the City.

Laguna Niguel Wetlands Operations and Maintenance (O&M) Plan

The O&M Plan describes routine maintenance and habitat management activities for the City's 13 wetland sites and aims to ensure long-term sustainability and public safety. Goals include implementing flood and vector control, maintaining restored ecosystems, and managing sites for the stability of the Aliso Creek Watershed. The plan follows federal and State laws and is prepared to secure permits for necessary and routine maintenance. The plan allows for additional restoration sites and maintenance facilities as needed, with updates generally occurring every 5 years during permit renewals.

3.3.5 References

California Department of Water Resources. 2019. *Final California 2019 Integrated Report (CWA Section 303(d) List / 305(b) Report)*. Available at:

https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated_2014_2016.shtml.

Federal Emergency Management Agency, *Glossary*. Available at: <https://www.fema.gov/about/glossary>.

Fuscoe Engineering, Inc. 2024. *City of Laguna Niguel General Plan Update, Existing Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality*. Appendix A: Infrastructure Analysis. Prepared April 1, 2024.

Orange County Sanitation District, 2024. *Sewer System Management Plan*. <https://www.ocsan.gov/home/showpublisheddocument/29880/638622493219500000>, accessed September 19, 2024.

3.4 SOLID WASTE

The following section describes solid waste disposal contracting and facilities serving the City. The existing Laguna Niguel General Plan addresses the topics of solid waste management within the Public Facilities Element. In addition, the Community Service Standards Element identifies the level of service standards related to the management of solid waste reduction and recycling within the City.

3.4.1 Waste Collection Services

CR&R Environmental Services, Inc. is a private franchise hauler that provides solid waste disposal and recycling services within the City.⁵ According to the California Department of Resources Recycling and Recovery (CalRecycle), there are seven landfills where the City disposed waste in 2019.⁶ Approximately 85% of the waste generated in the City was disposed at the Prima Deshecha Landfill / Orange County Waste & Recycling at 32250 Avenida La Pata in San Juan Capistrano, California.

3.4.2 Hazardous Waste Disposal

Household hazardous waste (HHW) is any hazardous waste generated incidental to owning or maintaining a residence, including paints, solvents, varnishes, acids, flammables, acrylics, and resins. E-waste such as televisions, tablets, cell phones and computers can also be taken to a HHW Collection Center. Orange County operates several HHW Collection Centers to ensure HHW is properly disposed of. Orange County residents, including residents of Laguna Niguel, can dispose of their HHW items for free at any of

⁵ City of Laguna Niguel. *Trash Collection and Recycling Services*. Available at:

<https://www.cityoflagunaniguel.org/1169/Trash-Collection-and-Recycling-Services>, accessed August 17, 2023

⁶ CalRecycle, *Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility*, Available at: <https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>, accessed September 6, 2023.

the County's four HHW Collection Centers, with the closest location to the City is available at the Prima Deshecha Landfill in San Juan Capistrano.⁷

3.4.3 Solid Waste Generation Rates and Volumes

CalRecycle tracks and monitors solid waste generation rates on a per capita basis. The total annual solid waste disposal amount for the City of Laguna Niguel for the year 2022 (most current available data) was 45,149 tons.⁸ The per capita solid waste generation rate was 3.8 pounds/person/day.⁹ The per capita solid waste generation rate for 2022 had decreased from the 2021 rate of 4.0 pounds/person/day.

The City has complied with State requirements to reduce the volume of solid waste through recycling and reuse of solid waste. The City's per capita disposal target rate in 2022 was 6.6 pounds/person/day.¹⁰ The City's per capita disposal rate in 2022 was 3.8 pounds/person/day, which successfully satisfies the target reduced disposal rate.

⁷ County of Orange Waste & Recycling, Household Hazardous Waste, Available at: <https://oclandfills.com/hazardous-waste>, accessed September 6, 2023.

⁸ CalRecycle, Jurisdiction Disposal Tonnage Trend, Available at: <https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>, accessed July 1, 2024.

⁹ CalRecycle, Jurisdiction Per Capita Disposal Trend, Available at: <https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>, accessed July 1, 2024.

¹⁰ CalRecycle, Jurisdiction Per Capita Disposal Rate Trends (Post 2006), <https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>, accessed September 6, 2023.

3.4.4 References

CalRecycle, *Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility*, Available at:

<https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>, accessed September 6, 2023.

CalRecycle, *Jurisdiction Disposal Tonnage Trend*, Available at:

<https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>, accessed July 1, 2024.

CalRecycle, *Jurisdiction Per Capita Disposal Trend*, Available at:

<https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>, accessed July 1, 2024.

CalRecycle, *Jurisdiction Per Capita Disposal Rate Trends (Post 2006)*, Available at:

<https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/ReviewReports>, accessed July 1, 2024.

City of Laguna Niguel. *Trash Collection and Recycling Services*. Available at:

<https://www.cityoflagunaniguel.org/1169/Trash-Collection-and-Recycling-Services>, accessed August 17, 2023

County of Orange Waste & Recycling, *Household Hazardous Waste*, Available at:

<https://oclandfills.com/hazardous-waste>, accessed September 6, 2023.

3.5 ELECTRICITY AND NATURAL GAS

This section describes the City's electricity and natural gas infrastructure and the utility companies providing these services. The existing Laguna Niguel General Plan addresses the topics of electricity and natural gas within the Public Facilities Element.

3.5.1 Existing Setting

Electricity service in the City is provided by two utility companies: Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E).¹¹ SCE provides electricity service to the western portion of the City. SCE is a regulated public utility that provides energy service to 15 million people across a 50,000 square mile service area covering portions of Orange and Los Angeles counties. SCE obtains electricity from a variety of sources, including SCE-owned facilities and other private and publicly owned facilities that provide electricity through contracts and agreements. Electricity is generated from a variety of energy sources, including coal, natural gas, hydroelectric, and a mix of other renewable resources.

SDG&E provides electricity service to the eastern portion of the City. SDG&E is one of the primary providers of electricity and natural gas to the region of Southern California. SDG&E supplies power to a population of 1.4 million business and residential accounts in a 4,100 square-mile service area spanning two counties and 25 communities. There are electric transmission lines smaller than 110 kV located in the northern portion of City near Alicia Parkway.¹²

The Southern California Gas company (SoCalGas) is the primary natural gas provider in the City.¹³ SoCalGas is the nation's largest natural gas distribution utility, they deliver increasingly clean, safe, and reliable energy to 21.1 million consumers through 5.9 million meters in more than 500 communities. Their service territory encompasses approximately 24,000 square miles in diverse

¹¹ City of Laguna Niguel, 1992. *General Plan Environmental Impact Report*

¹² California Energy Commission. 2023. *California Electric Infrastructure App*. <https://cecgis-caenergy.opendata.arcgis.com/app/ad8323410d9b47c1b1a9f751d62fe495>, accessed August 16, 2023.

¹³ City of Laguna Niguel, 1992. *General Plan Environmental Impact Report*

terrain throughout Central and Southern California, from Visalia to the Mexican border.¹⁴ There are no gas transmission pipelines, or high-pressure distribution lines located within the City.¹⁵

3.5.2 References

California Energy Commission. 2023. *California Electric Infrastructure App.*

Available at:

<https://cegis-caenergy.opendata.arcgis.com/app/ad8323410d9b47c1b1a9f751d62fe495>, accessed August 16, 2023.

City of Laguna Niguel, 1992. *General Plan Environmental Impact Report*

San Diego Gas & Electric. 2022. Available at: <https://www.sdge.com/more-information/our-company/about-us>, accessed August 16, 2023

Southern California Edison. *Our Service Territory*. Available at: <https://www.sce.com/about-us/who-we-are/leadership/our-service-territory>, accessed September 11, 2023

Southern California Edison. 2023. Available at: <https://www.sce.com/>

Southern California Gas Company. *Company Profile*, <https://www.socalgas.com/about-us/company-profile>, accessed June 27, 2024.

Southern California Gas Company. *Gas Transmission Pipeline Interactive Map*, <https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=53da2bbb31574e0ab0f14f9bc2618d89>, accessed June 27, 2024.

¹⁴ Southern California Gas Company. *Company Profile*, <https://www.socalgas.com/about-us/company-profile>, accessed June 27, 2024.

¹⁵ Southern California Gas Company. *Gas Transmission Pipeline Interactive Map*, <https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=53da2bbb31574e0ab0f14f9bc2618d89>, accessed June 27, 2024.

3.6 PUBLIC SAFETY

This section addresses the provision of public safety services in Laguna Niguel, including fire protection, law enforcement, and other local safety provisions. See Figure 3-5 for the public services within the City.

3.6.1 Fire Protection

Historically, Laguna Niguel has contracted essential services through established county agencies, including the Orange County Fire Department (OCFA), which provides full-service fire protection services to the City.

The existing Laguna Niguel General Plan addresses the topic of fire protection services within the Seismic and Public Safety Element. In addition, the Community Service Standards Element identifies the level of service standards related to the fire protection response time within the City.



Fire Protection Services

The OCFA is a regional fire service agency that provides fire protection and emergency services to 23 cities in Orange County and all unincorporated areas. There are 77 fire stations located throughout Orange County that help protect over two million residents.¹⁶ The OFCA is dedicated to ensuring the City and the rest of Orange County region a safer place to live, work, and play.



The OCFA provides fire and emergency medical services to the City. There are three fire stations located in the City: Station No. 5 is located at 23600 Pacific Island Drive; Station No. 39 is located at 24241 Avila Road; and Station No. 49 is located at 31461 Golden Lantern Street.¹⁷ The City of Laguna Niguel is located in OCFA Operations Division 5, which includes a total of nine fire stations and serves the cities of Laguna Niguel, Aliso Viejo, Laguna Hills, Laguna Woods, and Lake Forest.

¹⁶ Orange County Fire Authority. Customer Service Motto. Available at: <https://ocfa.org/AboutUs/AboutOCFA.aspx#ourvision>, accessed August 25, 2023.

¹⁷ City of Laguna Niguel. Fire and Emergency Medical Services. Available at: <https://www.cityoflagunaniguel.org/286/Fire-Services>, accessed August 25, 2023

OCFA Wildland Fire Protection

The County has a long history of significant wildland fires. The “chaparral” land cover type located in close proximity to development increases the risk of wildland fire. When a fire occurs, the weather, topography, type/nature of vegetation, access and water supply have a significant impact on severity and outcome. Large catastrophic wildland fires in Southern California are usually driven by Santa Ana winds. These winds can blow at 60 to 100 mph and last for days. Houses that interface with the wildland areas are at risk from burning vegetation. The Laguna Beach Fire (1993), San Clemente - Trafalgar Canyon Fire (2001), and Laguna Niguel/Laguna Beach Coastal Fire (2022) underscore the inherent risks in these interface areas.

OCFA currently uses regionally accepted wildland response levels: Low watershed, Medium watershed, High watershed, and Red Flag. Risk assessments are based on proximity to wildland areas and the extent of available defensible space. The nature of the interface changes over time, influenced by rainfall and vegetation maintenance, or the lack thereof. The State has identified areas of high risk and designated them as Very High Fire Severity Zones. OCFA will maintain the capability of responding a High watershed dispatch to these areas.¹⁸

¹⁸ Orange County Fire Authority, 2014. Standards of Cover. Available at: https://ocfa.org/Uploads/Orange%20County%20Fire%20Authority%20SOC_FINAL.pdf, accessed October 8, 2024.

Insurance Services Office (ISO) Rating

The Insurance Services Office (ISO) reviews the fire protection resources within communities and provides a Community Fire Protection Rating system from which insurance rates are often based. ISO rating class 1 represents the best public protection, and Class 10 indicates no recognized protection. OCFA is divided into six ISO regions and rating areas (OC Central, East, North, South, West, and Santa Ana). Most of the populated areas of OCFA have a Class 3 ISO rating.¹⁹ The City has a Class 2 ISO rating.²⁰

OCFA Fire Master Plan for Commercial and Residential Development

The OCFA Fire Master Plan, most recently updated in 2023, is a general guideline pertaining to the creation and maintenance of fire department access roadways, access walkways to and around buildings, and hydrant quantity and placement as required by the California Fire and Building Codes (CFC and CBC) and as amended by local ordinance. These guidelines apply to new, remodeled, reconstructed, or relocated residential or commercial structures and developments to which emergency response may be necessary. This document details plan check submittal requirements for fire safety review, identification of fire lanes and premises, hydrant availability, access requirements, and etc.

Fire Department Programs

The OCFA provides more than traditional fire services and emergency medical services; the OCFA also currently participates and manages a range of additional programs related to community health and safety, which are subject to change over time.²¹

¹⁹ Orange County Fire Authority, 2014. *Standards of Coverage and Deployment Plan*.

²⁰ Orange County Fire Authority. ISO Rating Web App. Available at: <https://www.ocfa.org/Residents/ISORatingMap.aspx>

²¹ Orange County Fire Authority. *Safety Programs*. Available at: <https://ocfa.org/SafetyPrograms>, accessed August 25, 2023.

Education & Outreach

The OCFA offers a variety of educational programs and community outreach events. These programs include safety presentations, fire station tours, school programs, and community events.

Safety Flyers

The OCFA provides pre-designed safety flyers to cover topics such as disaster preparedness, fire safety, drowning prevention, wildfire, and holiday safety. These informative flyers aim to raise awareness and promote safety within the City.

Kids Corner

The OCFA provides fun and educational resources to help children understand emergency preparedness. These resources help further strengthen the connection between OCFA and the community by educating children about the importance of fire safety and other forms of emergencies. These educational resources include video tutorials, coloring books, and collection of short stories.

Disaster Preparedness

The OCFA provides instructional materials for disaster preparedness on their website to help better prepare communities within their region from disaster related events.

Drowning Prevention

The educational information for drowning prevention and water safety is made available on the OCFA website. These resources include videotaped training from professionals, helpful tips, and tools for educating children on drowning prevention.

Fire Safety

The home fire safety educational material is made available for everyone who visits the OCFA website. The fire safety training provides helpful information and tips from handling cooking fires to the proper procedure in using a fire extinguisher.

Smoke Alarms & Home Escape Plan

The OCFA provides helpful information for installing smoke and carbon monoxide alarms in your household, and the importance of creating a home escape plan.

Ready, Set, Go!

The *Ready, Set, Go!* Program provides educational information to homeowners regarding the potential impact of wildfires on their homes.

3.6.2 Law Enforcement

The City contracts with the Orange County Sheriff's Department (OCSD) for law enforcement services. The OCSD captain assigned to the Laguna Niguel Police Services serves as the City's chief of police and is responsible for deploying law enforcement resources based on the City's contract. OCSD deputies are responsible for general patrol, traffic enforcement, criminal investigations, and other law enforcement related duties within the City.

The current General Plan addresses the topic of law enforcement and police protection services within the Seismic and Public Safety Element and the Public Facilities Element. In addition, the General Plan Community Service Standards Chapter identifies the level of service standards related to the police protection response time within the City.

Police Protection Services

The City is served by the Laguna Niguel Police Services, through OCSD, located at City Hall.²² This includes general law enforcement services including patrol, traffic enforcement, accident analysis and investigation, parking enforcement, and general and special investigations.



The City collaborates closely with OCSD to assess and meet community needs for adequate personnel and equipment to effectively combat crime and meet existing and projected service demands. OCSD provides 24-hour per day coverage.

The Laguna Niguel Police Services currently provides programs and services to the City related to public safety, which are subject to change over time:

Neighborhood Watch

Neighborhood watch is a crime prevention program that enlists the active participation of citizens in cooperation with law enforcement to reduce crime in their communities.

²² City of Laguna Niguel. Police Services. Available at: <https://www.cityoflagunaniguel.org/14/Police-Services>, accessed August 25, 2023

Business Watch

This program enlists the active participation of business owners and managers in cooperation with law enforcement to prevent crime in their community.

Home Security Checks

With this service, a Crime Prevention Specialist will visit a home to inspect the security of the home and offer suggestions where needed, at no cost.

Police Auxiliary Citizen's Team

The Police Auxiliary Citizen's Team (PACT) is a group of senior volunteers who assist with various duties within police services.

Ready Laguna Niguel

Ready Laguna Niguel is a trio of integrated programs intended to focus on the challenges from and responses to emergencies and disasters. Educational presentations, community outreach, and volunteer opportunities comprise this effort to prepare citizens for emergencies.

Vacation Home Checks

This service involves a physical check of your home to ensure it remains secure while a resident is away on vacation, free of charge.

You Are Not Alone

The You Are Not Alone (YANA) program is designed for Laguna Niguel residents. YANA provides a measure of security and well-being for those who primarily live alone. The program includes a welfare check for those who have requested it.

Proof of Corrections

For individuals who receive a citation for a violation that requires evidence of correction, the Police Services Department is available during business hours to provide a "Proof of Correction" citation sign-off.

Child Car Seat Inspections

A Certified Child Passenger Safety Technician is available by appointment to inspect a child's car seat or booster seat installation.

School Safety and Officer Friendly

The Community Support Officer is available by appointment to give various presentations to students. Such presentations include internet safety and drug education.



3.6.3 Emergency Preparedness and Services

The existing Laguna Niguel General Plan addresses the topic of emergency preparedness and services within the Seismic and Public Safety Element.

The City developed a program focused on promoting resident safety and public awareness called Simplified Action for Emergencies (S.A.F.E.).²³ City Police Services personnel are available to make presentations to businesses, commercial and residential property management, including homeowners' associations. The S.A.F.E. program is a ten-step guide to individual emergency preparedness, designed to be simple and accessible. There is no cost to participate in S.A.F.E., other than the basic required survival supplies. All emergency preparedness literature is provided to the residents free of charge by Laguna Niguel Police Services.

The City prepared an all-hazards Emergency Plan in 2015 that is designed to provide the framework for responding to major emergency disasters. The main goals for this plan are to (1) prepare for, (2) respond to, and (3) recover from an emergency or disaster that affects the City.

The City is a member of the Orange County Operational Area and the Orange County Emergency Management Organization. Both of these entities provide "mutual aid" to communities via the OCSD, the OCFA, and the California Office of Emergency Services.

In addition, Laguna Niguel's Local Hazard Mitigation Plan (LHMP) addresses several natural disasters that may affect the City: earthquake (geologic), severe weather, drought, and extreme heat. The LHMP serves to organize resources, assess potential risks, describe hazards, identify at-risk populations and assets, and set goals, objectives, and tools to reduce the effects of these hazards, minimize property and infrastructure damage, strengthen resources from local and regional public safety facilities, and increase education and awareness of hazard mitigation planning and

²³ City of Laguna Niguel. *Emergency Preparedness*. Available at: <https://www.cityoflagunaniguel.org/35/Emergency-Preparedness>

emergency preparedness. The Laguna Niguel LHMP was adopted by the City Council on January 16, 2024.²⁴

Emergency Medical Services

The City partners with the OFCA to provide emergency medical services within Laguna Niguel. The Emergency Medical Services (EMS) Section of OFCA, manages the delivery of medical services by OCFA emergency medical technicians and paramedics.²⁵ The EMS Section serves as a liaison to County and State regulatory agencies, hospitals, ambulance providers and other EMS groups. The EMS Section is responsible for meeting paramedic staffing needs through recruitment, selection, support and evaluation, and accreditation of prospective paramedics. The EMS Section participates in the review of local, State, and national legislation, regulations, and policies that affect EMS. Members of the EMS Section participate in EMS workgroups, committees, and advisory boards at the county, State, and federal levels. The EMS Section is also responsible for the immunization and communicable disease prevention and surveillance program.

3.6.4 References

American Community Survey, 2012–2022. 5-Year Estimates Subject Table SO101.

City of Laguna Niguel. *Emergency Preparedness*. Available at: <https://www.cityoflagunaniguel.org/35/Emergency-Preparedness>

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²⁴ City of Laguna Niguel. *Local Hazard Mitigation Plan*. Available at: <https://www.cityoflagunaniguel.org/1485/Local-Hazard-Mitigation-Plan>

²⁵ Orange County Fire Authority. *Emergency Medical Services*. Available at: <https://ocfa.org/AboutUs/Departments/OperationsDirectory/EmergencyMedicalServices.aspx>

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https://ocfa.org/Uploads/Orange%20County%20Fire%20Authority%20SOC_FINAL.pdf, accessed October 8, 2024.

3.7 PARKS AND RECREATION

There are a wide variety of parks located within the City, including City-owned parks, County-owned parks, and private homeowners' association (HOA) parks. The current General Plan addresses the topic of parks and recreation facilities in the Open Space/Parks/Conservation Element. See Figure 3-6 for the parks and recreation facilities within the City.

3.7.1 Types of Parks

The General Plan Open Space/Parks/Conservation Element has provided the following parks and facilities classifications within the City:

County and Regional Parks: Operated by OC Parks, regional parks serve the varied recreation needs of County residents. Regional parks provide significant open space, and opportunities for picnicking and organized sports activities.

Community Parks: A community park typically ranges from 20 to 50 acres and is designed to meet the active recreational needs of several neighborhoods. These parks are intended to serve a drive-to clientele within a radius of up to three miles. They contain facilities which require more space than neighborhood parks, and which may include playfields, basketball courts, tennis courts, swimming pools, community centers, and off-street parking.



Neighborhood Parks: A neighborhood park is any general use local park developed to serve the needs of a particular neighborhood within a community. The size of the park depends on the population within its service area and the extent of desired amenities, but usually ranges from 2 to 20 acres. Typical neighborhood parks may be within walking or bicycling distance of park users with a service radius of approximately 1/2 mile. These parks may feature such amenities as children's play areas, ball fields, and open turf areas.

Mini Parks: A mini park is a small park site generally ranging from 2,500 square feet to 1 acre in size. These parks may serve any age group, depending on the characteristics of the neighborhood. They usually feature play apparatus, a paved area, benches, and landscape treatment. They may also feature a children's play area, quiet game areas and some sports activities if space allows. Some mini-parks are natural areas with minimal improvements, which help safeguard identified natural resources or serve as viewpoints.

Private Park or Recreation Facilities: These facilities are operated by HOAs or other private entities for the exclusive use of their members. They may feature a range of recreational amenities, such as recreational clubs with gymnasiums, indoor and outdoor sports courts, ballfields, swimming pools and spas, and trail systems. These facilities generally vary in size from less than 1 acre to 10 acres. Notable private facilities include Laguna Niguel Racquet Club and El Niguel Country Club.

School Recreation Facilities: School recreation facilities are operated by the Capistrano Unified School District. School recreation facilities are for the use of students during school hours and are available to the public at other times.

3.7.2 Parks within Laguna Niguel

A summary of existing City parks and recreational facilities with notable amenities and locations is provided in Table 3-5.



Table 3-5: Existing Park Facilities

Park	Address	Facilities	Acreage
Beacon Hill Park	24472 Beacon Hill Way	One grass soccer area, two picnic tables with shade structure, one playground with rubber surface, and two swings (including one handicap accessible).	4.0
Bear Brand Park	32385 Bear Brand Park Road	Two lighted (turf) baseball fields, one lighted (turf) soccer field, five barbecues, seven picnic tables, one playground (wood chips), and restrooms.	6.1
Blu Community Park	27766 Forbes Road	Picnic tables with shade structure, fitness equipment, and dog run.	1.2
Chapparosa Park	25191 Chapparosa Park Road	Salt Creek paved trail begins at end of park, one large playground (with wood chips), one tot-lot (with wood chips), four restrooms, one payphone, drinking fountains, one artificial turf soccer field with lights, two grass pony/adult softball fields with lights, two grass baseball fields with lights, three full basketball courts, two sand volleyball courts, six picnic tables, six barbecues, and 227 parking spaces (five handicap spaces).	18.2
Clipper Cove Park	29325 Clipper Way	One large shelter, three picnic tables, one large playground (with rubber surface), four swings (including two baby swings and two regular swings), and four park benches.	2.4
Crown Royale Park	24697 Crown Royale	--	0.5
Crown Valley Park	29751 Crown Valley Parkway	One pool with diving boards (one fit pool), 30 picnic tables, one playground, seven barbecues, one baseball field, two soccer fields, two restrooms, two playgrounds (with rubber surface), one outdoor amphitheater, 280 parking spaces (including 9 handicap spaces), the Niguel Botanical Preserve (18 acres), and 11 community rental rooms.	38.4
Hidden Hills Park	27802 Springwood	Three picnic tables, two play structures (with rubber surface), four swings (including two baby and two regular), six park benches, half basketball court, one bike rack, one drinking fountain and large grass area, Doggie waste station.	2.4

Park	Address	Facilities	Acreage
Juaneno Park	25078 Hidden Hills Road	One grass soccer field, three baseball backstops (no brick dust), one restroom, two bleachers, and large grass area.	2.9
La Hermosa Park	24462 La Hermosa Ave.	One play structure (with rubber surface), two picnic tables, and two swings.	0.2
La Paz Sports Park	28051 La Paz Road	One artificial turf soccer field (with lights), two artificial turf baseball fields (with lights), one restroom, drinking fountain, bleachers, and 120 parking spaces (including 5 handicap).	4.3
La Plata Park	25006 La Plata Drive	Two play structures (with wood chips), two regular swings, three picnic tables, three park benches, one barbecue, one drinking fountain, large grass area, and Doggie waste stations.	1.3
Laguna Niguel Skate and Soccer Park	27745 Alicia Parkway,	20,000 square foot concrete skateboard park, one lighted soccer field, one full basketball court, and two half basketball courts.	4.7
Lilly Shapell Park	28737 Drakes Bay	One picnic bench and shade structure	0.9
Long View Park	Old Ranch Road	1.35-mile trail for equestrian uses, hiking and bicycle.	0.2
Marina Hills Park	24802 Marina Hills Drive	Two grass soccer fields, one grass baseball field, two basketball courts (including one full court and one-half court), three bocce ball courts, one restroom, four picnic tables, one play structure (with wood chips), one sand pit, two regular swings, and 24 parking spaces (including one handicap).	15
Niguel Heights Park	27804 Niguel Heights Blvd.	Three picnic tables, eight park benches, two playgrounds (with rubber surface), four swings (including two baby swings and two regular swings), one paved trail, large grass area, and one (1) drinking fountain.	2.7
Niguel Road Park	30983 Killini	Bike trail access with open grass area.	1.0
Niguel Woods Park	29883 White Otter Lane	One play structure (with rubber surface), four swings (two regular, two baby swings), and grass area with soccer backstop.	1.4
Ocean Breeze Park	32311 Charles Road	One shelter, four picnic tables, two playgrounds (including one small play structure with wood chips and one larger play structure with rubber	1.7

Park	Address	Facilities	Acreage
		surface), four swings (including one regular, one handicap accessible, and two baby swings), five benches, one full size basketball court, one drinking fountain, one grass volleyball court, large grass area, and fenced-in park.	
Parc Vista Overlook Park	30618 Parc Vista Road	--	0.4
Parc Vista Park	30618 Parc Vista Road	One large play structure (with rubber surface), three swings (including one baby swing and two regular), one trail through the park, large grass area, one picnic table, and four benches.	2.5
Parc Vista View Park	31114 Parc Vista Road	--	1.1
Pooch Park	31575 Golden Lantern Street	Fully fenced off-leash dog park, 25 parking spaces (including two handicap spaces), two shelters, four picnic tables, one water faucet with hose, one fire hydrant (non-functional), one (1) restroom (portable), wood chips for ground cover, and Doggie waste stations.	1.0
Rancho Niguel Park	28333 Crown Valley Parkway	One small play structure (with rubber surface), one grass soccer field, one grass softball field, one grass baseball field, one play structure, five barbecues, five picnic tables, one restroom, one drinking fountain, 65 parking spaces (Two handicap spaces available at Marian Bergeson Elementary School).	3.8
Redondo View Node	25575 Redondo	Three picnic tables, one shelter, one barbecue, large grass area, and a paved path around the park.	1.2
Reef View Node	25326 Reef	One large play structure (with rubber surface), two regular swings, four benches, and paved path around park.	3.4
Ridge View Park	29061 Ridgeview	Three benches and a large sandy area.	1.0
Seminole Park	30802 Seminole Place	Two play structures (including one small play structure, one large play structure, and both with rubber surfaces), four swings (including two regular and two baby swings), two picnic tables, three benches, large grass area, and Doggie waste stations.	2.3
Vista Plaza Park	29541 Vista Plaza	--	0.4

Park	Address	Facilities	Acreage
Yosemite Park	24481 Yosemite Road	One large play structure (with rubber surface), four swings (including two regular and two baby swings), one volleyball net (on grass), paved trail around park, and large grass area.	5.4
Park Acreage Totals			172.8

SOURCE: CITY OF LAGUNA NIGUEL, 2022, AND CITY OF LAGUNA NIGUEL PARK NEEDS ASSESSMENT, 2022.



There are currently 30 City-owned and operated parks which encompass approximately 172.8 acres of developed parkland within the City. This includes Chapparosa Park, located within a

portion of the larger Salt Creek Corridor Regional Park. There are also four Orange County-owned and operated regional parks within the City, including portions of Aliso & Woods Canyon Wilderness Park, Badlands Park, Laguna Niguel Regional Park, and Seaview Park. In addition to these public parks, there are also number of privately-owned park facilities throughout the City, most of which are part of various HOAs.

The current General Plan establishes a required parkland dedication of 3.0 acres per 1,000 persons for the City. According to the 2022 Citywide Park Needs Assessment, for every 1,000 persons within the City there are 1.94 acres of developed parks, 1.06 acres of neighborhood parks, and 0.81 acres of community parks, for a total of 3.81 acres per 1,000 persons in the City. Therefore, the City exceeds the required parkland dedication of 3.0 acres per 1,000 persons.

The 1998 Parks and Recreation Master Plan was created to guide the orderly development and management of parks, recreation, and trail facilities in the City. In 2022, the City updated this plan and adopted the Citywide Park Needs Assessment. This needs assessment is the guiding document for recreation programming, trails, parks, and recreation facilities in the City. Additionally, the Orange County regional parks provide an additional 180 acres of parkland, open space, and trails within the City.

Regional and Other Park and Recreation Facilities

The following information is from the 2022 Citywide Park Needs Assessment:

A small portion of the **Aliso and Woods Canyons Wilderness Park** is located within the City. Within the park there are mature oaks, sycamores, and elderberry trees, streams, and an extensive network of trails. Many rare and endangered plants and animals can be found in this park.

Badlands Park is a five-acre site located in the southwestern area of the City. The park site is primarily passive in character, providing expansive views of the coastline and ocean.

Salt Creek Corridor Regional Park begins in the central portion of the City and flows west and south through a narrow canyon referred to as the Salt Creek Corridor, which is mostly inside a long and narrow regional park that includes hiking trails and natural landscapes.

Seaview Park is approximately seven-acres in size with one acre of useable area and is located on Talavera Drive near Pacific Island Drive. The park is primarily passive in character providing views of expansive views of the coastline and ocean.

The El Niguel Country Club and Golf Course is a top-tier, 18-hole private golf course located in the City, less than one mile from the beach.

Trail Connectivity

According to the 2022 Citywide Park Needs Assessment, Laguna Niguel is home to approximately 80 miles of scenic trails. Developed multi-use trails include the Aliso Summit Trail, Colinas Bluff Trail, Laguna Ridge Trail, Long View Park Trail, Niguel Trail, and Salt Creek Trail.



3.7.3 References

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3.8 SCHOOLS, LIBRARIES, AND OTHER PUBLIC FACILITIES

Laguna Niguel residents receive public educational services from the Capistrano Unified School District (CUSD) and two charter schools. The City is further supported by the Laguna Niguel Library, part of the Orange County Public Library System, which provides essential resources and services to the community.

The existing Laguna Niguel General Plan addresses the topic of schools, libraries, and other public facilities needs in the Public Facilities Element. In addition, the Community Service Standards Element identifies the level of service standards related to the quality of public education within the City.

3.8.1 Public Schools

Primary education (grades kindergarten through 8) in the City is provided by the CUSD. As shown in Table 3-8, CUSD includes six elementary and one middle school within the City. High school education (grades 9 through 12) is provided by schools outside the City. The three nearest high schools are Aliso Niguel High School (28000 Wolverine Way in Aliso Viejo), Capistrano Valley High School (26301 Via Escolar in Mission Viejo), and Dana Hills High School (33333 Golden Lantern Street) in Dana Point.²⁶ Additionally, there are two charter schools located in the City: Community Roots Academy, which is part of CUSD and Orange County Academy of Sciences and Arts, which is not part of CUSD, but within the Orange County Board of Education District.

²⁶ City of Laguna Niguel. Schools. Available at: <https://www.cityoflagunaniguel.org/292/Schools>, accessed September 6, 2023.

Table 3-6: Schools Serving the City

School	Grade	Address	Total Enrollment (2022-2023 School Year)
Capistrano Unified School District			
George White Elementary	K-5	25422 Chapparosa Park Road	396
Moulton Elementary	K-5	29851 Highlands Avenue	552
Marian Bergeson Elementary	K-5	25302 Rancho Niguel Road	502
John Malcom Elementary	K-5	32261 Charles Road	548
Laguna Niguel Elementary	K-5	27922 Niguel Heights Boulevard	401
Hidden Hills Elementary	K-5	25142 Hidden Hills Road	327
Niguel Hills Middle School	6-8	29070 Shark Bay	720
Aliso Niguel High School	9-12	28000 Wolverine Way	2,772
Capistrano Valley High School	9-12	26301 Via Escolar	2,010
Dana Hills High School	9-12	33333 Golden Lantern Street	1,940
Charter School			
Community Roots Academy	K to 8	29292 Crown Valley Parkway	783
Orange County Academy of Sciences and Arts Elementary	TK-5	29296 Crown Valley Parkway	249

SOURCE: NATIONAL CENTER FOR EDUCATION STATISTICS, 2022-2023 SCHOOL ENROLLMENT CHARACTERISTICS.

CAPISTRANO UNIFIED SCHOOL DISTRICT, PREDICTIVE ENROLLMENT ANALYTICS, 2022-2023 SCHOOL ENROLLMENT

3.8.2 Public Libraries

The Orange County Public Libraries (OCPL) is a network of 32 community libraries located in Orange County. Library branches are located in the unincorporated County area and within the jurisdiction of the 33 Orange County cities. Residents are provided the opportunity to check out materials at any of the OCPL branches. Public access to internet terminals is available if the users have a valid OCPL library card. The vision of OCPL is have an open-door policy where community members have free access to any of the OCPL branches.²⁷

The nearest Orange County Public Library branch is the Laguna Niguel Library, which opened in 1987.²⁸ The Laguna Niguel Library is located within the City at 30341 Crown Valley Parkway. The Laguna Niguel Library has a variety of services and activities for residents, this includes book clubs, public computer stations, free Wi-Fi, wireless printing, and a collection of foreign and art house movies on DVD. There are two other OCPL branches that are not located within the City but within the vicinity; the Dana Point Library is located at 33841 Niguel Road in Dana Point and the Aliso Viejo Library is located at 1 Journey in Aliso Viejo.



²⁷ Orange County Public Libraries. *About OCPL*. Available at: <https://www.ocpl.org/services/about-ocpl>, accessed September 6, 2023.

²⁸ Orange County Public Libraries. *OCPL Timeline*. Available at: <https://www.ocpl.org/ocpltimeline>, accessed August 28, 2023

3.8.3 Other Public Facilities

Notable public facilities in Laguna Niguel include the Crown Valley Community Center and the Sea Country Senior and Community Center, both offering multi-use spaces for a variety of events and activities.

Crown Valley Community Center: Located at 29751 Crown Valley Parkway, this approximately 48,000 square foot facility features aquatic facilities, a dedicated art room, fitness and dance room, collaborative tech room, multi-purpose room with a 217-person dining capacity, a catering kitchen, and several multi-purpose classrooms.²⁹ This community center is suitable for events such as wedding receptions, anniversary celebrations, graduation galas, corporate meetings, trainings, and community events for a fee determined by the City Council.



Sea Country Senior and Community Center: Located at 24602 Aliso Creek Road, this approximately 25,000 square foot facility features two ballrooms, two kitchens, two meeting rooms, and a courtyard. The facility is suitable for large events, wedding receptions, corporate meetings, training, and community events for a fee determined by the City Council.³⁰



²⁹ City of Laguna Niguel. Crown Valley Community Center. Available at: <https://www.cityoflagunaniguel.org/1379/Crown-Valley-Community-Center>, accessed September 11, 2023.

³⁰ City of Laguna Niguel. Sea Country Senior & Community Center. Available at: <https://www.cityoflagunaniguel.org/1380/Sea-Country-Senior-Community-Center>, accessed September 11, 2023.

3.8.4 References

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<https://www.cityoflagunaniguel.org/1379/Crown-Valley-Community-Center>, accessed September 11, 2023.

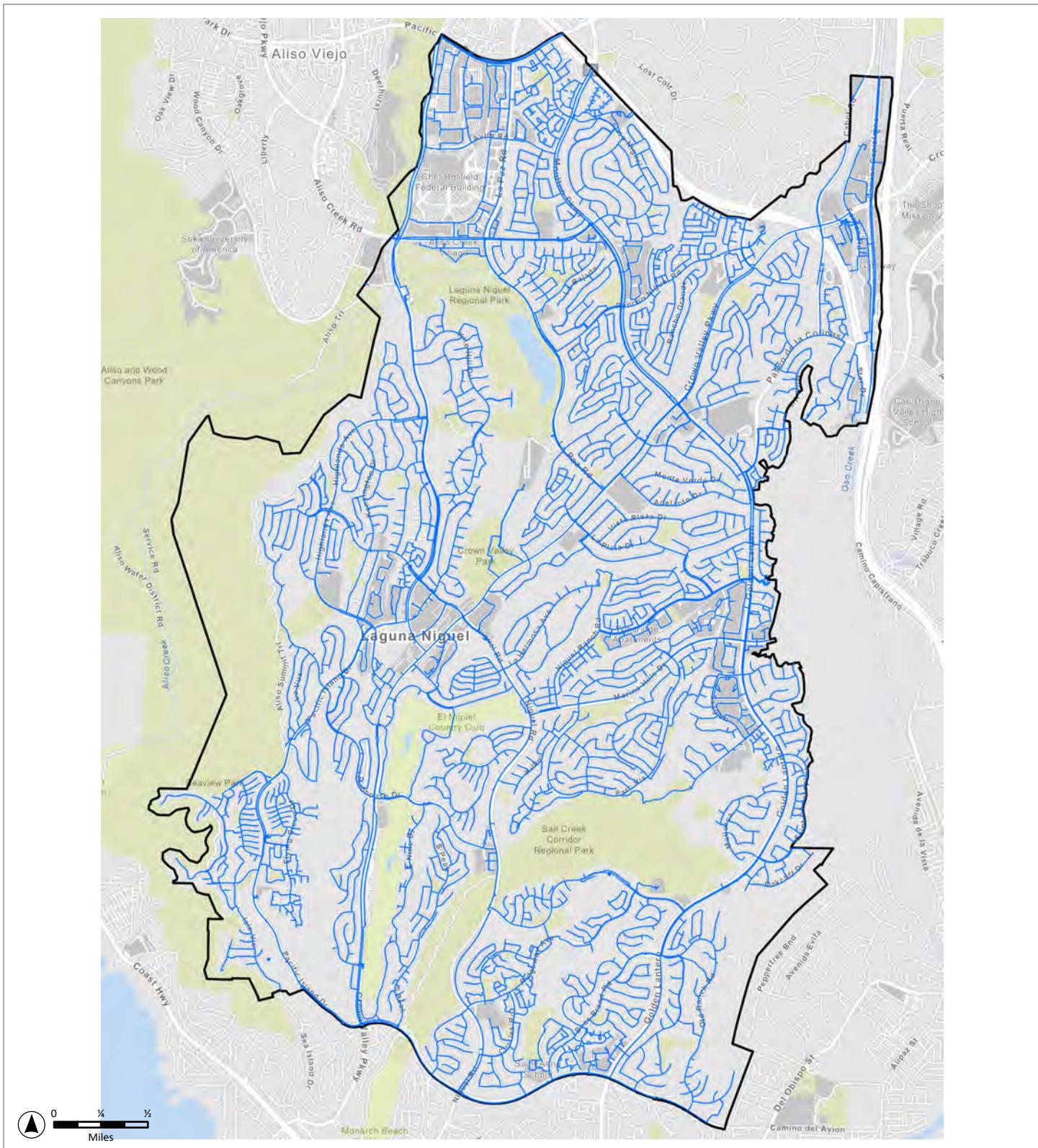
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<https://www.cityoflagunaniguel.org/292/Schools>, accessed September 6, 2023.

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<https://nces.ed.gov/ccd/schoolsearch/>, accessed July 1, 2024.

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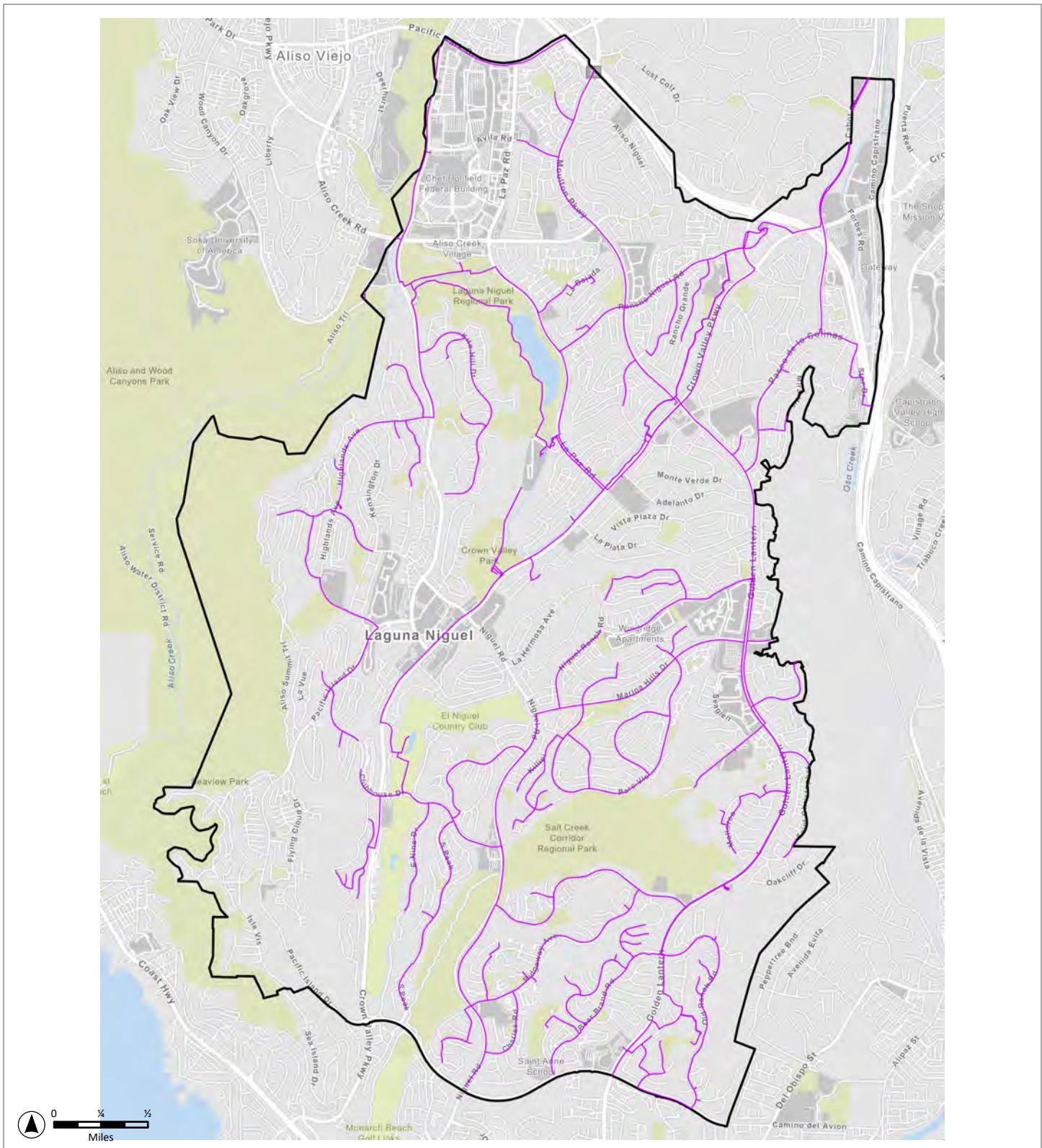
Orange County Public Libraries. *OCPL Timeline*. Available at:
<https://www.ocpl.org/ocpltimeline>, accessed August 28, 2023.



LEGEND

- Laguna Niguel City Boundary**
- MNWD Potable Water Mainlines**

Figure 3-1.
Existing Water System Facilities



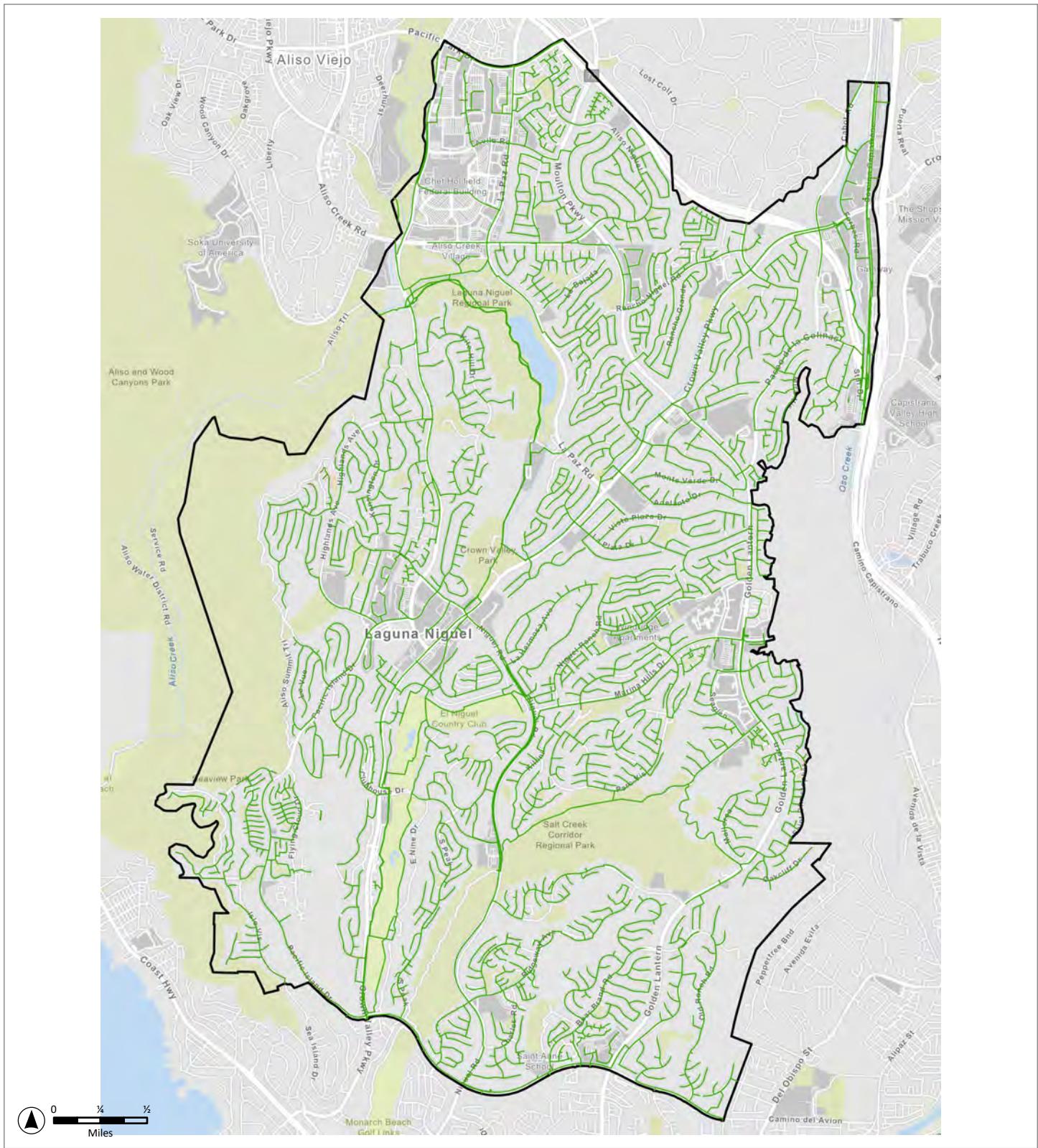
LEGEND

LEGEND
Laguna Niguel City Boundary
MNWD Recycled Mainlines

Data source: EUSCOE ENGINEERING, INC. 4-1-2024

Prepared for the City of Laguna Niguel by De Novo Planning Group
June 6, 2024

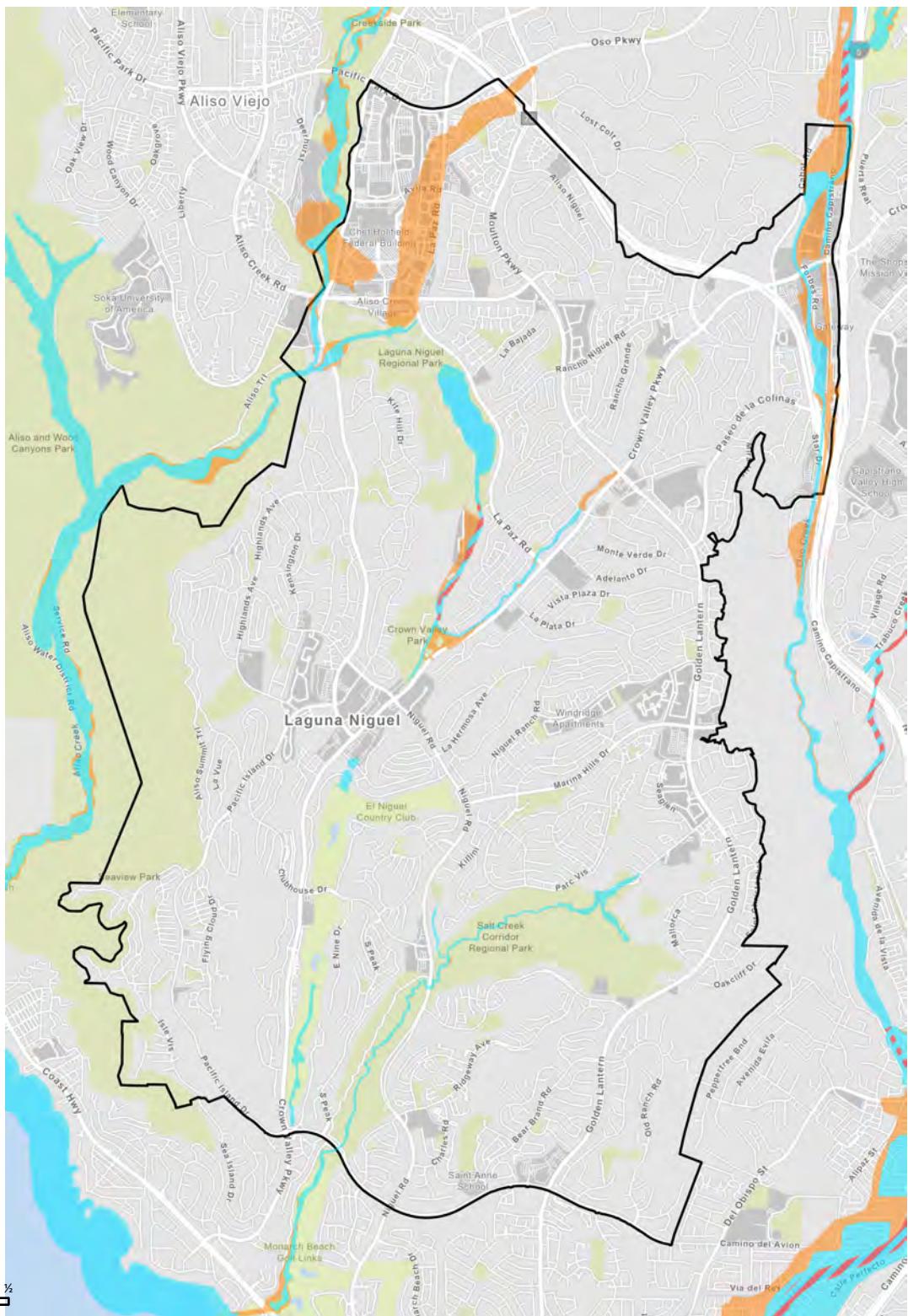
Figure 3-2. Existing Recycled Water Facilities



LEGEND

- Laguna Niguel City Boundary
- MNWD Wastewater Mainlines

Figure 3-3.
Existing Sewer System Facilities



Data source: EHSOFE ENGINEERING, INC. 4.1.2024

Prepared for the City of Laguna Niguel by De Novo Planning Group
June 10, 2024

LEGEND

Launa Niquel City Boundary

Flood Hazard Zones

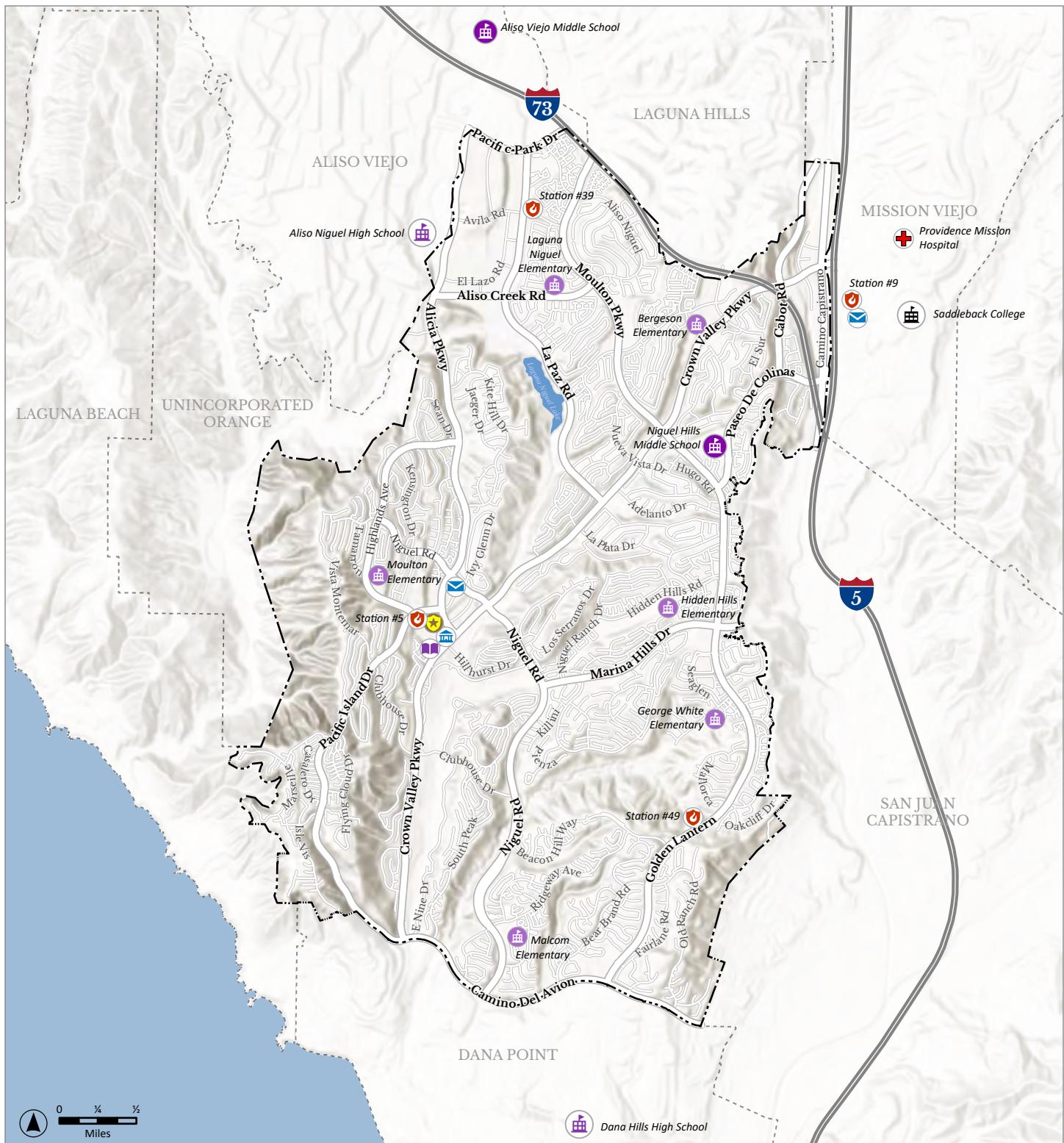
Zones A, VE, AH, AE & AO: 1% Annual Chance Flood Hazard

(AE with Base Flood Elevations Determined, AO with flood depths of 1'-3')

 Zone AE: Regulatory Floodway

Zone X: 0.2% Annual Chance Flood Hazard

Figure 3-4
Flood Zones



Data sources: City of Laguna Niguel; Orange County GIS; Google Maps.

Prepared for the City of Laguna Niguel by De Novo Planning Group

June 10, 2024.

LEGEND

Laguna Niguel City Boundary

Other Jurisdictions

Public Services

- City Hall
- Public Library
- Post Office

Public Schools Servicing Laguna Niguel

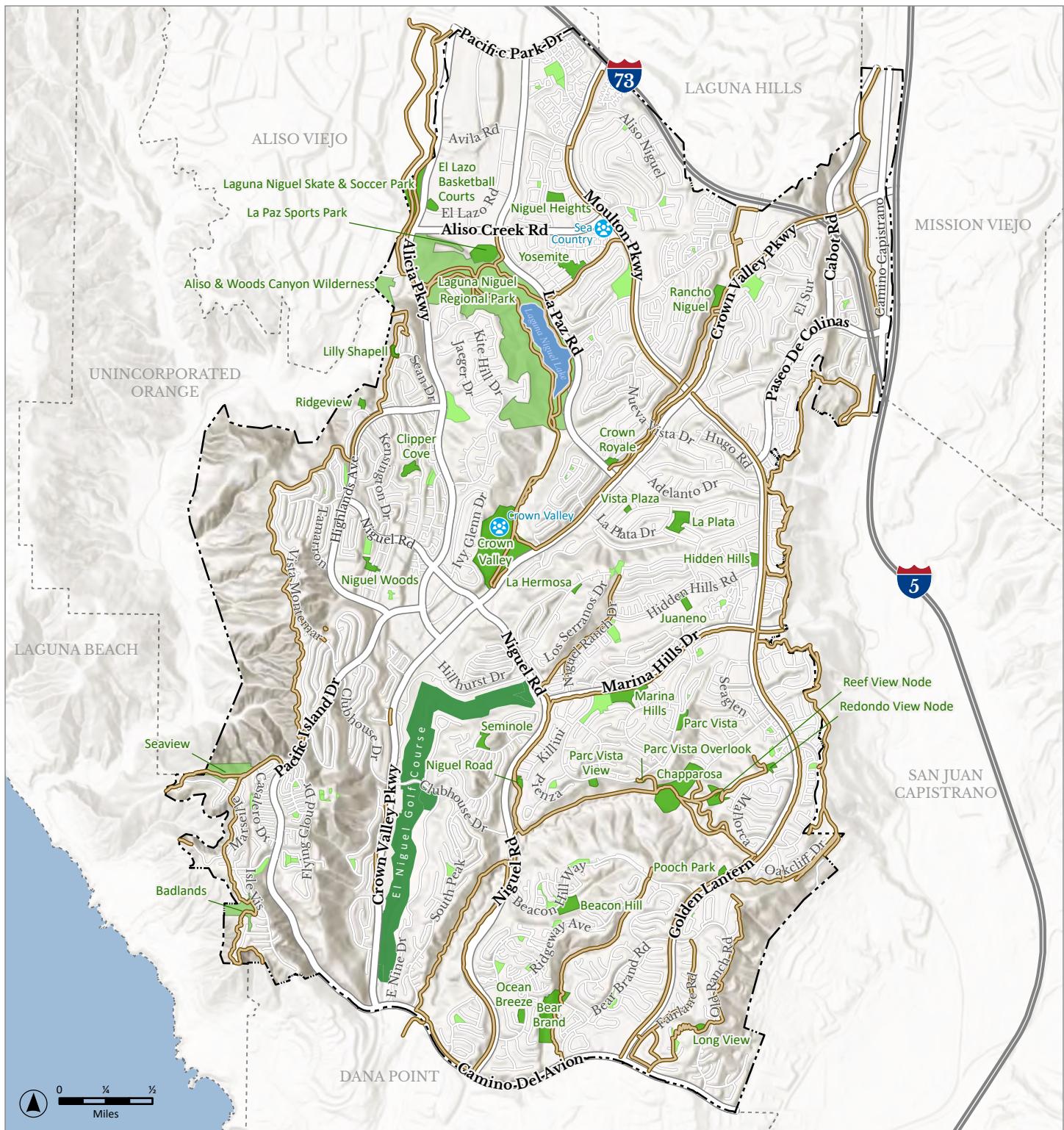
- Elementary School
- Middle School
- High School
- Junior College

Emergency Services

- Orange County Sheriff - Police Services
- Orange County Fire Authority Station
- Hospital

Figure 3-5.

Public Services



Data sources: City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
June 7, 2024.

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions
- Community/Senior Center
- Trail
- City Park
- County Park
- Private Community Park
- El Niguel Country Club Golf Course

Figure 3-6.
Parks and Recreation Facilities

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4 HAZARDS, SAFETY, AND NOISE

This chapter addresses issues and topics related to hazards and public safety within the City. Some hazards, such as flooding, may occur naturally. Others may be the result of natural hazards exacerbated by human activities, such as development in areas prone to flooding. Additional hazards are entirely human made, including exposure to hazardous materials and airport crash hazards.

This chapter also addresses topics related to noise and vibration, including descriptions of the characteristics of sound and noise and existing transportation, stationary, and construction noise sources within the City. Seismic hazards are discussed in Chapter 5, Conservation, under Geology, Soils, and Seismicity.

This chapter includes the following sections:

- 4.1 Hazardous Materials and Waste
- 4.2 Air Traffic
- 4.3 Fire Hazards
- 4.4 Flooding
- 4.5 Resiliency Planning
- 4.6 Noise and Vibration

4.1 HAZARDOUS MATERIALS AND WASTE

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

Hazardous waste is the subset of hazardous materials that have been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

The current Laguna Niguel General Plan addresses the topic of hazardous materials and waste within the Seismic/Public Safety and Public Facilities Element. In addition, the Circulation Element has policies that provide for the safe and expeditious transport of hazardous materials.

4.1.1 Environmental Setting

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The California Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

The Cortese List is comprised of information from the following resources:

- List of Hazardous Waste and Substances sites from the DTSC's EnviroStor database;
- List of Leaking Underground Storage Tank (LUST) sites from the State Water Board's GeoTracker database;
- List of solid waste disposal sites identified by the State Water Board with waste constituents above hazardous waste levels outside the waste management unit;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Board;
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, as identified by DTSC.

EnviroStor Data Management System

The California Department of Toxic Substances Control maintains the EnviroStor data management system, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation/Investigation Sites. The hazardous waste facilities include Permitted-Operating, Post-Closure Permitted, and Historical Non-Operating.

There are no active cleanup site locations within Laguna Niguel according to the EnviroStor database.¹ Table 4-1 shows four sites within the City. Three sites are under “School Evaluation,” where two of the three sites (Elementary School and Proposed Community School #8) are designated as “No Action Required”, and the third one (Laguna Niguel Elementary) is considered “Inactive-Needs Evaluation”. The fourth site (Green Tree Electronic Recycling) is listed under “Inspection” and is designated as “No Action.” The “Elementary School” location received a Phase I Environmental Site Assessment (ESA) in 2001 which found no evidence for potentially impacted soil and/or groundwater at the site, meaning no further investigations into the release of hazardous materials are warranted.² The Green Tree Electronic Recycling facility received an inspection of July 25, 2022, where no violations were found. The cleanup status for the “Laguna Niguel Elementary School” facility is deemed inactive and needs further evaluations as of December 12, 2000. Proposed Community School #8 received a Phase I Environmental Site Assessment (ESA) in 2006 and found no known environmental conditions associated with the project site meaning no further investigations are needed.

¹ California Department of Toxic Substances Control. EnviroStor Site / Facility Search, <https://www.envirostor.dtsc.ca.gov/public/search?basic=True>, accessed August 17, 2023.

² Ibid

Table 4-1: EnviroStor Database Site/Facility List

Site Name	Program Type	Status	Address Description
Elementary School	School Evaluation	No Action Required	Aliso Creek Road/Niguel Heights Boulevard
Green Tree Electronic Recycling	Inspection	No Action	28052 Camino Capistrano #107
Laguna Niguel Elementary School	School Evaluation	Inactive- Needs Evaluation	Moulton Parkway/Aliso Niguel
Proposed Community School #8	School Evaluation	No Action Required	Paseo De Colinas

SOURCE: CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL, ENVIROSTOR SITE / FACILITY SEARCH, [HTTPS://WWW.ENVIROSTOR.DTSC.CA.GOV/PUBLIC/SEARCH?BASIC=TRUE](https://www.envirostor.dtsc.ca.gov/public/search?basic=true), ACCESSED AUGUST 17, 2023

GeoTracker

GeoTracker is the California State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Leaking Underground Storage Tank Sites, Department of Defense Sites, Cleanup Program Sites).

Leaking Underground Storage Tanks (LUST)

There are 36 locations within the City that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST).³ Table 4-2 lists the site name for LUSTs and the status of each site. As shown in the table, all LUST sites in Laguna Niguel have a status of Completed – Case Closed.

³ California State Water Resources Control Board, GeoTracker, <https://geotracker.waterboards.ca.gov/search>, accessed August 17, 2023.

HAZARDS, SAFETY, AND NOISE

Table 4-2: Geotracker Database LUST Sites

Site Name	Status
Action Moving	Completed - Case Closed
Allen Oldsmobile Cadillac	Completed - Case Closed
Birtcher Niguel Corp	Completed - Case Closed
Boukather & Assoc (Star Motors)	Completed - Case Closed
Cafe Auto Spa	Completed - Case Closed
Chet Holifield building	Completed - Case Closed
Chevron #9-3783	Completed - Case Closed
Clark Foam Products	Completed - Case Closed
Crown Valley Car Wash	Completed - Case Closed
El Niguel Country Club	Completed - Case Closed
El Niguel Country Club	Completed - Case Closed
Exxon	Completed - Case Closed
Fluorcarbons	Completed - Case Closed
Fuel Injection Engineering Co	Completed - Case Closed
Gkn Rentals	Completed - Case Closed
Laguna Niguel Post Office	Completed - Case Closed
Laguna Niguel Regional Park	Completed - Case Closed
Laguna Niguel Touchless Carwash	Completed - Case Closed
Mission Viejo Glass	Completed - Case Closed
Mobil	Completed - Case Closed
Monarch Laguna Associates/Regis Homes Corp	Completed - Case Closed
OC Fire Station #49	Completed - Case Closed
Orange County Fire Station #49	Completed - Case Closed
Orange County Fire Station #5	Completed - Case Closed
Pacific Bell	Completed - Case Closed
Pennysaver	Completed - Case Closed
Rancho Reservoir Pump Station	Completed - Case Closed
SBC	Completed - Case Closed
Sepulveda Building Materials	Completed - Case Closed
Sepulveda Building Materials	Completed - Case Closed
Shell Oil	Completed - Case Closed
Shell Oil	Completed - Case Closed
South County Fueling Station	Completed - Case Closed
Texaco	Completed - Case Closed
Texaco	Completed - Case Closed
US Post Office	Completed - Case Closed

SOURCE: CALIFORNIA STATE WATER RESOURCES CONTROL BOARD. GEOTRACKER,
[HTTPS://GEOTRACKER.WATERBOARDS.CA.GOV/SEARCH](https://geotracker.waterboards.ca.gov/search), ACCESSED AUGUST 17, 2023.

Solid Waste Information System

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery (CalRecycle). The SWIS database identifies active, planned, and closed sites, including landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. There are no facilities listed in the SWIS database located within the City.⁴

Oil Wells

The California Department of Conservation, Geologic Energy Management Division (CalGEM) oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal energy wells. Regulatory programs emphasize the development of oil, natural gas, and geothermal resources in the State through sound engineering practices that protect the environment, prevent pollution, and ensure public safety. See Figure 4-1 for the oil and gas wells in the City.

According to CalGEM, there is one plugged and abandoned well located in the southeastern portion of the City.⁵ CalGEM is responsible for implementing Section 3208.1 of the Public Resources Code (PRC), which authorizes CalGEM to order the reabandonment of a previously abandoned well when construction of any structure over or in proximity to a well could result in a hazard. CalGEM's Construction Site Well Review Program assists local permitting agencies in identifying and reviewing the status of oil or gas wells located near or beneath proposed structures. Before issuing building or grading permits, local permitting agencies review and implement CalGEM's preconstruction well requirements.

Nuclear Hazards

The San Onofre Nuclear Generating Station (SONGS) is located on the Marine Corps Base Camp Pendleton in San Diego County, approximately 11 miles southeast of Laguna Niguel. SONGS ceased operations in 2013 and while it is

⁴ California Department of Resources Recycling and Recovery (CalRecycle). *SWIS Facility/Site Search*, <https://www2.calrecycle.ca.gov/SolidWaste/Site/Search>, accessed August 22, 2023.

⁵ California Department of Conservation, Geologic Energy Management Division (CalGEM). *Well Finder Mapping Application*, <https://maps.conservations.ca.gov/doggr/wellfinder/>, accessed August 22, 2023.

HAZARDS, SAFETY, AND NOISE

in the process of being decommissioned, it still houses nuclear waste.^{6, 7} According to the City's Local Hazard Mitigation Plan (LHMP), Laguna Niguel is located within the Ingestion Pathway Zone. In the event of an incident at SONGS, the public would be notified through radio and television broadcast.

4.1.2 References

California Department of Conservation, Geologic Energy Management Division (CalGEM). *Well Finder Mapping Application*, <https://maps.conservation.ca.gov/doggr/wellfinder/>, accessed August 22, 2023.

California Department of Toxic Substances Control. *EnviroStor Site / Facility Search*, <https://www.envirostor.dtsc.ca.gov/public/search?basic=True>, accessed August 22, 2023.

California State Water Resources Control Board. *GeoTracker*, <https://geotracker.waterboards.ca.gov/search>, accessed August 17, 2023.

California Department of Resources Recycling and Recovery (CalRecycle). *SWIS Facility/Site Search*, <https://www2.calrecycle.ca.gov/SolidWaste/Site/Search>, accessed August 22, 2023.

City of Laguna Niguel, *Laguna Niguel General Plan*, May 1998.

City of Laguna Niguel, *Local Hazard Mitigation Plan (Administrative Draft)*, October 2022.

San Diego County Office of Emergency Services. *SONGS Facts and Preparedness*, https://www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_SONGS.html, accessed February 27, 2024.

⁶ San Diego County Office of Emergency Services. *SONGS Facts and Preparedness*, https://www.sandiegocounty.gov/content/sdc/oes/emergency_management/oes_jl_SONGS.html, accessed February 27, 2024.

⁷ City of Laguna Niguel, *Local Hazard Mitigation Plan (Administrative Draft)*, October 2022.

4.2 AIR TRAFFIC

There are no local, major, military, or private airports located within the City. According to the Orange County Airport Land Use Commission, Laguna Niguel is not located in the Santa Ana Airport Influence Area.⁸ The current General Plan addresses the topic of air traffic within the Circulation Element.

4.2.1 Environmental Setting

Major Regional Airport Facilities

Santa Ana Airport (SNA): The Santa Ana Airport, also known as the John Wayne Airport, is approximately 13.6 miles north of the City. The airport is owned and operated by the County of Orange and is the primary airport serving the County of Orange region.

Long Beach Airport (LGB): The Long Beach Airport is located approximately 31.75 miles north of Laguna Niguel, in the City of Long Beach. This airport is categorized by the FAA as a primary commercial service, small hub airport.

Los Angeles International Airport (LAX): Los Angeles International Airport is approximately 49.38 miles northwest of the City. The airport is located west of Los Angeles and is the primary airport serving the Los Angeles region as well as the primary location for international connections for most of southern California.

⁸ John Wayne Airport Orange County. Airport Land Use Commission, <https://www.ocair.com/about/administration/airport-governance/commissions/airport-land-use-commission/>, accessed February 27, 2024.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board (NTSB) Aviation Accident Database identifies a total of one historical aircraft accident in the City of Laguna Niguel.⁹ The only recorded aircraft accident occurring within the City of Laguna Niguel is from November 16, 1975 (nonfatal). This incident involved a non-commercial flight from San Diego to Santa Ana and occurred during a controlled collision with the ground/water caused by adverse weather conditions.

4.3.1 References

John Wayne Airport Orange County, *Airport Land Use Commission*,
<https://www.ocair.com/about/administration/airport-governance/commissions/airport-land-use-commission/>, accessed February 27, 2024.

National Transportation Safety Board, *CAROL Query*,
<https://data.ntsb.gov/carol-main-public/basic-search>, accessed February 27, 2024.

⁹ National Transportation Safety Board. *CAROL Query*, <https://data.ntsb.gov/carol-main-public/basic-search>, accessed February 27, 2024.

4.3 FIRE HAZARDS

This section addresses the hazards associated with fires in Laguna Niguel. The discussion of fire suppression resources, including fire station locations, is in Chapter 3, Utilities and Community Services. The current General Plan addresses the topics of fire hazards within the Seismic/Public Safety and Public Facilities Element.

4.3.1 Identifying Fire Hazards

Fuel Rank

Fuel rank is a ranking system developed by CAL FIRE that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index.

- The U.S. Forest Service has developed a series of **fuel models**, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior.
- In addition to fuel characteristics, **slope** is an important contributor to fire hazard levels. A surface ranking system has been developed by CAL FIRE, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank is a reflection of the quantity and burn characteristics of the fuels and the topography in a given area.
- The **ladder index** is a reflection of the distance from the ground to the lowest leafy vegetation for tree and plant species.
- The **crown index** is a reflection of the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined in order to establish a fuel rank of medium, high, or very high. Fuel rank is used by CAL FIRE to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CAL FIRE to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The four classes of fire threat range from moderate to extreme.

4.3.2 Fire Hazard Severity Zones

The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for mapping Fire Hazard Severity Zones (FHSZs) within State Responsibility Areas (SRA). FHSZs are classified as moderate, high, and very high. In addition, CAL FIRE must identify and recommend VFHSZ within any Local Responsibility Areas (LRA), which must be adopted by local jurisdictions. On March 24, 2025, CAL FIRE released updated LRA FHSZ maps for Southern California, including the City of Laguna Niguel. On June 3, 2025, the Laguna Niguel City Council adopted the updated state-mandated LRA FHSZ map for Laguna Niguel by ordinance.

The moderate, high, and very high zone classifications do not correspond to a specific risk or intensity of the fire; rather, they reflect a hazard score based on the factors that influence fire likelihood and fire behavior, such as fire history, fuel (e.g., flammable vegetation), terrain, and typical fire weather. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards and are meant to help limit wildfire damage to structures through planning, prevention, and the application of risk reduction measures. Figure 4-2 shows the portions of the Planning Area within a FHSZ. As shown in Figure 4-2, LRA FHSZs in the City include zones designated as Very High, High, and Moderate, primarily located in the western and southern portions of the Planning Area, as well as south of Aliso Creek Road and east of Alicia Parkway. The Planning Area does not contain any FHSZ in an SRA; however, Aliso and Wood Canyons Wilderness Park, located immediately west of the City is an SRA designated VHFHSZ and Moderate FHSZ.

4.3.3 Regional Historic Fires

Historically, there have been few wildfires within and near Laguna Niguel. However, the County of Orange has experienced a number of major fires. Table 4-3, Major Wildfires in Orange County History, identifies the most significant historical fires in Orange County dating back to 1958 in terms of the amount of acreage claimed.

Table 4-3: Major Wildfires in Orange County History

Name	Year	Acres ¹
Steward	1958	69,444
Paseo Grande	1967	51,075
Indian	1980	28,938
Owl	1980	18,332
Gypsum	1982	19,986
Assist 108	1989	13,478
Laguna	1993	14,337
Ortega	1993	21,010
Sierra Peak	2006	10,515
Santiago	2007	28,517
Freeway Complex	2008	30,305
Silverado	2020	12,465
Blue Ridge	2020	13,694

SOURCE: COUNTY OF ORANGE AND ORANGE COUNTY FIRE AUTHORITY, LOCAL HAZARD MITIGATION PLAN, DECEMBER 2021.

NOTES: (1) MAJOR FIRES IN ORANGE COUNTY ARE DEFINED AS BURNING MORE THAN 10,000 ACRES IN TOTAL.

In addition to the fires listed in Table 4-3, the May 2022 Coastal Fire occurred in the City. The fire originated in Aliso and Wood Canyons Wilderness Park in the City of Laguna Beach and driven by strong winds spread to the Coronado Pointe neighborhood in Laguna Niguel.¹⁰ The fire burned approximately 200 acres and destroyed 20 homes and damaged an additional 12 homes.

¹⁰ City of Laguna Niguel, 2022. *Coastal Fire*. <https://www.cityoflagunaniguel.org/1502/Coastal-Fire>, accessed September 18, 2024.

4.3.4 Fire Hazards and Open Space

Figure 4-2 includes both the FHSZ map layer (LRAs) and the current General Plan Open Space land use designation layer. The map depicts the correlation between areas categorized as Very High, High, and Moderate Fire Severity Zones and Open Space. These areas are along the western and southern portions of Laguna Niguel, as well as the area east of Crown Valley Parkway.

4.3.5 References

California Department of Forestry and Fire Protection (CAL FIRE), *FHSZ Viewer*, <https://egis.fire.ca.gov/FHSZ/>, accessed March 25, 2025.

City of Laguna Niguel, 2022. *Coastal Fire*. <https://www.cityoflagunaniguel.org/1502/Coastal-Fire>, accessed September 18, 2024.

County of Orange and Orange County Fire Authority, *Local Hazard Mitigation Plan*, December 2021.

4.4 FLOODING

This section addresses the hazards associated with flooding in the Laguna Niguel. The discussion of storm drainage infrastructure is in Chapter 3, Utilities and Community Services. The discussion of hydrological conditions and water quality is in Chapter 5, Conservation. The current General Plan addresses the topics of flooding and flood hazards within the Public Facilities Element and Seismic/Safety Element. In addition, the Community Service Standards Element identifies level of service standards related to flood control facilities to prevent flooding.

4.4.1 Environmental Setting

Flooding is a temporary increase in water flow that overtops the banks of a river, stream, or drainage channel to inundate adjacent areas not normally covered by water.

The City is largely developed with suburban residential communities, commercial areas, and has natural scenic landscapes. The 2023 City of Laguna Niguel Local Hazard Mitigation Plan (LHMP) identifies the greatest flood risk within the City to be due to urbanized flooding, which generally results from damaged infrastructure, under engineered infrastructure, and/or blockage of infrastructure. For additional information on stormwater and drainage infrastructure see Chapter 5, Utilities and Community Services.

FEMA Flood Zones

The Federal Emergency Management Agency (FEMA) has a database that maps flood potential across the United States. FEMA mapping provides important guidance for cities in planning for flooding events and regulating development within identified flood hazard areas. FEMA's National Flood Insurance Program (NFIP) is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). Special Flood Hazard Areas (SFHA) identified by FEMA are referred to as the 100-year flood hazard areas. A 100-year flood hazard area is defined as an area that will be inundated by a flood event having a one-percent chance of being equaled or exceeded in any given year.

As shown in Figure 4-3, the City includes several pockets of 100-year flood zones¹¹ and a few areas within 500-year flood zones in the northern portion of Laguna Niguel. The rest of the City is outside of these flood hazard zones, with a minimal risk of flooding.

¹¹ Federal Emergency Management Agency. FEMA Flood Map Service Center, <https://msc.fema.gov/portal/search?AddressQuery=laguna%20niguel>, accessed February 27, 2024.

Dam Inundation

According to the California Department of Water Resources Division of Safety of Dams, only one small portion of the City is located within a dam inundation area of the Sulphur Creek (No. 1012-7) dam, located along La Paz Road.¹² The Division of Safety of Dams categorizes the Sulphur Creek Dam as a Reinforced Concrete Tank with a “High” downstream hazard potential, meaning dam failure would be expected to cause loss of at least one human life. According to the 2022 *Dams Within Jurisdiction of the State of California*, published by the Division of Safety of Dams, the Sulphur Dam were given a condition assessment of “Satisfactory,” meaning no existing or potential dam safety deficiencies are recognized. Figure 4-4 shows dam inundation areas within the City.

4.4.2 Flooding Hazards and Open Space

Figure 4-3, includes both the FEMA Flood Zone designations and the current General Plan Open Space land use designation layer. The multiple pockets of 100-year Flood Zones tend to be situated within or near Parks and Recreation and Open Space areas in Laguna Niguel.

4.4.3 References

California Department of Water Resources, Division of Safety of Dams. *Dam Breach Inundation Map Web Publisher*, https://fmnds.water.ca.gov/webgis/?appid=dam_prototype_v2, accessed February 27, 2024.

California Department of Water Resources, Division of Safety of Dams. *Dams Within Jurisdiction of the State of California*, September 2022.

Federal Emergency Management Agency. *FEMA Flood Map Service Center*, <https://msc.fema.gov/portal/search?AddressQuery=laguna%20niguel>, accessed February 27, 2024.

¹² California Department of Water Resources, Division of Safety of Dams. *Dam Breach Inundation Map Web Publisher*, https://fmnds.water.ca.gov/webgis/?appid=dam_prototype_v2, accessed February 27, 2024.

4.5 RESILIENCY PLANNING

This section covers environmental hazards associated with greenhouse gas emissions along with strategies for building resilience and adapting to them. For additional information on the environmental challenges associated with greenhouse gases, see Chapter 7, Conservation. Information in this section is sourced primarily from the State's *Fourth Climate Change Assessment* (2019).

The current General Plan does not contain goals or policies specific to the environmental challenges associated with greenhouse gas emissions (GHGs) but does contain several goals and policies that indirectly support resiliency planning. The Circulation Element contains policies that support an improved transit system and increase active modes of transportation in Laguna Niguel. The Public Facilities Element contains resilient planning strategies that would help the City address environmental challenges associated with increased GHGs, such as risks associated with flooding and fire hazards.

4.5.1 Background

The rise in GHG emissions largely due to human activities has impacted environments both locally and globally. These changes are manifesting in varied environmental health and infrastructure consequences for different countries, regions, and states, necessitating a change in public policy decision-making to adapt to a new environment. Resiliency planning presents strategies that would help ensure that communities, ecosystems, and built infrastructure are better equipped to withstand the environmental impacts associated with GHG emissions.

Over the next century, increasing atmospheric GHG concentrations are expected to cause a variety of changes to global climate conditions, including sea level rise and storm surge in coastal areas, increased riverine flooding, and higher temperatures more frequently (leading to extreme heat events and wildfires), particularly in inland areas. Local impacts stemming from GHG related conditions range from impacts to water quality and supply, public health, air quality, wildfires, and infrastructure. While weather changes are a normal, short-term change in atmospheric condition, climate change refers to changes in long-term averages in atmospheric condition. Scientists attribute recent environmental trends to human expansion of greenhouse gases into the atmosphere. This environmental hazard can cause extreme weather conditions, including heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes.

Because local governments largely determine the shape of development through land use plans, regulations, and implementing decisions, local governments play an important role in developing climate change strategies, including resilience planning and adaptation. Inasmuch as local governments play an important role in adaptation strategies through local land use plans and policies, many resiliency planning strategies will need to be coordinated as part of a larger regional or statewide strategy requiring cooperation by many local governments and decision-making and regulatory bodies.

4.5.2 Environmental Setting

Communities in California are increasingly vulnerable to the effects of climate change. California's *Fourth Climate Change Assessment* identifies the Los Angeles Region (which includes Ventura, Los Angeles, and Orange Counties, along with adjacent urbanized portions of San Bernardino and Riverside Counties) as especially vulnerable to humans since approximately half the population of the State calls the region home. The report's key projected climate changes include:

- Continued future warming over the Los Angeles Region. Across the region, average maximum temperatures are projected to increase by around 4-5 degrees F by mid-century, and 5-8 degrees F by late-century.
- Extreme temperatures are expected to increase. The hottest day of the year may be up to 10 degrees F warmer for many locations across the Los Angeles Region by late-century under the "business-as-usual" scenario. The number of extremely hot days is also expected to increase across the region.
- Despite small changes in average precipitation, dry and wet extremes are both expected to increase. By the late-21st century, the wettest day of the year is expected to increase across most of the Los Angeles Region, with some locations experiencing 25-30 percent increases under the "business-as-usual" scenario. Increased frequency and severity of atmospheric river events are also projected to occur.
- Sea levels are projected to continue to rise in the future, but there is a large range based on emissions scenarios and uncertainty in feedback in the climate system. Roughly 1-2 feet of sea level rise is projected by mid-century, and the most extreme projections lead to 8-10 feet of sea level rise by the end of the century.
- Projections indicate that wildfire may increase over southern California, but there remains uncertainty in quantifying future changes of burned area over the Los Angeles Region.

Other studies have indicated that a variety of changes to local climate conditions as a result of climate change are expected to occur, leading to several local conditions that may affect the region. For the City of Laguna Niguel, possible future local conditions may include increased urban flooding (from overwhelmed stormwater infrastructure), higher temperatures, more frequent heat waves (leading to extreme heat events), water quality and water supply impacts, impacts to regional air quality (particularly from wildfires), and other public health impacts.

Flooding

Precipitation change is a climate variable that is directly affected by changes in global atmospheric and oceanic temperatures. Projected changes in precipitation include annual trend changes as well as extreme precipitation events. Although the City may not be impacted by riverine flooding, which occurs when heavy rainfall causes rivers or creeks to overtop their banks and inundate surrounding areas, it is subject to urban flooding which can occur when local stormwater infrastructure is overwhelmed during extreme precipitation events. According to California's *Fourth Climate Change Assessment*, differing models generally project small changes in precipitation over the Los Angeles Region, which exhibits highly variable precipitation from year to year. Nonetheless, both dry and wet extremes are expected to increase in the region. More extreme storms and precipitation events could cause urban flood risks to worsen, increasing the likelihood of damaging infrastructure, increasing erosion, and overwhelming sewage treatment systems, which may reduce water quality and impact public health.

Water Supply and Quality

According to the *Climate Change and Health Profile Report – Orange County*, overall mean precipitation amounts are expected to decrease slightly by 2050. It is also expected that climate change will likely impact water demand, water supply, and water quality of both surface and ground water. The same study notes that for the South Coast Region, low-lying coastal areas will lose up to 2 inches of precipitation by 2050 and 3–5 inches by 2090, while higher elevations will see a drop of 4–5 inches by 2050 and 8–10 inches by 2090. In the South Coast Region, the March snowpack in the San Gabriel Mountains is projected to decrease from the 0.7-inch level in 2010 to zero by the end of the century. With resulting decreased stream flows and higher temperatures, impacts could include a reduction of fish habitat, increased surface water temperatures, pollutant levels, and sedimentation, intensified algal growth, and subsequently, more harmful algal blooms. Through sea level rise, salt water may intrude into coastal aquifers thus reducing quality and quantity of water supply. The decreased water quality could further deteriorate as pollutant concentrations increase due to reduced water levels and recharge from drought and lack of snowpack.

Extreme Heat

Temperature (near surface) is a variable that is directly affected by the rise in GHG emissions and oceanic conditions. While trends in average annual temperature are an important indicator of climate change, extreme temperature events have greater impacts on society due to their episodic nature. Therefore, vulnerability and risk assessments tend to specifically focus on extreme heat events and not on average temperature changes. While extreme heat events can have various durations, Cal-Adapt defines an extreme heat event as a period of four or more consecutive extreme heat days.¹³ Cal-Adapt defines an extreme heat day in a given region as a day in April through October where the maximum temperature exceeds the 98th historical percentile of maximum temperatures for that region based on daily temperature data from 1961 to 1990.¹⁴ The 98th historical percentile of maximum temperatures varies by locality and inland areas tend to be at a greater risk of extreme heat events when compared to areas near the coast.

As noted in California's *Fourth Climate Change Assessment*, the number of extreme heat days in southern California is expected to increase considerably by the middle of the century as a result of climate change. Extreme heat is one of the most significant health impacts of climate change and already causes more deaths each year in the United States than floods, storms, and lightning combined. Increasing high heat days from climate change can have a number of impacts on communities, including heat-related illness and death, and can also exacerbate certain existing medical conditions. The magnitude of impacts depends on many factors, including geographic location, demographics, and availability of adaptive strategies such as air conditioning. It is also noted that more frequent and intense high heat events would result in a higher electricity demand, which could result in blackouts with potentially devastating results.

¹³ Cal-Adapt, *Glossary*, <https://cal-adapt.org/help/glossary/>, accessed February 27, 2024.

¹⁴ Cal-Adapt, *Extreme Heat Days & Warm Nights*, <https://cal-adapt.org/tools/extreme-heat>, accessed February 27, 2024.

Elements of the built environment can contribute to heat-related health impacts. Specifically, high concentrations of impervious surfaces such as pavements and roofs and minimal tree canopy and green space create “urban heat islands” in heavily urbanized areas. Urban heat islands in non-tropical regions experience temperatures up to 5.4°F. Extreme heat is also significant because of how it contributes to other climate impacts: extreme heat increases concentrations of ground-level ozone, contributing to poor air quality. Extreme heat and drought decrease soil moisture and increase plant mortality, factors that contribute to larger wildfires and poorer air quality. Plant die-offs also reduce available shade and evaporative cooling, raising surrounding temperatures and reducing the thermal comfort of pedestrians.

Increased Risk and Spread of Diseases

As discussed in the *Climate Change and Health Profile Report – Orange County*, in addition to the health impacts related to air and water quality, warmer temperatures and drought conditions can contribute to the spread of diseases by aiding development and spread of the vectors that transmit them. A vector-borne disease (VBD) is one caused by a virus, bacteria, or protozoan that spends part of its lifecycle in a host species (e.g., mosquitoes, ticks, fleas, rodents), which subsequently spreads the disease to other animals and people.

Regional research assessments have previously concluded that environmental hazards from GHG emissions and variability are highly likely to influence current VBD spread, including both short-term outbreaks and shifts in long-term disease trends. For example, as temperatures rise, changes in aquatic environments could occur, such as an increase in harmful algal blooms, which lead to an increase in foodborne and waterborne illnesses.

In Orange County, the Aedes mosquitoes are one of the invasive species infesting the County neighborhoods.¹⁵ These invasive mosquitoes bite aggressively during the day and can spread a variety of disease, including chikungunya, yellow fever, and dengue, as seen with recent outbreaks in Florida and Texas. Once established, mosquitoes can reproduce in extremely small amounts of water and are very difficult to control.

The California Department of Public Health further notes three vector-borne diseases that climate change may impact in the State: hantavirus, malaria, and West Nile virus (WNV). As the ecology of vectors change with climate, exposure to disease in people may increase significantly.

4.5.3 Climate Change and Resilience Planning Efforts

State Efforts in Climate Adaptation

To support local and regional adaptation planning efforts, the State has developed an integrated set of policies and tools. Key resources include documents that summarize climate impacts in sectors and regions and provide adaptation guidance, such as California's *Fourth Climate Change Assessment*, which summarizes climate impacts and adaptation needs at the State and regional level for use by local decision-makers; and the *Safeguarding California Plan*, which provides a roadmap for the State's climate action goals and how those objectives will be achieved. State programs, such as the Integrated Climate Adaptation and Resiliency Program, provide actionable guidance, decision support tools, and technical assistance, in addition to climate resilience grant programs. Additionally, Cal-Adapt was designed to be a web-based climate adaptation planning tool for local planning efforts with downscaled climate change scenarios and research for regions within California.

¹⁵ Orange County Mosquito and Vector Control District. *Invasive Aedes Mosquitoes*, <https://www.ocvector.org/invasive-aedes-mosquitoes>. Accessed February 27, 2024.

Local and Regional Efforts in Climate Adaptation

Development of GHG emissions inventories for the City are expected to occur in future years, including as part of the City's effort to comprehensively update its General Plan. GHG emissions within the City boundaries are closely tied to trends within the region of Orange County and the State of California. In general, the biggest GHG emissions sectors (e.g., building energy and on-road transportation) tend to be affected most heavily by State and regional-level regulations and initiatives (as opposed to local policies). This means that the local government has limited control over the magnitude of local-level GHG emissions. Nevertheless, the City has control over policy decisions that can substantially reduce the community's overall GHG emissions. For example, the local government has substantial control over current and future land uses, parking policies, building energy efficiency and renewable energy requirements, recycling initiatives, and water and wastewater reduction plans and policies. The City also has substantial control over its own government operations, including energy usage within County-operated buildings, County vehicle fleet usage, and street lighting. The City will continue to work closely with neighboring jurisdictions and Orange County to reduce community-wide and municipal-level GHG emissions under its control.

4.5.4 References

California Climate Change Assessment, *California's Fourth Climate Change Assessment: Los Angeles Region Report*, 2018.

California Department of Public Health, *Climate Change and Health Profile Report – Orange County*, 2017.

California Governor's Office of Emergency Services, *California Adaptation Planning Guide*, June 2020.

California Natural Resources Agency, *Safeguarding California Plan: 2018 Update*, January 2018.

Intergovernmental Panel on Climate Change, *Climate Change 2023: Synthesis Report (AR6)*, 2023.

Orange County Mosquito and Vector Control District. *Invasive Aedes Mosquitoes*, <https://www.ocvector.org/invasive-aedes-mosquitoes>. Accessed February 27, 2024.

4.6 NOISE AND VIBRATION

This section provides a discussion of the regulatory setting and a general description of existing noise sources in the City. The analysis in this section is primarily from the *General Plan Update Noise Impact Study: City of Laguna Niguel* prepared by MD Acoustics and dated May 2025.

4.6.1 Environmental Setting

Fundamentals of Noise

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Noise is a type of sound that is loud, unpleasant, unexpected, or unwanted.

A continuous sound is described by its frequency (pitch) and its amplitude (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear is capable of hearing from the bass pitch starting at 20 Hz to the high pitch of 20,000 Hz.

The amplitude of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure level (SPL or L_p) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels (abbreviated dB). Because decibels are on a logarithmic scale, sound pressure levels cannot simply be added or subtracted arithmetically. When two sounds of equal SPL are combined, they will produce an SPL 3 dB greater than the single SPL. In other words, sound energy that is doubled produces a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. As such, A-scale weighting is typically used for measuring community noise and is reported in terms of the A-weighted decibel (dBA). The A-scale was designed to account for the frequency-dependent sensitivity of the human ear.

Table 4-4: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), TECHNICAL NOISE SUPPLEMENT TO THE TRAFFIC NOISE ANALYSIS PROTOCOL, 2013.

Noise Descriptors

A-Weighted Sound Level (dBA): The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL): The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night between 10:00 PM and 7:00 AM.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

L(n): The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly, L50, L90, L99, etc.

Effects of Noise on People

In general, the human ear can barely perceive a change in the noise level of 3 dB. As shown in Table 4-5, a change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Table 4-5: Perceived Changes in Noise Levels

Changes in Intensity Level, dBA	Changes in Apparent Loudness
1	Not perceptible
3	Just perceptible
5	Clearly noticeable
10	Twice (or half) as loud

SOURCE: CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), TECHNICAL NOISE SUPPLEMENT TO THE TRAFFIC NOISE ANALYSIS PROTOCOL, 2013.

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet or more from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

Ground-Borne Vibration Fundamentals

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors, where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and mainly exists indoors since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

Vibration Descriptors

Peak particle velocity (PPV): The maximum instantaneous peak in vibration velocity, typically given in inches per second.

Root mean squared (RMS): Used to denote vibration amplitude.

Vibration level (VdB): Describes the vibration level for a vibration source.

Effects of Vibration on People

Typical human reaction and effect on buildings due to ground-borne vibration is shown in Table 4-6.

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Outdoor sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration.

Table 4-6: Typical Human Reaction and Effect on Buildings Due to Ground-Borne Vibration

Vibration Level Peak Particle Velocity (PPV)	Human Reaction	Effect on Buildings
0.006–0.019 in/sec	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08 in/sec	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10 in/sec	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20 in/sec	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6 in/sec	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

SOURCE: CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS), CALTRANS TRANSPORTATION AND CONSTRUCTION VIBRATION GUIDANCE MANUAL, 2020.

4.6.2 Existing Noise Levels

Existing land uses within the Project Area include single and multiple-family residential development, commercial, industrial, open space, and public facility land uses. Noise sources associated with existing land uses include residential maintenance, parking lot noise, heating, and cooling system (HVAC) noise, property maintenance noise, trash truck noise, loading and unloading noise, and recreational noise.

Five long-term 24-hour noise measurements and eight short-term 15-minute noise measurements were conducted throughout the Planning Area to document the existing noise environment. Figure 4-5, Noise Measurement Locations, shows the locations of these measurements.

Eight short-term noise measurements (15-minute) were taken on February 18 and February 19, 2025, in order to document the daytime Leq level at different locations throughout the Planning Area. Measured noise levels ranged between 47.2 and 68.0 dBA Leq. Vehicle noise along Crown Valley Parkway, Golden Lantern, and Niguel Road were the primary sources of ambient noise. Short-term noise measurement results are presented in Table 4-7, Short-Term Noise Measurement Summary.

Table 4-7: Short-Term Noise Measurement Summary

Noise Measurement Location	Approximate Location	Start Time	A-Weighted Sound Level (dBA)							
			Leq	L _{max}	L _{min}	L(2)	L(8)	L(25)	L(50)	L(90)
ST1	27611 La Paz Rd	12:40 PM	67.6	80.3	53.1	75	71.9	68.4	64.2	56.6
ST2	24682 Monita Circle	12:12 PM	66.6	80.5	49	74.9	70.2	67	63	56.4
ST3	25891 Crown Valley Pkwy	11:15 PM	74.2	90.4	63	79.5	77.9	75	71.4	66.7
ST4	28922 Golden Lantern	10:45 PM	61.2	74.8	49.2	66.9	64.2	61.9	59.7	54
ST5	28282 Sorrento	9:55 PM	67.6	78.9	57.7	74.9	71.6	67.8	64.9	61
ST6	25193 Chapparosa Park Rd	9:32 PM	47.2	61.8	37.3	53.2	50.5	47.3	45.2	41.3
ST7	25189 Beacon Hill Way	9:00 PM	68	78.5	41.4	76.1	73.3	68.4	62.9	52
ST8	32525 Niguel Rd	8:29 PM	65.8	81.7	54.5	72	69.4	66.8	64	58.5

SOURCE: MD ACOUSTICS, LLC, CITY OF LAGUNA NIGUEL GENERAL PLAN UPDATE NOISE IMPACT STUDY, MAY 5, 2025.

NOTES: 15-MINUTE DURATION.

dBA = A-WEIGHTED DECIBELS; LEQ = EQUIVALENT NOISE LEVEL; LMAX = MAXIMUM NOISE LEVEL; LMIN = MINIMUM NOISE LEVEL; LN = NOISE LEVEL EXCEEDED N PERCENT OF THE MEASUREMENT PERIOD.

Five long-term noise measurements (24 consecutive hours) were taken on February 18 through February 19, 2025, in order to document the CNEL at different locations throughout the Planning Area. As shown in [Table 4-8, Long-Term Noise Measurement Summary](#), the measured noise was 72.7 dBA CNEL at 70 feet from the centerline of Pacific Park Drive and 150 feet from the centerline of Alicia Parkway, 75.6 dBA CNEL at 64 feet from the centerline of Alicia Parkway, 62.3 dBA CNEL at 130 feet from the centerline of Crown Valley Parkway, 68.1 dBA CNEL at 35 feet from the centerline of Pacific Island Drive, and 71.6 dBA CNEL at 70 feet from the centerline of Golden Lantern and 105 feet from the centerline of Camino Del Avion. The primary noise source was vehicle traffic. [Table 4-8](#) also outlines the daytime (7:00 a.m. to 7:00 p.m.), evening (7:00 p.m. to 10:00 p.m.), and nighttime (10:00 p.m. to 7:00 a.m.) Leq levels at each location. These represent the average level over each time period (day/evening/night).

Table 4-8: Long-Term Noise Measurement Summary

Noise Measurement Location	Approximate Location	Description	A-Weighted Sound Level (dBA)			
			Daytime Leq	Evening Leq	Nighttime Leq	CNEL
LT1	2 Brandy Lane	Alicia Pkwy and Pacific Park Dr traffic noise	70.6	69.5	64.0	72.7
LT2	27745 Alicia Pkwy	Alicia Pkwy (south of Avila Rd) traffic noise	73.9	71.3	67.0	75.6
LT3	23732 Hillhurst Dr	Crown Valley Pkwy traffic noise	62.8	56.4	52.0	62.3
LT4	31412 Paseo De La Playa	Pacific Island Dr traffic noise	68.1	64.2	57.6	68.1
LT5	32411 Golden Lantern	Golden Lantern and Camino Del Avion traffic noise	71.8	65.4	61.8	71.6

SOURCE: MD ACOUSTICS, LLC, CITY OF LAGUNA NIGUEL GENERAL PLAN UPDATE NOISE IMPACT STUDY, MAY 5, 2025.

NOTES: 24-HOUR DURATION.

DBA = A-WEIGHTED DECIBELS; LEQ = EQUIVALENT NOISE LEVEL; LMAX = MAXIMUM NOISE LEVEL; LMIN = MINIMUM NOISE LEVEL; LN = NOISE LEVEL EXCEEDED N PERCENT OF THE MEASUREMENT PERIOD.

The primary sources of noise in the Planning Area are transportation-related noises. Major roadways create ambient noise levels that affect the overall quality of life in the community. Modeled existing noise levels provided in [Table 4-9, Existing Short-Term Noise Measurement Summary](#), and on [Figure 4-6, Existing Roadway Noise Level Contours \(CNEL\)](#).

It should be noted that the modeled noise contours do not take into account factors such as existing buildings, walls, etc., that may reduce or, in some cases, amplify or reduce noise sources. The model also assumes hard site, when in reality, some areas of the City have soft site ground, such as grass or dirt, which would result in reduced noise levels. Therefore, the modeled noise levels are conservative. Measured noise levels provided in [Table 4-7](#) and [Table 4-8](#) do take into account existing structures, as well as other existing noise sources.

HAZARDS, SAFETY, AND NOISE

Those areas in the City that currently experience sound levels greater than 65 dBA CNEL are typically near major vehicular transportation corridors. Traffic noise levels typically depend on three factors: (1) the volume of traffic, (2) the average speed of traffic, and (3) the vehicle mix (i.e., the percentage of trucks versus automobiles in the traffic flow). Vehicle noise includes noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include the distance from the highway, terrain, heavy vegetation, and natural and structural obstacles. While tire noise from automobiles is generally located at ground level, some truck noise sources may emanate from 12 feet or more above the ground.

Table 4-9: Existing Short-Term Noise Measurement Summary

Roadway	Segment Limits	CNEL, dBA at 50 feet	Distance to Contour (feet)			
			CNEL, 70 dBA	CNEL, 65 dBA	CNEL, 60 dBA	CNEL, 55 dBA
Pacific Park Drive	Alicia Parkway to La Paz Road	72.8	95	299	946	2,992
Alicia Parkway	Pacific Park Drive to Avila Road	73.7	116	368	1,165	3,684
La Paz Road	Pacific Park Drive to Avila Road	69.6	45	143	451	1,426
Moulton Parkway	North of Avila Road	72	79	250	790	2,498
Alicia Parkway	Avila Road to Aliso Creek Road	73.4	109	345	1,090	3,446
La Paz Road	Avila Road to Aliso Creek Road	70	50	158	499	1,577
Moulton Parkway	Avila Road to Aliso Creek Road	72.4	87	276	874	2,763
Aliso Creek Road	Alicia Parkway to La Paz Road	72.5	89	283	894	2,827
Aliso Creek Road	La Paz Road to Moulton Parkway	67.4	27	87	275	869
Alicia Parkway	Aliso Creek Road to Highlands Avenue	75.3	170	539	1,703	5,386
La Paz Road	Aliso Creek Road to Rancho Niguel Road	68.5	35	112	353	1,116
Moulton Parkway	Aliso Creek Road to Rancho Niguel Road	74.3	136	429	1,356	4,288
Rancho Niguel Road	Moulton Parkway to Greenfield Drive	66.4	22	69	218	690
Crown Valley Parkway	Greenfield Drive to Cabot Road	74.6	144	455	1,438	4,546
Crown Valley Parkway	Cabot Road to Forbes Road	78.1	324	1,024	3,240	10,244
Moulton Parkway	Rancho Niguel Road to Crown Valley Parkway	72.5	88	279	883	2,793
Crown Valley Parkway	Moulton Parkway/Golden Lantern to Greenfield Drive	75.4	173	547	1,728	5,465
Paseo de Colinas	Golden Lantern to Cabot Road	70.3	54	171	540	1,709
Paseo de Colinas	Cabot Road and Camino Capistrano	68.9	39	124	392	1,240
Alicia Parkway	Highlands Avenue to Niguel Road	75.5	177	559	1,766	5,586
Crown Valley Parkway	La Paz Road to Moulton Parkway/Golden Lantern	73.1	102	321	1,016	3,213
Golden Lantern	Crown Valley Parkway to Paseo de Colinas	71.9	78	246	778	2,460

Crown Valley Parkway	Niguel Road to La Paz Road	73	101	319	1,009	3,189
Golden Lantern	Paseo de Colinas to Marina Hills Drive/Camino Los Padres	74	126	398	1,258	3,978
Crown Valley Parkway	Alicia Parkway to Club House Drive	73.4	109	343	1,086	3,434
Niguel Road	Crown Valley Parkway to Marina Hills Drive	69.4	43	137	434	1,371
Pacific Island Drive	Club House Drive to Starview Lane	64	12	39	125	395
Niguel Road	Marina Hills Drive to Club House Drive	70.1	52	163	516	1,632
Golden Lantern	Chapparosa Park Road to Beacon Hill Way	71.9	78	247	781	2,471
Crown Valley Parkway	Club House Drive to Pacific Island Drive/Camino Del Avion	74.1	128	406	1,284	4,016
Niguel Road	Ridgeway Avenue to Camino Del Avion	70.1	51	161	510	1,614
Golden Lantern	Beacon Hill Way to Camino Del Avion	72.5	89	280	886	2,803
Camino Del Avion	Crown Valley Parkway to Niguel Road	68	31	99	315	995
Camino Del Avion	Niguel Road to Golden Lantern	69.7	46	147	463	1,465

SOURCE: MD ACOUSTICS, LLC, CITY OF LAGUNA NIGUEL GENERAL PLAN UPDATE NOISE IMPACT STUDY, MAY 5, 2025.

NOTES: EXTERIOR NOISE LEVELS CALCULATED AT 5-FEET ABOVE GROUND. NOISE LEVELS CALCULATED FROM CENTERLINE OF SUBJECT ROADWAY. CONTOUR DISTANCES DO NOT TAKE INTO ACCOUNT POTENTIAL NOISE REDUCTION FROM EXISTING BARRIERS SUCH AS BUILDINGS, WALLS OR BERMS AS A WORST-CASE SCENARIO FOR PLANNING SCREENING PURPOSES. OVERALL LEVELS ARE LIKELY LOWER AT SENSITIVE RECEPTORS.

Airport and Aircraft Noise

There are no airports located within the Project Area, and the Project Area is not located within any airport noise contours. The closest airport to the Project Area is the John Wayne Airport, located over 10 miles northwest of the Project Area. The noise contours associated with airports do not encroach into the Project Area.

4.6.3 Existing Vibration

The main sources of vibration in the Planning Area are related to vehicles, construction, and railway. Typical roadway traffic, including heavy trucks, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. However, there have been cases in which heavy trucks traveling over potholes or other discontinuities in the pavement have caused vibration high enough to result in complaints from nearby residents. These types of issues typically can be resolved by smoothing the roadway surface.

HAZARDS, SAFETY, AND NOISE

Construction activities that produce vibration perceived by adjacent land uses include the use of vibratory equipment, large bulldozers, and pile drivers. The primary source of vibration during construction is usually from a bulldozer. A large bulldozer has a peak particle velocity of 0.089 inches per second (87 VdB) at 25 feet.

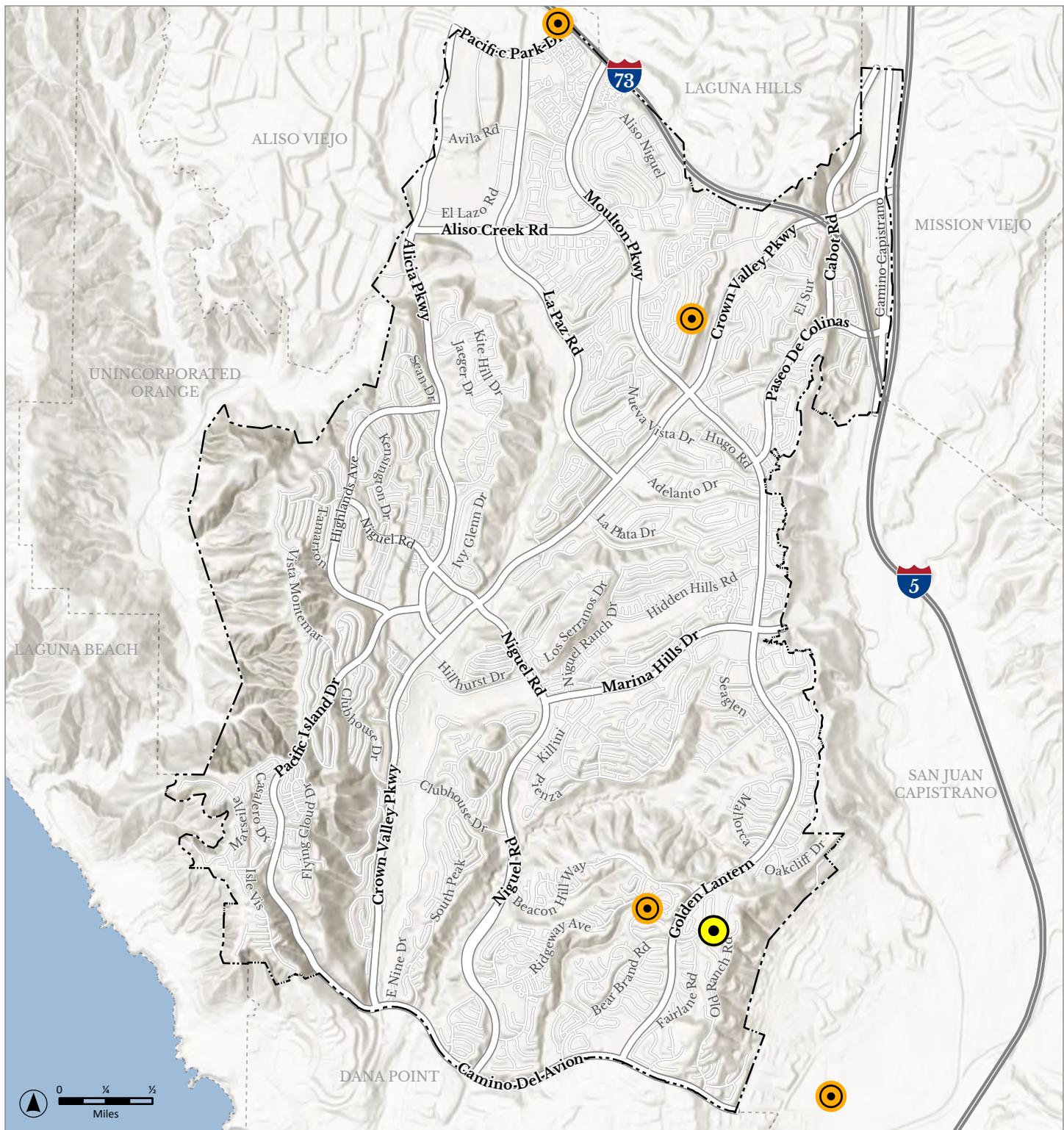
The LOSSAN rail corridor runs from San Diego to Los Angeles and carries freight, including through the Planning Area. One Metrolink line runs through the northeast portion of the City along Camino Capistrano. According to the Federal Railroad Administration Crossing Inventory Forms, there are 49 daytime and 17 nighttime passenger trains that pass through the City each day at a maximum of 90 MPH. Existing buildings are about 80 feet from the centerline of the railway. Therefore, the expected maximum vibration at these buildings is 75 VdB (0.020 inches per second).

4.6.4 References

California Department of Transportation (Caltrans), *Caltrans Transportation and Construction Vibration Guidance Manual*, 2020.

California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.

MD Acoustics, LLC, *City of Laguna Niguel General Plan Update Noise Impact Study*, May 5, 2025.



Data sources: CalGEM 10-2-2023; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
October 2, 2023

LEGEND

Laguna Niguel City Boundary

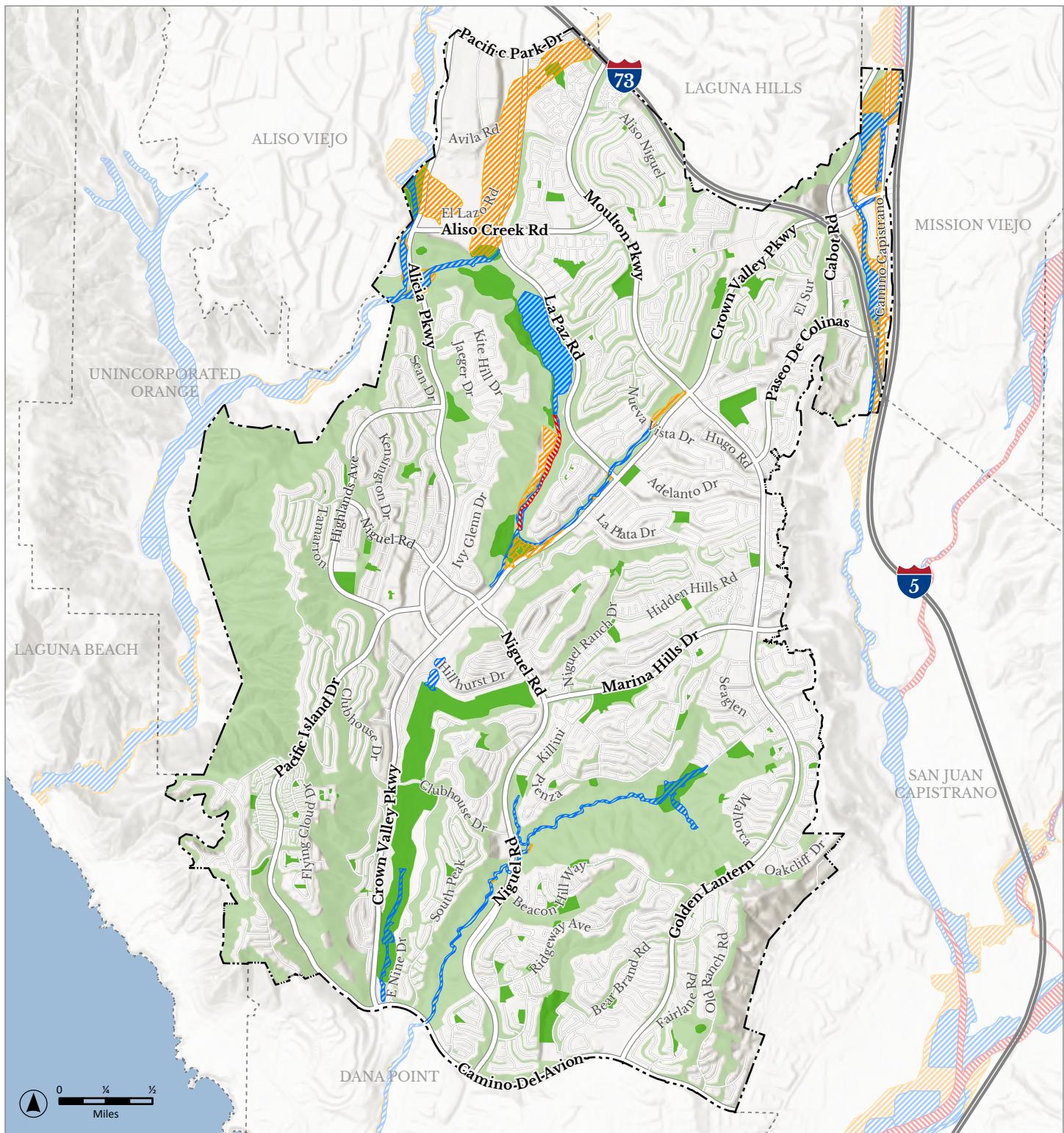
Other Jurisdictions

Idle Oil and Gas

Plugged Dry Hole

Figure 4-1.

Oil and Gas Wells



Data sources: City of Laguna Niguel Official General Plan Map, 9-11-2023; FEMA NFHL_06059C 03/12/2021; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
May 22, 2025

LEGEND

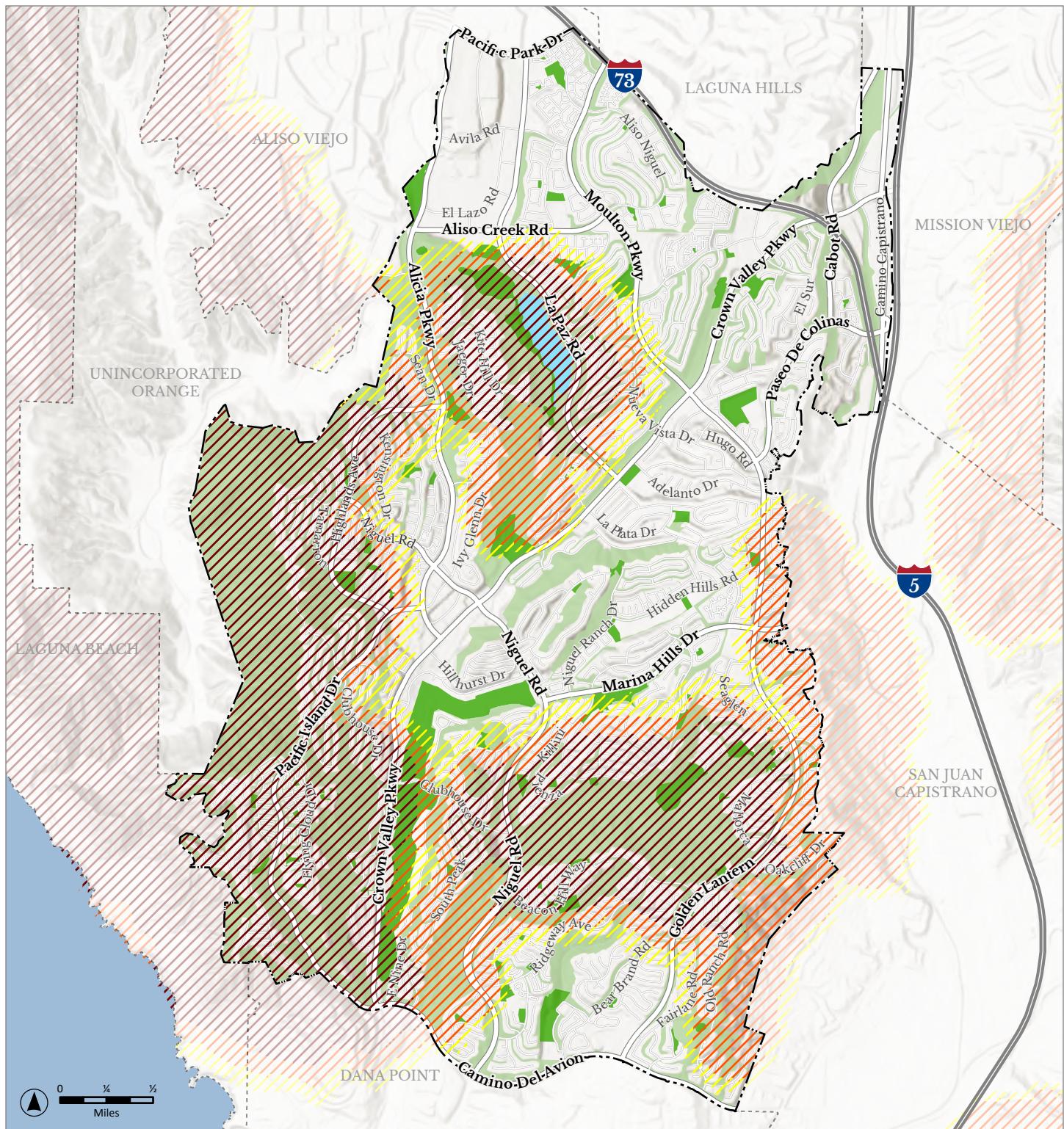
Laguna Niguel City Boundary

General Plan Land Use

- PR: Parks and Recreation
- OS: Open Space
- Water

FEMA Flood Zone Designation

- 100-year Flood Zone
- 500-year Flood Zone
- Regulatory Floodway



Data sources: City of Laguna Niguel Official General Plan Map, 9-11-2023; CALFIRE/State Office of the Fire Marshall, Local Responsibility Areas effective March 24, 2025; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
May 22, 2025

LEGEND

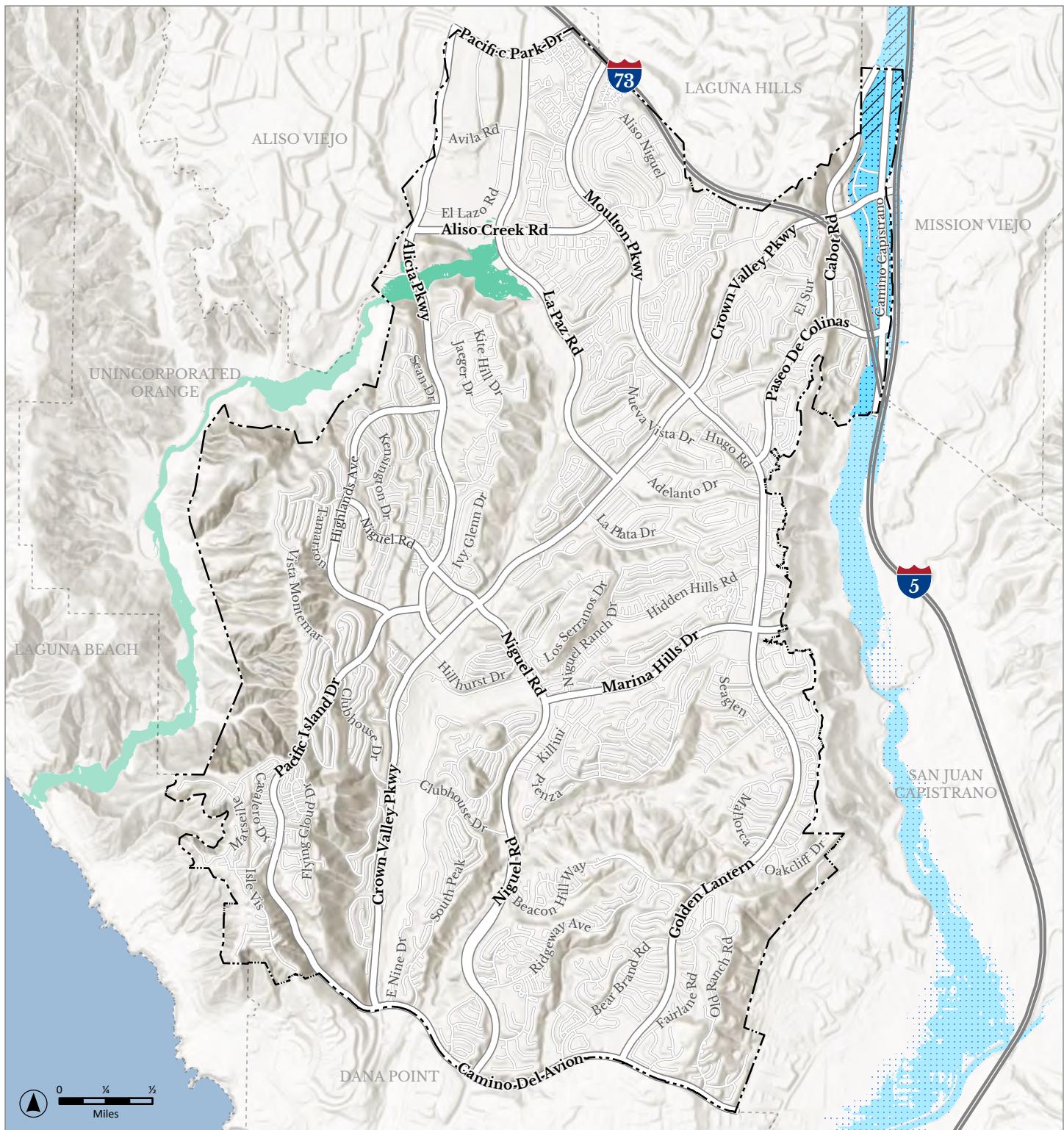
Laguna Niguel City Boundary

General Plan Land Use

- PR: Parks and Recreation
- OS: Open Space
- Water

Fire Hazard Severity Zones in Local Responsibility Areas

- Very High
- High
- Moderate



Data sources: DWR Dam Breach Inundation Map 4-1-2023; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
October 2, 2023

LEGEND

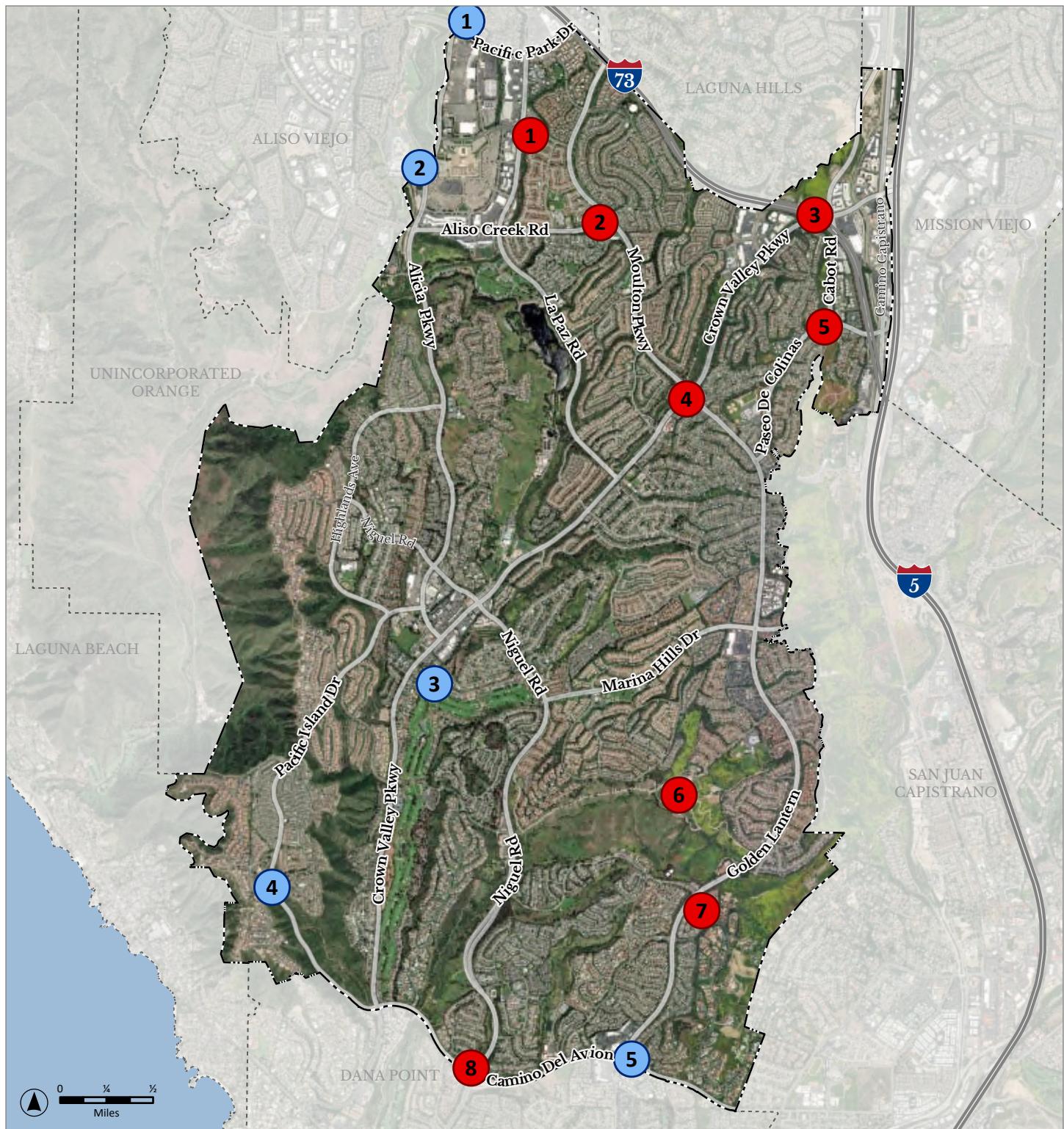
- Laguna Niguel City Boundary
- Other Jurisdictions

Inundation Areas

- El Toro Reservoir
- Lake Mission Viejo

- Sulphur Creek
- Upper Oso

Figure 4-4.
Dam Inundation Areas



Data sources: MD Acoustics; City of Laguna Niguel; Orange County GIS.

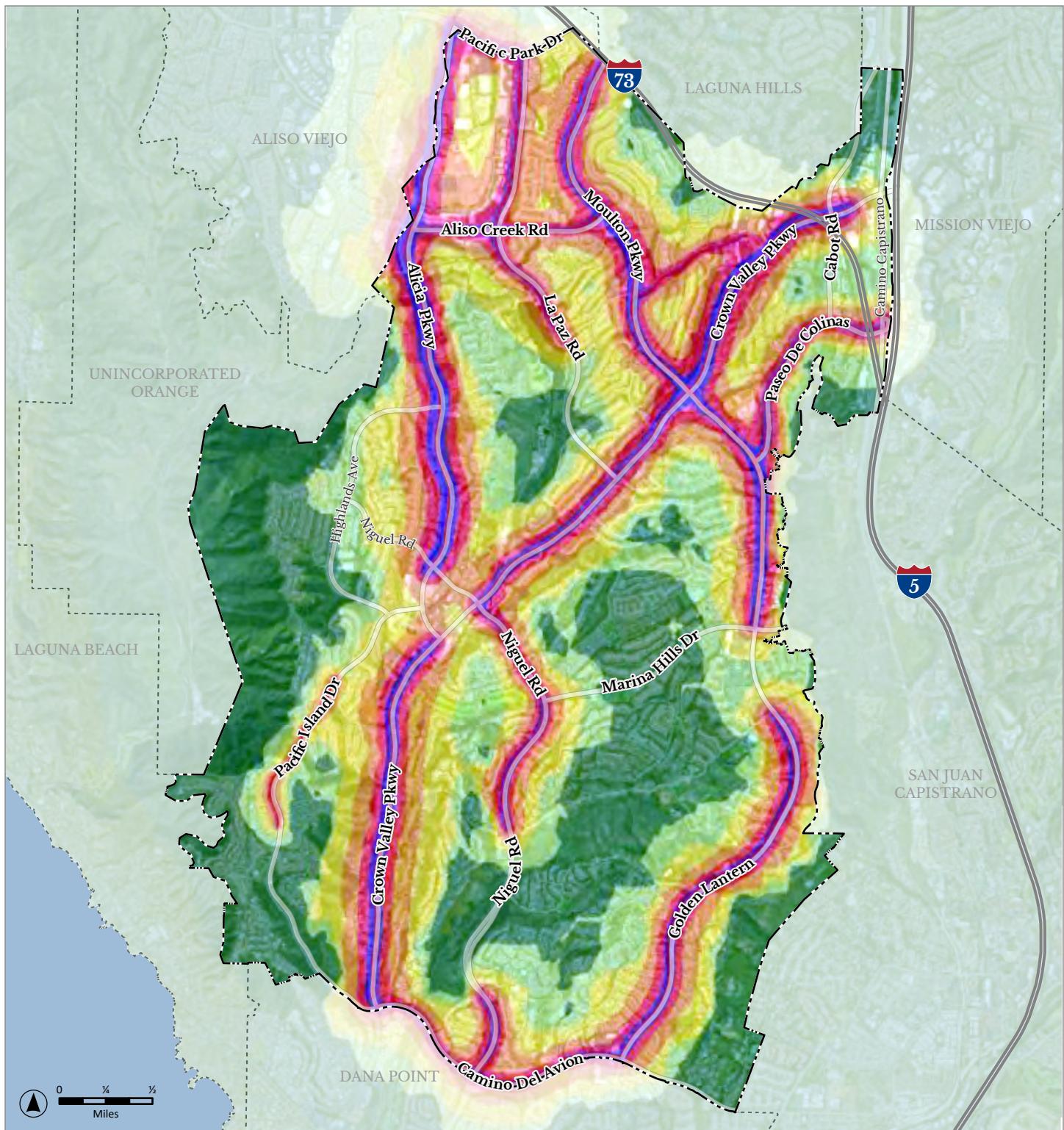
Prepared for the City of Laguna Niguel by De Novo Planning Group
May 21, 2025

LEGEND

Laguna Niguel City Boundary
 Other Jurisdictions

Long-Term Measurement Location
 Short-Term Measurement Location

Figure 4-5.
Noise Measurement Locations



Data sources: MD Acoustics; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
May 21, 2025

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions

Levels in dB(A)					
<input type="checkbox"/>	<45	<input type="checkbox"/>	50-55	<input type="checkbox"/>	60-65
<input type="checkbox"/>	45-50	<input type="checkbox"/>	55-60	<input type="checkbox"/>	>=65

Figure 4-6.
Existing Roadway Noise Level Contours (CNEL)

5 CONSERVATION

This chapter addresses the conservation of natural and cultural resources within Laguna Niguel. A city's natural resources form an important part of its unique character and quality of life.

This chapter is divided into the following sections:

- 5.1 Biological Resources
- 5.2 Air Quality
- 5.3 Greenhouse Gases
- 5.4 Geology, Soils, and Seismicity
- 5.5 Mineral Resources
- 5.6 Hydrology and Water Quality
- 5.7 Cultural Resources
- 5.8 Visual Resources



5.1 BIOLOGICAL RESOURCES

This section describes biological resources in Laguna Niguel. There are several regulatory agencies whose responsibility includes the oversight of the natural resources of the State and nation including the California Department of Fish and Wildlife (CDFW), the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (USACE), and the National Marine Fisheries Service (NMFS). These agencies often respond to declines in the quantity of a particular habitat or plant or animal species by developing protective measures for those species or habitat type. The topic of biological resources is addressed in several City and County plans including the Open Space/Parks/Conservation chapter of the current General Plan, Laguna Niguel Hillside Protection Ordinance (subarticle 8 of the Zoning Code), County of Orange Resources Element, City of Laguna Niguel Local Coastal Program, South Laguna Specific Plan/Local Coastal Program, and Aliso Creek Corridor Specific Plan.

5.1.1 Environmental Setting

Bioregions

Laguna Niguel lies within the coastal hills of southern Orange County. Biologically, the coastal hills bioregion encompasses a range of Upper Sonoran terrestrial habitats from coastal sage scrub to riparian habitat. Gentle rolling hills covered with grasslands, coastal sage scrub and chaparral dominate this region. Riparian woodlands are supported by drainage courses that provide a conducive environment for natural wildlife. Large stands of coastal sage scrub exist in the coastal hills south of Aliso Canyon. Non-native annual herbs and grasses dominate lower slopes and areas where scrub vegetation was removed to provide grazing lands. The open space areas, which include approximately 2,250 acres within Laguna Niguel, contain a mix of native and introduced habitats, including coastal sage scrub, chaparral, and grassland. These remaining open space areas are important biologically because they support flora and fauna that now have limited distributions.

Wildlife Corridors

Wildlife corridors are the corridors of natural movement that species make within their lifetime. Wildlife corridors can range from the length of a river to the length of a continent. According to the current General Plan, urbanization within the City has eliminated most of the native coastal sage scrub and chaparral habitats that support wildlife corridors. Small, isolated pockets of chaparral and coastal sage scrub occur among residential and commercial developments. As a result, many of these islands of vegetation are not large enough to support the larger animals (deer, bobcat, and gray fox) that typically occupy these habitats. The lack of well-developed woodland habitat in the City further limits the use of this urban area by wildlife.

California Wildlife Habitat Relationship System

The California Wildlife Habitat Relationship (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly occurring birds, mammals, reptiles, and amphibians. At present, there are 59 wildlife habitats in the CWHR System, including: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.

According to the CWHR System, there are eight cover types (wildlife habitat classification) in the City out of 59 found throughout the State. The vast majority of Laguna Niguel is designated as an Urban cover type. The second largest is Coastal Scrub, followed by Annual Grassland. The remainder of the City is made up of Mixed Chaparral, Eucalyptus, Lacustrine, Valley Foothill Riparian, and Barren.

Table 5-1 identifies the total area by acreage for each cover type (wildlife habitat classification) found in the City. Figure 5-1 illustrates the location of each cover type within Laguna Niguel. A brief description of the cover types found in the City and surrounding region is listed below.

Table 5-1: Cover Types – California Wildlife Habitat Relationship System

Name	Total Cover Type Acreage
Urban	7,203.02
Coastal Scrub	1,165.35
Annual Grassland	860.58
Mixed Chaparral	148.44
Eucalyptus	28.41
Lacustrine	25.80
Barren	19.17
Valley Foothill Riparian	13.01

SOURCE: CWHR, 2023.

Developed Habitats

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily developed downtown is usually at the center, followed by concentric zones of urban residential and suburbia. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species.

Herbaceous Dominated Habitats

Annual Grassland habitats are open grasslands composed primarily of annual plant species and occur mostly on flat plains to gently rolling foothills. Introduced annual grasses are the dominant plant species in this habitat. These include wild oats, soft chess, ripgut brome, red brome, wild barley, and foxtail fescue.

Shrub Dominated Habitats

Coastal Scrub habitats are typified by low to moderate-sized shrubs with mesophytic leaves, flexible branches, semi-woody stems growing from a woody base, and a shallow root system. Coastal Scrub seems to tolerate drier conditions than its associated habitats. It is typical of areas with steep, south-facing slopes; sandy, mudstone or shale soils; and average annual rainfall of less than 30 cm (12 in). However, it also regularly occurs on stabilized dunes, flat terraces, and moderate slopes of all aspects where average annual rainfall is up to 60 cm (24 in).

Mixed Chaparral is a structurally homogeneous brushland habitat dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. It is floristically rich and supports approximately 240 species of woody plant. Dominant species in cismontane Mixed Chaparral include scrub oak, chaparral oak, and several species of ceanothus and manzanita. Individual sites may support pure stands of these shrubs or diverse mixtures of several species. Commonly associated shrubs include chamise, birchleaf mountain mahogany, silk-tassel, toyon, yerba-santa, California buckeye, poison-oak, sumac, California buckthorn, hollyleaf cherry, Montana chaparral-pea, and California fremontia.

Tree Dominated Habitats

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Overstory composition is typically limited to one species of the genus, or mixed stands composed of other species of the same genus; few native overstory species are present within eucalyptus planted areas, except in small, cleared pockets. Where trees of this genus are established as small groves in native plant communities, understory species typically include coastal sage, chamise, manzanita, buckwheat, toyon, scrub oak, mountain mahogany, and assorted annuals. Eucalyptus is also known to become established along stream courses, encroaching upon existing riparian vegetation.

Valley Foothill Riparian Canopy height is approximately 30 m (98 ft) in a mature riparian forest, with a canopy cover of 20 to 80 percent. Most trees are winter deciduous. There is a subcanopy tree layer and an understory shrub layer. Herbaceous vegetation constitutes about one percent of the cover, except in openings where tall forbs and shade-tolerant grasses occur. Generally, the understory is impenetrable and includes fallen limbs and other debris. Dominant species in the canopy layer are cottonwood, California sycamore and valley oak. Subcanopy trees are white alder, boxelder, and Oregon ash. Typical understory shrub layer plants include wild grape, wild rose, California blackberry, blue elderberry, poison oak, buttonbrush, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, Douglas sagebrush, poison-hemlock, and hoary nettle.

Aquatic Habitats

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. They may vary from small ponds of less than one hectare to large areas covering several square kilometers. The plants and animals found in the littoral zone vary with water depth, and a distant zonation of life exists from deeper water to shore. A blanket of duckweed may cover the surface of shallow water. Desmids and diatoms, protozoans, and minute crustaceans, hydras and snails live on the under-surface of the blanket; mosquitoes and collembolans live on top. Submerged plants such as algae and pondweeds serve as support for smaller algae and as cover for swarms of minute aquatic animals. As sedimentation and accumulation of organic matter increases toward the shore, floating rooted aquatics such as water lilies and smartweeds often appear. Floating plants offer food and support for numerous herbivorous animals that feed both on phytoplankton and the floating plants.

Non-vegetated Habitats

Barren habitat is defined by the absence of vegetation. Any habitat with <2% total vegetation cover by herbaceous, desert, or non-wildland species and <10% cover by tree or shrub species is defined this way. Urban settings covered in pavement and buildings may be classified as barren as long as vegetation, including non-native landscaping, does not reach the percent cover thresholds for vegetated habitats.

5.1.2 Special Status Species

The following discussion is based on a search of special status species that are documented in the California Natural Diversity Database (CNDDB), the California Native Plant Survey (CNPS) Inventory of Rare and Endangered Plants, and the USFWS endangered and threatened species lists. The search was regional in scope and focused on the documented occurrences within the following U.S. Geological Survey quadrangles: Tustin, El Toro, Santiago Peak, Laguna Beach, San Juan Capistrano, Canada Gobernadora, Dana Point, and San Clemente (referred to herein as 9-quad search area), Laguna Niguel, and a 1-mile search area of the City.

Special Status Species Background

Special status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or other agencies. Some of these species receive specific protection that is defined by federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term "special status" includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (14 CCR 670.5);
- Species listed by the USFWS or the CDFW as a species of concern (USFWS), rare (CDFW), or of special concern (CDFW);
- Fully protected animals, as defined by the State of California (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the CNPS as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik, 1994).

Special Status Plants

The search revealed documented occurrences of over 400 special status plant species within the 9-quad search area. Of these special status plant species, 13 species are located within 1-mile of the City.

Table 5-2 provides a list of special status plant species that are documented within 1-mile of Laguna Niguel, and their current protective status. These special status plant species are illustrated on Figure 5-2. Figure 5-3 illustrates the special status plant species located within the 9-quad search area.

Table 5-2: Special Status Plants Present or Potentially Present (1-mile search area)

Scientific Name	Common Name	Federal Status	State Status	CNPS*
<i>Atriplex coulteri</i>	Coulter's Saltbush	None	None	1B.2
<i>Brodiaea filifolia</i>	Thread-Leaved Brodiaea	Threatened	Endangered	1B.1
<i>Calochortus weedii var. intermedius</i>	Intermediate Mariposa-Lily	None	None	1B.2
<i>Chaenactis glabriuscula var. orcuttiana</i>	Orcutt's Pincushion	None	None	1B.1
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer Holly	None	None	1B.2
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's Dudleya	None	None	1B.1
<i>Dudleya stolonifera</i>	Laguna Beach Dudleya	Threatened	Threatened	1B.1
<i>Euphorbia misera</i>	Cliff Spurge	None	None	2B.2
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's Pentachaeta	None	None	1B.1
<i>Pseudognaphalium leucocephalum</i>	White Rabbit-Tobacco	None	None	2B.2
<i>Quercus dumosa</i>	Nuttall's Scrub Oak	None	None	1B.1
<i>Quercus dumosa</i>	Nuttall's Scrub Oak	None	None	1B.1
<i>Verbesina dissita</i>	Big-Leaved Crownbeard	Threatened	Threatened	1B.1

SOURCE: CDFW CNDB, 2023.

NOTES: *CALIFORNIA NATIVE PLANT SOCIETY (CNPS) CALIFORNIA RARE PLANT RANK KEY:

1B.1: PLANTS RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE, SERIOUSLY THREATENED IN CALIFORNIA (OVER 80% OF OCCURRENCES THREATENED / HIGH DEGREE AND IMMEDIACY OF THREAT)

1B.2: PLANTS RARE, THREATENED, OR ENDANGERED IN CALIFORNIA AND ELSEWHERE, MODERATELY THREATENED IN CALIFORNIA (20-80% OCCURRENCES THREATENED / MODERATE DEGREE AND IMMEDIACY OF THREAT)

2B.2: PLANTS RARE, THREATENED, OR ENDANGERED IN CALIFORNIA BUT MORE COMMON ELSEWHERE, MODERATELY THREATENED IN CALIFORNIA (20-80% OCCURRENCES THREATENED / MODERATE DEGREE AND IMMEDIACY OF THREAT)

Special Status Animals

The search revealed documented occurrences of 20 special status animal species within a 1-mile search radius of the City. This includes: 1 amphibian, 6 birds, 3 fish, 1 insect, 3 mammals, and 6 reptiles. Table 5-3 provides a list of the special status animal species that are documented within the 1-mile search area, and their current protective status. Locations of these special status animal species are illustrated on Figure 5-2. Figure 5-3 illustrates the special status species located within the 9-quad search area.

Table 5-3: Special Status Animals Present or Potentially Present (1-mile search area)

Taxonomy Group	Scientific Name	Common Name	Federal Status	State Status	CDFW Status*
Amphibians	<i>Spea hammondii</i>	Western Spadefoot	None	None	SSC
Birds	<i>Vireo bellii pusillus</i>	Least Bell's Vireo	Endangered	Endangered	
Birds	<i>Polioptila californica californica</i>	Coastal California Gnatcatcher	Threatened	None	SSC
Birds	<i>Agelaius tricolor</i>	Tricolored Blackbird	None	Threatened	SSC
Birds	<i>Aimophila ruficeps canescens</i>	Southern California Rufous-Crowned Sparrow	None	None	WL
Birds	<i>Campylorhynchus brunneicapillus sandiegensis</i>	Coastal Cactus Wren	None	None	SSC
Birds	<i>Elanus leucurus</i>	White-Tailed Kite	None	None	FP
Fish	<i>Oncorhynchus mykiss irideus</i> pop. 10	Steelhead - Southern California DPS	Endangered	Candidate Endangered	---
Fish	<i>Eucyclogobius newberryi</i>	Tidewater Goby	Endangered	None	---
Fish	<i>Gila orcuttii</i>	Arroyo Chub	None	None	SSC
Insects	<i>Bombus crotchii</i>	Crotch Bumble Bee	None	Candidate Endangered	---
Mammals	<i>Myotis yumanensis</i>	Yuma Myotis	None	None	---
Mammals	<i>Eumops perotis californicus</i>	Western Mastiff Bat	None	None	SSC
Mammals	<i>Chaetodipus californicus femoralis</i>	Dulzura Pocket Mouse	None	None	---
Reptiles	<i>Arizona elegans occidentalis</i>	California Glossy Snake	None	None	SSC
Reptiles	<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	None	None	SSC
Reptiles	<i>Anniella stebbinsi</i>	Southern California Legless Lizard	None	None	SSC
Reptiles	<i>Emys marmorata</i>	Western Pond Turtle	None	None	SSC
Reptiles	<i>Aspidoscelis tigris stejnegeri</i>	Coastal Whiptail	None	None	SSC
Reptiles	<i>Aspidoscelis hyperythra</i>	Orange-Throated Whiptail	None	None	WL

SOURCE: CDFW CNDB, 2023.

NOTES: *CDFW STATUS KEY: **FP** CALIFORNIA FULLY PROTECTED **SSC** CDFW SPECIES OF SPECIAL CONCERN **WL** CDFW WATCH LIST

5.1.3 Sensitive Natural Communities

The CDFW considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. The CNDDDB search found no sensitive natural communities within the 9-quad search area.

Vernal Pools

Vernal pools are a temporary wetland that occur as a result of rainwater failing to drain into subsoils and provide habitat for several sensitive plant and animal species in the area. In California, vernal pools fill in the winter and spring, as water collects in depressions. The water eventually evaporates, leaving a dry depression in the summer and fall. Vernal pools support a range of unique plant and animal species. On some occasions, vernal pools can be connected by small drainages. These connected vernal pools are known as vernal complexes. According to the USGS National Wetlands Inventory (NWI) there are no vernal pools within Laguna Niguel.

Salt Creek Wetland Mitigation Project

The Salt Creek Wetland Mitigation Project is a restoration initiative which encompasses approximately 11.36 acres along the Salt Creek Trail near Chapparosa Park. The project focused on removing invasive plant species and replanting native vegetation, such as black willow and mulefat, to enhance habitat for threatened and endangered bird species and improve water quality by filtering urban runoff. Despite challenges like steep slopes, drought conditions, and the presence of sensitive bird species, the project was completed with minimal disturbance. Additionally, the City implemented a cost-saving measure by converting removed non-native plants into mulch and avoiding supplemental irrigation, aligning with broader environmental preservation goals.

5.1.4 References

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5.2 AIR QUALITY

This section discusses the regulatory setting, regional climate, topography, air pollution potential, and existing ambient air quality for criteria air pollutants, toxic air contaminants, odors, and dust. Information presented in this section is based in part on information gathered from the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The topic of air quality is addressed in several City, County, and regional plans, including the Circulation chapter of the current General Plan, the County of Orange Congestion Management Plan, and the South Coast Air Basin Air Quality Management Plan.

5.2.1 Environmental Setting

Regulatory Setting

Air quality with respect to criteria air pollutants and toxic air contaminants (TACs) within the South Coast Air Basin (SCAB) is regulated by the South Coast Air Quality Management District (SCAQMD), CARB, and the U.S. Environmental Protection Agency (EPA). Each of these agencies develops rules, regulations, policies, and/or goals to attain the goals or directives imposed through legislation. Although the EPA regulations may not be superseded, both State and local regulations may be more stringent.

In 1992 and 1993, the CARB requested delegation of authority for the implementation and enforcement of specified New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS) to the following local agencies: Bay Area Air Quality Management District (BAAQMD) and South Coast Air Quality Management District (SCAQMD). EPA's review of the State of California's laws, rules, and regulations showed them to be adequate for the implementation and enforcement of these federal standards, and EPA granted the delegations as requested.

South Coast Air Basin

The City of Laguna Niguel is located within the SCAB, which is comprised of a single air district, the SCAQMD. Geographically, SCAB consists of parts of Los Angeles County, parts of Riverside County, parts of San Bernardino County, and all of Orange County. SCAB covers an area of 6,745 square miles with a population of 14.6 million. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below.

Climate, Topography, and Air Pollution Potential

SCAB is considered a Mediterranean climate, typically consisting of moderate temperatures, low to moderate humidity, and low precipitation. The South Coast Air Basin is bounded by the Pacific Ocean to the west with the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. Though there is a slight variation in climate across the SCAB, the City of Laguna Niguel is within a portion of the air basin that has consistently moderate temperatures due to nearby oceanic influence.

SCAB is the nation's second largest urban area and California's largest metropolitan region. SCAB is home to over 40% of the total State population, or about 16 million people, and over 10 million vehicles. Fifty thousand heavy duty diesel trucks travel nearly 10 million miles through the region annually, and well over 50,000 diesel engines are used to move goods and power construction and mining equipment.



The topography and climate of Southern California combine to make the basin an area of high air pollution potential. SCAB experiences a persistent temperature inversion due to its climate. Temperature inversion limits the vertical dispersion of air contaminants, as it inhibits air that is close to the ground from intermixing with air at higher elevations, thereby trapping air pollutants at the ground level. Due to consistently abundant sunshine, warm temperatures, and poor vertical air mixing, smog is commonly formed in the basin. Light winds can further limit ventilation.

The City of Laguna Niguel is located in the southern portion of the Orange County Coastal Plain. A semi-permanent, subtropical high-pressure zone over the Pacific Ocean influences the standard climate patterns. As mentioned, the oceanic influence aids in the moderate temperature averages within the City. The City has a mild Mediterranean climate with hot dry summers and mild wet winters. Temperatures in the summer months can reach into the high 80s and low 90s during the day, but at night temperatures often drop down into the mid-50s and 60s. In winter months, temperatures usually stay in the mid-50s during the day and dip down into the 40s at night. The area receives an average of 14 inches of rain annually, with most of it falling between October and April.

5.2.2 Existing Ambient Air Quality: Criteria Air Pollutants

CARB and the U.S. EPA currently focus on the following air pollutants as indicators of ambient air quality: ozone (O_3), particulate matter (PM), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb). Because these are the most prevalent air pollutants known to be deleterious to human health, they are commonly referred to as "criteria air pollutants." Sources and health effects of the criteria air pollutants are summarized in Table 5-4.

Table 5-4: Common Sources and Health Effects of Criteria Air Pollutants

Pollutants	Sources	Effects on Health and Environment
Ozone (O₃)	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	Health: Aggravation of respiratory and cardiovascular diseases; reduced lung function; increased cough and chest discomfort. Environment: Crop, forest, and ecosystem damage; damage to materials, including rubber, plastics, fabrics, paint, and metals.
Particulate Matter (PM₁₀ and PM_{2.5})	Stationary combustion of solid fuels; construction activities; industrial processes; atmospheric chemical reactions	Health: Reduced lung function; aggravation of respiratory and cardiovascular diseases; increases in mortality rate; reduced lung function growth in children; premature death.
Nitrogen Dioxide (NO₂)	Motor vehicle exhaust; high temperature stationary combustion; atmospheric reactions	Health: Aggravation of respiratory illness (e.g., lung irritation; enhanced allergic responses).
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon-containing substances, such as motor vehicle exhaust; natural events, such as decomposition of organic matter	Health: Aggravation of some heart diseases; reduced tolerance for exercise; impairment of mental function (e.g., light-headedness); headaches; birth defects; death at high levels of exposure.
Sulfur Dioxide (SO₂)	Combination of sulfur-containing fossil fuels; smelting of sulfur-bearing metal ore; industrial processes	Health: Aggravation of respiratory diseases (including asthma); reduced lung function.
Lead (Pb)	Contaminated soil	Health: Learning disabilities in children; nervous system impairment; impaired mental functioning; brain and kidney damage.

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2023.

Ozone (O₃), or smog, is not emitted directly into the environment, but is formed in the atmosphere by complex chemical reactions between reactive organic gases (ROG) and nitrous oxide (NO_x) in the presence of sunlight. O₃ formation is greatest on warm, windless, sunny days. The main sources of NO_x and ROG, often referred to as O₃ precursors, are combustion processes (including motor vehicle engines), the evaporation of solvents, paints, and fuels, and biogenic sources. Automobiles are a primary source of O₃ precursors in the SCAB. Tailpipe emissions of ROG are highest during cold starts, hard acceleration, stop-and-go conditions, and slow speeds. They decline as speeds increase up to about 50 miles per hour (mph), then increase again at high speeds and high engine loads. ROG emissions associated with evaporation of unburned fuel depend on vehicle and ambient temperature cycles. Nitrogen oxide emissions exhibit a different curve; emissions decrease as the vehicle approaches 30 mph and then begin to increase with increasing speeds.

O₃ levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high O₃ levels can permanently damage lung tissue. O₃ can also damage plants and trees, and materials such as rubber and fabrics.

Particulate Matter (PM) refers to a wide range of solid or liquid particles in the atmosphere, including smoke, dust, aerosols, and metallic oxides. Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM₁₀. PM_{2.5} includes a subgroup of finer particles that have an aerodynamic diameter of 2.5 micrometers or less. Some particulate matter, such as pollen, is naturally occurring. In the southern Orange County region, Particulate Matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM₁₀ is of concern because it bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The EPA and the State of California revised their PM standards several years ago to apply only to these fine particles. PM_{2.5} poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. Motor vehicles are currently responsible for a large portion of particulate matter in the SCAB. Wood burning in fireplaces and stoves is another large source of fine particulates.

Nitrogen Dioxide (NO₂) is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to O₃ formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high O₃ levels.

Carbon Monoxide (CO) is an odorless, colorless gas. It is formed by the incomplete combustion of fuels. The single largest source of CO in the SCAB is motor vehicles. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 mph for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease or anemia, as well as fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.

Sulfur Dioxide (SO₂) is a colorless acid gas with a pungent odor. It has potential to damage materials, and it can have health effects at high concentrations. It is produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel. SO₂ can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in the air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Sixty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Ambient Air Quality Standards and Designations

The current federal and State ambient air quality standards (AAQS) and attainment standards are presented in Table 5-5.

Table 5-5: Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	State Standard	National Standard
Ozone (O₃)	1-hour	0.09 ppm (180 µg/m ³)	–
	8-hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)
	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
Respirable Particulate Matter (PM₁₀)	Annual Arithmetic Mean	20 µg/m ³	–
	24-hour	50 µg/m ³	150 µg/m ³
Fine Particulate Matter (PM_{2.5})	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³
	24-hour	–	35 µg/m ³
Sulfur Dioxide (SO₂)	Annual Arithmetic Mean	–	0.030 ppm (for certain areas)
	24-hour	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas)
	3-hour	–	–
	1-hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)
Nitrogen Dioxide (NO₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)
	1-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)
Lead	30-day Average	1.5 µg/m ³	–
	Calendar Quarter	–	1.5 µg/m ³
	Rolling 3-Month Average	–	0.15 µg/m ³
Sulfates	24-hour	25 µg/m ³	–

SOURCES: CALIFORNIA AIR RESOURCES BOARD, 2023.

NOTES: PPM = PARTS PER MILLION, PPB = PARTS PER BILLION, UG/M³ = MICROGRAMS PER CUBIC METER

The U.S. EPA established new national air quality standards for ground-level O₃ and for fine particulate matter in 1997. The 1-hour O₃ standard was phased out and replaced by an 8-hour standard of 0.075 parts per million (ppm). Implementation of the 8-hour standard was delayed by litigation but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001. In April 2005, CARB approved a new 8-hour standard of 0.070 ppm and retained the 1-hour O₃ standard of 0.09 after an extensive review of the scientific literature. The U.S. EPA signed a final rule for the federal O₃ 8-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The current PM_{10} standards were to be retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within Laguna Niguel are related to increases of regional criteria air pollutants (e.g., O_3 and particulate matter), exposure to toxic air contaminants, odors, and increases in GHG emissions contributing to climate change. The primary source of O_3 pollution is motor vehicles, which account for 70% of the O_3 in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for O₃, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

SCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS. SCAB is designated extreme nonattainment for O₃ under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour). Table 5-6 presents the State and national attainment statuses for SCAB.

Table 5-6: State and National Attainment Status

Pollutant	State Designation	National Designation
Fine Particulate Matter (PM_{2.5})	Nonattainment	Nonattainment
Respirable Particulate Matter (PM₁₀)	Nonattainment	Attainment
Ozone (O₃)	Nonattainment (1-Hour and 8-Hour)	Nonattainment (8-Hour)
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO₂)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO₂)	Attainment	Unclassified/Attainment
Sulfates	Attainment	--
Lead (Pb)	Attainment	Nonattainment
Hydrogen Sulfide	Unclassified	--
Visibility Reducing Particles	Unclassified	--

SOURCES: CALIFORNIA AIR RESOURCES BOARD, 2023; U.S. ENVIRONMENTAL PROTECTION AGENCY.

Monitoring Data

SCAQMD maintains numerous air quality monitoring sites throughout the SCAB to measure O₃, PM_{2.5}, and PM₁₀. The closest active SCAQMD monitoring site to Laguna Niguel is Mission Viejo-26081 Via Pera. Table 5-7 shows State and federal ambient air quality monitoring data for this site (abbreviated MV site) and compares it to data for the entire SCAB for years 2019–2021. The federal 1-hour standard was revoked in 2005 and is no longer in effect, therefore, only the 8-hour standard is shown. O₃ concentrations have remained mostly constant for both the MV site and SCAB between 2019 and 2021 with some fluctuation in 2020. PM_{2.5} concentrations generally increased in 2021 over 2019 levels for the MV site, while there was more fluctuation in PM_{2.5} concentrations for SCAB. PM₁₀ concentrations generally decreased in 2021 over 2019 levels both the MV site and SCAB.

Table 5-7: Ambient Air Quality Monitoring Data

Pollutant	Year	Days Exceeded State Standard (MV site)	Days Exceeded State Standard (SCAB)	Days Exceeded Federal Standard (MV site)	Days Exceeded Federal Standard (SCAB)	Highest State Average (MV site)	Highest State Average (SCAB)	Highest National Average (MV site)	Highest National Average (SCAB)
Ozone (O₃) (8-hour)	2021	8	118	8	114	0.082	0.120	0.081	0.120
	2020	34	145	32	141	0.123	0.140	0.122	0.139
	2019	11	111	11	109	0.088	0.118	0.087	0.117
Fine Particulate Matter (PM_{2.5}) (24-hour)	2021	No State Standard	No State Standard	0	14	32.6	105.8	32.6	102.1
	2020			6.9	19	47.6	175	46.6	175
	2019			0	10.1	20.8	120.9	20.8	81.3
Particulate Matter (PM₁₀) (24-hour)	2021	0	90.9	0	2	34.6	138.5	35.2	233.3
	2020	*	35.6	*	2.1	55.1	185.2	56.2	324.7
	2019	0	116.4	0	2	44.2	182.4	45.1	283.5

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES, [HTTPS://WWW.ARBCA.GOV/ADAM/SELECT8/SC8DISPLAY.PHP](https://www.arb.ca.gov/adam/select8/sc8display.php), ACCESSED AUGUST 2023.

NOTE: * = INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

5.2.3 Odors

Typically, odors are regarded as a nuisance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Certain land uses are more likely to emit odors in higher concentrations that are detectable to humans. These land uses include industrial uses, agricultural uses, composting operations, refineries, wastewater treatment plants, landfills, etc. Within the City, there are some agricultural uses, industrial uses, and landfills present which may be potential sources of odor.

5.2.4 Sensitive Receptors

Sensitive receptors are areas where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.

There are numerous sensitive receptors within the City. Such sensitive receptors include residential areas, schools, and medical facilities. These sensitive receptors are located across Laguna Niguel and may be impacted by odor-emitting sources in neighboring cities.

5.2.5 References

C Donald Ahrens, 2006. *Meteorology Today: An Introduction to Weather, Climate, & the Environment*.

California Air Resources Board. *California Ambient Air Quality Standards (CAAQS)*. <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>, accessed August 2023.

California Air Resources Board. *Maps of State and Federal Area Designations*. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>, accessed August 2023.

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5.3 GREENHOUSE GASES (GHG)

This section discusses regulations related to greenhouse gases (GHG) and the linkage between GHG and climate change.

5.3.1 Regulatory Setting

Key GHG emissions reduction legislation has been passed since the City's last General Plan update. These include Assembly Bill (AB) 32, Senate Bill (SB) 32, and SB 375. AB 32 (the California Global Warming Solutions Act of 2006) required California to reduce its GHG emissions to 1990 levels by 2020. SB 32 (the California Global Warming Solutions Act of 2016) expanded on AB 32 and requires a reduction in GHG emissions to 40% below the 1990 levels by 2030. SB 375 (the Sustainable Communities and Climate Protection Act) was adopted in 2008 to connect the GHG emissions reductions targets for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips.

The City relies on the parameters specified in the CEQA Guidelines Appendix G Checklist for assessing impacts related to GHG emissions as well as the Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP identifies transportation strategies to address mobility needs for the future. The SCS is a new element of the RTP that was put in place by the passage of SB 375 with the goal of ensuring that the SCAG region can meet its regional GHG reduction targets set by CARB.

5.3.2 Greenhouse Gases and Climate Change Linkages

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO_2 , CH_4 , and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20%, respectively (IPCC, 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are CO_2 , CH_4 , O_3 , water vapor, N_2O , and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial sector (California Air Resources Board, 2017b).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced approximately 440 million gross metric tons of carbon dioxide equivalents (MMTCO₂e) in 2015 (California Air Resources Board, 2017b). By 2020, California is projected to produce 509 MMTCO₂e per year (California Air Resources Board, 2014).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for 39% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (29%) and the agriculture sector (8%), the residential sector (6%), and the commercial sector (5%) (California Air Resources Board, 2020).

5.3.3 Effects of Global Climate Change

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season will be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 70% to 90% by the end of the 21st century (Cal EPA, 2006). This phenomenon could lead to significant challenges securing an adequate water supply for a growing State population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century, and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (Cal EPA, 2006). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion, and disruption of wetlands (Cal EPA, 2006). As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (Cal EPA, 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following:

Public Health. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O₃ formation are projected to increase from 25 to 35% under the lower warming range, to 75 to 85% under the medium warming range. In addition, if global background O₃ levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources. A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on the Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major state fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as 1 month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming scenario, snowpack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture. Increased GHG emissions are expected to cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate O₃ pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, nuts, and milk.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding seasons, and increase pathogen growth rates.

Forests and Landscapes. Global warming is expected to intensify this threat by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels. Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

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5.4 GEOLOGY, SOILS, AND SEISMICITY

This section addresses soil, seismic, and geologic hazards in Laguna Niguel. The federal government and State of California have established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Standards Code, the Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act. The topic of geologic hazards is addressed in the Seismic/Public Safety chapter of the current General Plan, and additional information is provided by the California Geological Survey.

5.4.1 Environmental Setting

Geomorphic Provinces

California's geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform. Earth scientists recognize eleven provinces in California. Each region displays unique, defining features based on geology, faults, topographic relief, and climate. These geomorphic provinces are remarkably diverse. The City of Laguna Niguel is within the eastern portion of the San Joaquin Hills, a part of the Peninsular Ranges Geomorphic Province of Southern California. The Peninsular Ranges geomorphic province consists of a series of mountain ranges separated by long valleys, formed from faults branching from the San Andreas Fault. The topographic trend is similar to the Coast Ranges, but the geology is more like the Sierra Nevada, with granitic rocks intruding the older metamorphic rocks. The Los Angeles Basin and the Channel Islands of Santa Catalina, Santa Barbara, San Clemente, and San Nicolas are included in this province. Also included is the surrounding continental shelf (cut by deep submarine fault troughs).

Regional Geology

The geology of southern California formed as a result of complex plate tectonics and fault movement. The most notable fault in southern California, the San Andreas Fault, is a right lateral strike-slip (or transform) fault that marks the boundary between the Pacific tectonic plate and the North American tectonic plate (Wallace 1990). Both plates are moving northward, but the Pacific plate is moving at a faster rate than the North American plate and the relative difference in the two rates results in movement along the San Andreas Fault (Wallace 1990). Northwest of the Los Angeles basin, where the southern San Joaquin Valley meets the San Emigdio and Tehachapi Mountains, the orientation of the San Andreas Fault changes from generally northwest to west-northwest (Wallace 1990). This portion of the fault system is known as the “Big Bend” (Singer, 2005). Another large fault in southern California, the left-lateral Garlock Fault, intersects the San Andreas Fault system at this location. This bend in the San Andreas Fault system results in transpressional forces between the two tectonic plates, a geologic result of which was the uplift of the Transverse Ranges, including the San Gabriel Mountains (Wallace 1990).

Geologically the City is within the eastern portion of the San Joaquin Hills, a part of the Peninsular Ranges Geomorphic Province. These hills are the product of the environmental conditions that have shifted and shaped the terrain during geologic time. The tectonic forces acting on the Peninsular Ranges over the past 1–2 million years have broadly compressed and warped geologically young marine sediments from the sea to elevations over 1,000 feet in these hills. These bedrock sediments have been continuously worn by erosion into the subtle, rolling hillsides characteristic of southern Orange County.

From approximately 10,000 through 30,000 years ago, a distinctly wetter climate generated a dynamic erosional environment regionally and locally. This period coincides with an overall globally cooler climate and is responsible for most of the topography seen in the City of Laguna Niguel today. This environment resulted in flowing rivers and deeply cut canyons flanked by uplifted and saturated hillsides. Numerous landslides occurred throughout Laguna Niguel and surrounding areas during this time.

Seismic Hazards

Seismic Groundshaking

Seismic hazards include both rupture (surface and subsurface) along active faults and ground shaking, which can occur over wider areas. Ground shaking, produced by various tectonic phenomena, is the principal source of seismic hazards in areas devoid of active faults. All areas of the State are subject to some level of seismic ground shaking.

Several scales may be used to measure the strength or magnitude of an earthquake. Magnitude scales (ML) measure the energy released by earthquakes. The Richter scale, which represents magnitude at the earthquake epicenter, is an example of an ML. As the Richter scale is logarithmic, each whole number represents a 10-fold increase in magnitude over the preceding number. Table 5-8 represents effects that would be commonly associated with Richter Magnitudes:

Table 5-8: Richter Magnitudes and Effects

Magnitude	Effects
< 3.5	Typically, not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – 6.0	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ± 60 miles of occupied area
7.0 – 7.9	"Major Earthquake" with the ability to cause damage over larger areas
≥ 8	"Great Earthquake" can cause damage over several hundred miles

SOURCE: USGS, EARTHQUAKE PROGRAM.

Faults and Fault Zones

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement (California Geological Survey, 2002). These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years; and
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive (California Geological Survey, 2002).

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and
- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

An active earthquake fault, per California's Alquist-Priolo Act, is one that has ruptured within the Holocene Epoch (\approx 11,000 years). Based on this criterion, the California Geological Survey identifies Earthquake Fault Zones. These Earthquake Fault Zones are identified in Special Publication 42 (SP42), which is updated as new fault data become available. The SP42 lists all counties and cities within California that are affected by designated Earthquake Fault Zones. The Fault Zones are delineated on maps within SP42 (Earthquake Fault Zone Maps).

Southern California is a region of high seismic activity. Like most cities in the region, Laguna Niguel is subject to risks associated with potentially destructive earthquakes. The City is in the seismically active southern California region. While there are no known active or potentially active faults in the City, there are several active faults located within Orange County. The Newport-Inglewood Fault angles from offshore near Dana Point and passes through the northwestern portion of the County and is believed capable of producing a maximum credible earthquake of 7.5 magnitude. The Whittier Fault roughly parallels the Newport-Inglewood Fault across the northeasterly edge of the County and the maximum credible earthquake estimated is 7.0 magnitude. In addition, newly studied thrust faults such as the San Joaquin Hills Fault and the Puente Hills Fault could also have a significant impact on the County (County of Orange, 2021). Figure 5-4 illustrates the location of nearby fault zones surrounding the City.

Earthquakes on faults located outside Orange County can also cause damage within Laguna Niguel. Depending on their magnitude, earthquakes can cause minor to moderate damage to an area within a fifty-mile radius of their epicenter. Active faults that have the potential to impact the City include San Andreas; San Jacinto, Malibu-Coast, Palos Verdes, San Gabriel, and Sierra Madre–Santa Susana–Cucamonga faults.

The risk of damage due to ground rupture during an earthquake is minimal because of the absence of active faults in the City. However, the risk of structural damage (both above and underground), and loss of life as a result of groundshaking are considerable due to the combination of proximate active faults and the developed character of Laguna Niguel. It is recognized that low density residential development and low intensity land uses are less vulnerable to seismic hazards. The City is marked by relatively low intensity residential land use and is, therefore, at less risk than intensely developed 'urban' communities.

Liquefaction

Liquefaction, which is primarily associated with loose, saturated materials, is most common in areas of sand and silt or on reclaimed lands. Cohesion between the loose materials that comprise the soil may be jeopardized during seismic events and the ground will take on liquid properties. Thus, liquefaction requires specific soil characteristics and seismic shaking.

Liquefaction zones are areas where historical occurrence of liquefaction, or local geological, geotechnical, and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. Liquefaction may induce lateral spreading. Lateral spread refers to landslides that are a result of lateral displacement of gently sloping ground. Areas identified to have high liquefaction susceptibility as well as sloping grounds are vulnerable to lateral spreading.

Figure 5-5 shows areas having the potential for liquefaction within the City. There are three areas within Laguna Niguel designated as having the potential for liquefaction: one in the northwestern portion near La Paz Road and Aliso Creek Road, a second in the northeastern position along Camino Capistrano, and a third in the southcentral position along Crown Valley Parkway.

Seismic Induced Landslides

Earthquake-Induced Landslide Zones Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The California Seismic Hazard Mapping Program (SHMP) delineates the approximate boundaries of areas susceptible to earthquake-induced landslides and other slope failures (e.g., rockfalls). Figure 5-5 shows there are numerous areas, primarily located in the hillsides, having the potential for seismic induced landslides within the City.

5.4.2 Other Geologic Hazards

Soils

According to the Natural Resource Conservation Service (2022), there are 21 different soil types located in Laguna Niguel. Table 5-9 and Figure 5-6 present the soil types and associated acreages located in the City.

Table 5-9: Laguna Niguel Soils

Soil Types	Total Acres
Alo series	4419.11
Alo clay, 15 to 30 percent slopes, dry	1141.02
Alo clay, 30 to 50 percent slopes, warm MAAT, MLRA 20	3197.93
Alo clay, 9 to 15 percent slopes	80.16
Balcom series	144.13
Balcom clay loam, 15 to 30 percent slopes	8.61
Balcom clay loam, 30 to 50 percent slopes	26.65
Balcom-Rock outcrop complex, 15 to 50 percent slopes	108.87
Beaches	2.49
Beaches	2.49
Bolsa series	7.68
Bolsa silty clay loam, drained	7.68
Bosanko series	714.83
Bosanko clay, 15 to 30 percent slopes	411.54
Bosanko clay, 30 to 50 percent slopes	242.26
Bosanko clay, 9 to 15 percent slopes	61.03
Botella series	675.88
Botella clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	196.22
Botella clay loam, 9 to 15 percent slopes	442.32
Botella loam, 2 to 9 percent slopes, warm MAAT, lower MAP, MLRA 19	37.35
Calleguas series	740.70
Calleguas clay loam, 50 to 75 percent slopes, eroded	740.70
Capistrano series	14.21
Capistrano sandy loam, 2 to 9 percent slopes	14.21
Chesterton series	23.53
Chesterton loamy sand, 2 to 15 percent slopes	23.53
Chino series	0.03
Chino silty clay loam, drained	0.03
Cineba series	89.64
Cieneba-Rock outcrop complex, 30 to 75 percent slopes	82.53
Rock outcrop-Cieneba complex, 30 to 75 percent slopes	7.11
Corralitos series	94.63
Corralitos loamy sand, moderately fine substratum	94.63
Cropley series	114.92
Cropley clay, 2 to 9 percent slopes, warm MAAT, MLRA 19	114.92
Modjeska series	74.80
Modjeska gravelly loam, 15 to 30 percent slopes	69.51
Modjeska gravelly loam, 9 to 15 percent slopes	5.29

Soil Types	Total Acres
Myford series	49.55
Myford sandy loam, 2 to 9 percent slopes	8.71
Myford sandy loam, 9 to 15 percent slopes	30.43
Myford sandy loam, 9 to 30 percent slopes, eroded	3.07
Myford sandy loam, thick surface, 2 to 9 percent slopes	7.34
Riverwash	69.23
Riverwash	69.23
Soboba series	2.61
Soboba cobbly loamy sand, 0 to 15 percent slopes	2.61
Soper series	1114.68
Soper gravelly loam, 15 to 30 percent slopes, MLRA 20	176.00
Soper gravelly loam, 30 to 50 percent slopes, MLRA 20	871.95
Soper-Rock outcrop complex, 30 to 75 percent slopes	66.73
Sorrento series	565.94
Sorrento clay loam, 0 to 2 percent slopes, warm MAAT, MLRA 19	22.02
Sorrento clay loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	46.36
Sorrento loam, 0 to 2 percent slopes, warm MAAT, MLRA 19	8.11
Sorrento loam, 2 to 9 percent slopes, warm MAAT, MLRA 19	489.45
Water	32.11
Water	32.11
Yorba series	513.05
Yorba cobbly sandy loam, 30 to 50 percent slopes	196.15
Yorba cobbly sandy loam, 9 to 30 percent slopes, eroded	135.31
Yorba gravelly sandy loam, 15 to 30 percent slopes	17.15
Yorba gravelly sandy loam, 9 to 15 percent slopes	164.43
Grand Total	9463.77

SOURCE: NATURAL RESOURCE CONSERVATION SERVICE, 2022.

Erosion

The U.S. Natural Resource Conservation Service (NRCS) delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of erosion factors is provided by the NRCS Physical Properties Descriptions:

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Soil erosion data for the City of Laguna Niguel was obtained from the NRCS. As identified by the NRCS web soil survey, the erosion factor K within the City varies from 0.2 to 0.55, which is considered a medium to high potential for erosion. Generally, erosion potential within Laguna Niguel aligns with water features/drainages.

Expansive Soils

The NRCS delineates soil units and compiles soils data as part of the National Cooperative Soil Survey. The following description of linear extensibility (also known as shrink-swell potential or expansive potential) is provided by the NRCS Physical Properties Descriptions:

"Linear extensibility" refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

The shrink-swell potential is low if the soil has a linear extensibility of less than 3%; moderate if 3 to 6%; high if 6 to 9%; and very high if more than 9%. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Figure 5-7 illustrates the shrink-swell potential of soils in the City. The linear extensibility of the soils within the City of Laguna Niguel ranges from "Low" to "Very High."

Landslide

The California Geological Survey classifies landslides with a two-part designation based on Varnes (1978) and Cruden and Varnes (1996). The designation captures both the type of material that failed and the type of movement that the failed material exhibited. Material types are broadly categorized as either rock or soil, or a combination of the two for complex movements. Landslide movements are categorized as falls, topples, spreads, slides, or flows. Landslide potential is influenced by physical factors, such as slope, soil, vegetation, and precipitation. Landslides require a slope, and can occur naturally from seismic activity, excessive saturation, and wildfires, or from human-made conditions such as construction disturbance, vegetation removal, wildfires, etc.

Figure 5-8 illustrates the landslide potential (for non-seismically included potential) within the City, which ranges from 0 (low susceptibility) to 10 (high susceptibility). Much of the City, mostly along hillsides, is within the 7 to 10 range. Areas underlain by shale and siltstone are more prone to landslide when compared to other bedrock geology, and the Capistrano, Monterey, and Topanga Formations, prevalent through hillside areas in the City, are most prone to slow-developing, slump-type failure. Slope stability hazards in the City relate to undeveloped hillside areas, as grading activities and soil remediation techniques required by the City's Grading and Excavation Code are used to mitigate these hazards prior to development.

Subsidence

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. In California, large areas of land subsidence were first documented by USGS scientists in the first half of the 20th century. Most of this subsidence was a result of excessive groundwater pumping. Completion of California's State and federal water projects that bring water from California's wet north to its dry south allowed some groundwater aquifers to recover, and subsidence decreased in these areas. Laguna Niguel does not have any historic or current USGS-recorded subsidence.

Collapsible Soils

Hydroconsolidation occurs when soil layers collapse, or settle, as water is added under loads. Natural deposits susceptible to hydroconsolidation are typically aeolian, alluvial, or colluvial materials that have a high apparent strength when dry. The dry strength of the materials may be attributed to the clay and silt constituents in the soil and the presence of cementing agents (i.e., salts). Capillary tension may tend to act to bond soil grains. Once these soils are subjected to excessive moisture and foundation loads, the constituency including soluble salts or bonding agents is weakened or dissolved, capillary tensions are reduced, and collapse occurs resulting in settlement. Existing alluvium within the City may be susceptible to collapse and excessive settlements, which could create the risk of hydroconsolidation if these soils were exposed to excessive moisture.

Naturally Occurring Asbestos

The term “asbestos” is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos (NOA) is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, peridotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth’s surface. The metamorphic rock serpentinite is a common product of the alteration process. While NOA is present all over the State of California – in 42 of 58 counties – it can be found most abundantly in and around Humboldt County, in areas of San Benito and Monterey counties, and in western El Dorado county. According to the California Geological Survey, there is no naturally occurring asbestos mapped within the City.

Tsunami/Seiches

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast). The City is not within a tsunami or seiche hazard area.

5.4.3 References

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5.5 MINERAL RESOURCES

This section describes the mineral resource classification system and the mineral resources that occur within Laguna Niguel. Chapter 3 of the current General Plan states that no mineral resources have been identified within Laguna Niguel. The City of San Juan Capistrano, located immediately south and east of Laguna Niguel, does contain some sand and gravel operations along Trabuco Creek.

5.5.1 Environmental Setting

Mineral Resource Classification

Pursuant to the Surface Mining and Reclamation Act of 1975 (SMARA), the California State Mining and Geology Board oversees the Mineral Resource Zone (MRZ) classification system. The MRZ system characterizes both the location and known/presumed economic value of underlying mineral resources. The mineral resource classification system uses four main MRZs based on the degree of available geologic information, the likelihood of significant mineral resource occurrence, and the known or inferred quantity of significant mineral resources. The four classifications are described in Table 5-10.

Table 5-10: Mineral Resources Classification System

Classification	Descriptions
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ classification.

SOURCE: CALIFORNIA DEPARTMENT OF CONSERVATION DIVISION OF MINES AND GEOLOGY, 2000.

Mineral Resources

Mineral resources include commercially viable oil and gas deposits, and nonfuel mineral resources deposits. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate, including sand, gravel, and crushed stone. California is the largest producer of sand and gravel in the nation. Figure 5-9 shows resources by classification within the City. Two mineral resource zones (MRZ-1 and MRZ-3) are present in Laguna Niguel. These mineral resource zones are described in the table above. MRZ-1 dominates the City, while a small portion of the City is classified as MRZ-3.

Location of Permitted Aggregate Mines

The California Office of Mine Reclamation periodically publishes a list of qualified permitted aggregate mines regulated under SMARA that is generally referred to as the AB 3098 List. The Public Contract Code precludes mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates, or other mined materials to State or local agencies. As of October 10, 2023, there are no mines listed within the City.

5.5.2 References

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5.6 HYDROLOGY AND WATER QUALITY

This section describes the groundwater management, watershed setting, and surface water quality for Laguna Niguel. The information included here is summarized from an infrastructure report prepared by Fuscoe Engineering in April 2024, located in Appendix A: Infrastructure Analysis.

5.6.1 Sustainable Groundwater Management

The Sustainable Groundwater Management Act (SGMA) addresses the sustainable management of groundwater in California. This legislation results from water shortages in California, long-term issues with land subsidence, and over drafting of groundwater aquifers. The Department of Water Resources identified the status of water basins by overdraft and priority levels (e.g., very low, low, medium, or high). The consistency requirement between Moulton Niguel Water District's (MNWD) Urban Water Management Plan (UWMP) and SGMA is not applicable because MNWD does not use groundwater as a supply. Although MNWD does not use groundwater as a supply MNWD is investigating the potential for the Orange County Groundwater Basin as a resource for additional storage during emergencies or potential drought periods (Fuscoe, 2024). See Figure 5-10 for the hydrologic basins in the City.

Orange County Groundwater Basin

The Orange County Groundwater Basin is managed by the Orange County Water District (OCWD) and although the basin is not overdrafted, OCWD prepared a groundwater management plan¹ to expand long-term groundwater sustainability. The Plan describes basin hydrogeology, water supply monitoring, management and operation of recharge facilities, groundwater replenishment system, seawater intrusion and barrier management, and water quality protection.

¹ Orange County Water District, 2015. *Groundwater Management Plan*. Found here: https://www.ocwd.com/wp-content/uploads/groundwatermanagementplan2015update_20150624.pdf

San Juan Groundwater Basin

The San Juan Groundwater Basin or Basin is situated in South Orange County within the San Juan Creek Watershed, spans 26 square miles and is bounded by the Pacific Ocean to the west and semi-permeable marine deposits. The Basin is considered a very low priority basin, which underlies portions of the City of Laguna Niguel, Mission Viejo, San Juan Capistrano, Dana Point, and unincorporated areas of South Orange County. It has four sub-basins: Upper San Juan, Middle San Juan, Lower San Juan, and Lower Trabuco. The Basin is recharged through various sources including San Juan Creek, Oso Creek, Arroyo Trabuco Creek Channel, precipitation, and Hot Spring Canyon flows.

Although MNWD does not currently utilize groundwater as a resource, MNWD is a member San Juan Basin Authority (SJBA). SJBA was established in 1971 as a joint authority that oversees water resources development and water quality in the San Juan Basin. Its members include Santa Margarita Water District (SMWD), MNWD, South Coast Water District (SCWD), and the City of San Juan Capistrano. As the basin is classified as a subterranean flowing stream, the SWRCB issues water rights permits for extraction and diversion.

5.6.2 Watershed Setting

Laguna Niguel resides within several watersheds including the Aliso Creek Watershed, the Dana Point Coastal Streams Watershed, and the San Juan Creek Watershed. These watersheds fall within the South Orange County Watershed Management Area (SOCWMA) and the Integrated Regional Water Management (IRWM) Group. The majority of the City is encompassed into the Aliso Creek Watershed to the north, the Dana Point Coastal Watershed to the south, with smaller portions of the City's eastern boundary falling into the San Juan Creek Watershed (Fuscoe, 2024). Laguna Niguel drains to the following OCFCD facilities and receiving water bodies.

Table 5-11: Laguna Niguel Watersheds

Aliso Creek Watershed	Dana Point Coastal Streams Watershed	San Juan Creek Watershed
<ul style="list-style-type: none"> • Aliso Creek Channel • Narco Channel • Sulphur Creek Channel • Laguna Niguel Park Lake (Sulphur Creek Reservoir) • Niguel Storm Drain 	<ul style="list-style-type: none"> • Salt Creek Channel 	<ul style="list-style-type: none"> • Oso Creek Channel • Arroyo Trabuco Creek Channel, Lower

FUSCOE ENGINEERING, INC. 2024. CITY OF LAGUNA NIGUEL GENERAL PLAN UPDATE, EXISTING CONDITIONS INFRASTRUCTURE REPORT FOR WATER, SEWER, STORM DRAINAGE, AND WATER QUALITY. APPENDIX A

The water bodies listed above all drain to other storm drainage facilities that ultimately drain to the Pacific Ocean. See Figure 5-11 for a depiction of the regional watersheds surrounding the City. See Figure 5-12 for the water features and surface water in Laguna Niguel.

5.6.3 Surface Water Quality

In general, potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(d) Impaired Water Bodies: Section 303(d) of the Federal Clean Water Act requires states to identify waters that do not meet water quality standards or objectives and, thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the states to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

Table 5-12 shows the 303(d) list and TMDLs for the applicable regional channels and water bodies that receive flows from the City (Fuscoe, 2024).

Table 5-12: List of 303(d) Impairments and TMDLs

Water Body / Channel	List of 303(d) Impairments	TMDL
Aliso Creek Watershed		
Aliso Creek Channel	Benthic Community Effects, Indicator Bacteria, Malathion Nitrogen, Phosphorus, Selenium, Toxicity	Indicator Bacteria
Dana Point Coastal Streams Watershed		

Salt Creek Channel	Benthic Community Effects, Imidacloprid, Malathion, Toxicity	N/A
San Juan Creek Watershed		
Oso Creek Channel	Nitrogen, Phosphorus, Selenium, Toxicity	N/A
Arroyo Trabuco Creek Channel, Lower	Benthic Community Effects, Indicator Bacteria, Nitrogen, Phosphorus, Toxicity	N/A

SOURCE: SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD, ADOPTED TMDLS. AVAILABLE AT:

https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdl/tmdladopted.html

5.6.4 References

Fuscoe Engineering, Inc. 2024. *City of Laguna Niguel General Plan Update, Existing Conditions Infrastructure Report for Water, Sewer, Storm Drainage, and Water Quality*. Appendix A: Infrastructure Analysis. Prepared April 1, 2024.

Orange County Water District, 2015. *Groundwater Management Plan*. Found here: https://www.ocwd.com/wp-content/uploads/groundwatermanagementplan2015update_20150624.pdf

San Diego Regional Water Quality Control Board, Adopted TMDLs. Available at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdl/adopted.html

5.7 CULTURAL RESOURCES

This section describes the historic and cultural resources within Laguna Niguel, including buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. This section is based on and summarizes the *Cultural and Paleontological Resources Assessment for the Laguna Niguel General Plan Update Project*, prepared by Cogstone Resources Management, located in Appendix B: Cultural and Paleontological Resources Study. The topics of archaeological, cultural, and paleontological resources are addressed in the Open Space/Parks/Conservation chapter of the current General Plan.

5.7.1 Prehistoric Context

Approaches to prehistoric frameworks have changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists defined a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains dating from about 7,000 to 3,000 years before the present as the "Millingstone Horizon." Later, the "Millingstone Horizon" was redefined as a cultural tradition named the Encinitas Tradition with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use "Millingstone Horizon" and some used Middle Holocene (the time period) to indicate this observed pattern.

Recently, the fact that generalized terminology is suppressing the identification of cultural, spatial, and temporal variation and the movement of peoples throughout space and time was noted. These factors are critical to understanding adaptation and change.

The latest cultural revisions for the City define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to the Pasadena area. This pattern is replaced in the Project Area by the Angeles pattern of the Del Rey Tradition later in time. Each pattern has subdivisions as identified by specific changes in cultural assemblages through time. Phases are identified by their archaeological signatures in components within sites.

Greven Knoll sites tend to be in valleys similar to areas like Laguna Niguel. These inland peoples did not switch from manos/metates to pestles/mortars like coastal peoples (c. 5,000 years before present); this may reflect their closer relationship with desert groups who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its extent. In Phase I, other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts and flexed position burials. In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering. In addition, the Greven Knoll populations are biologically Yuman (based on skeletal remains) while the later Angeles populations are biologically Shoshonean.

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. In Angeles Phase I, Elko points for atlatls or darts appear, small steatite objects such as pipes and effigies from Catalina are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. In addition, several Encinitas (Topanga) traits, such as discoidals, cogged stones, plummet-like charm stones and cairn burials virtually disappear from the record. Mortuary practices changed to consist of primarily flexed primary inhumations, with extended inhumations becoming less common. Settlement patterns made a shift from general use sites being common to habitation areas separate from functional work areas. Subsistence shifted from mostly collecting to increased hunting and fishing.

The Angeles Phase II is identified primarily by the appearance of a new funerary complex, with other characteristics similar to Angeles I. The complex features killed (broken) artifacts including manos, metates, bowls, mortars, pestles, points, and others plus highly fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material also often burned. None of the burning was performed in the burial feature.

The Angeles III Phase is the beginning of what has been known as the Late Period and is marked by several changes from Angeles I and II. These include the appearance of small projectile points, steatite shaft straighteners and increased use of asphaltum all reflecting adoption of bow and arrow technology, obsidian sources changed from mostly Coso to Obsidian Butte and shell beads from Gulf of California species began to appear. Subsistence practices continued as before, and the geographic extent of the Angeles Pattern increased.

Angeles Phase IV is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and *Mytilus* shell disks, birdstones (zoomorphic effigies with magicoreligious properties) and trade items from the Southwest including pottery. It appears that populations increased and that there was a change in the settlement pattern to fewer but larger permanent villages. The presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used.

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined, and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not.

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled Olivella disk beads.

The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation.

5.7.2 Ethnographic Overview

Juaneño Acjachemen

About 1,300 years ago the Acjachemen (Juaneño), who were hunters and gatherers of the San Luis Rey Cultural Pattern, moved into southern Orange County. The Acjachemen speak a language that is part of the Takic language family. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County. The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Trabuco Creek, and San Mateo Creek.

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. Marriages were usually arranged from outside villages establishing a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals.

Houses were typically conical in shape and thatched with locally available plant materials. Work areas were often shaded by rectangular brush-covered roofs (ramada). Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed.

Women are known to have been the primary gatherers of plant foods, but also gathered shellfish and trapped small game animals. Men hunted large game, most small game, fished, and assisted with plant food gathering, especially of acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery, and ornaments. Tribal elders had important political and religious responsibilities and were involved in the education of younger members.

5.7.3 Historical Setting

Spanish Period (1769-1820)

The earliest exploration of Orange County by Europeans was the land expedition of Gaspar de Portola. He set out from Mission San Diego to find a land route to the Bay of Monterey. His expedition passed through Orange County in northward (1769) and southward (1770) bound directions. He named Trabuco Creek, Santiago Creek, and other geographic features he encountered.

Mexican Period (1821-1847)

Mexico gained independence from Spain in 1821, and the new liberal politics of the Mexican Constitution of 1824 were embraced by the emerging generation of Californios and Californias (persons of Mexican heritage born in California). Most of these young peoples' parents were soldiers from Sonora and Sinaloa who had risen to positions of authority within the military. The opportunities for upward mobility for themselves and their families were significant.

In 1846, the Mexican-American war erupted following the Bear Flag Revolt in California. Both the 1848 Treaty of Guadalupe Hidalgo in which Mexico ceded California to the United States and the unprecedented events of the Gold Rush that same year destabilized California, producing rapid, dramatic change.

American Period (1848-Present)

The Mexican-American war followed on the heels of the Bear Flag Revolt of June 1846. General Andrés Pico and John C. Frémont signed the Articles of Capitulation in December 1847, and with the signing of the Treaty of Guadalupe Hidalgo in February 1848, hostilities ended and Mexico relinquished California to the United States. Under the treaty, Mexico ceded the lands of present-day California, New Mexico, and Texas to the U.S. for \$15 million. Within two years following the treaty, California applied for admission as a state.

Laguna Niguel History

Juan Avila received the 13,316-acre Laguna Niguel land grant in 1842 and re-established the title in 1848 after California became part of the United States. He remained owner of Rancho Niguel until 1865. By 1884, Chicago born Lewis Moulton rented Rancho Niguel from then owner Cyrus B. Rawson to rear sheep and cattle. In 1895, Moulton and his business partner, French Basque born Jean Pierre Daguerre, purchased the rancho and established the Moulton-Daguerre Ranch. Following the death of Daguerre in 1911 and Moulton in 1938, the surviving Moulton family maintained the ranch until 1950. The land was then divided amongst the Moulton and Daguerre families.

In 1954, the Daguerre daughters sold their massive 7,000+ acre parcel to Eugene Shumaker. Four years later, in 1958, Schumaker sold the land to the development company Cabot, Cabot, and Forbes. The company immediately formed the Laguna Niguel Corporation in 1959 with the intent of using the land to create a master planned community. A large team of architects, engineers, artists, and landscapers were assembled to undertake the monumental planning task. Essential utility development began in 1959 with continuous community expansion up through the 1980s.

In 1962, the Laguna Niguel Corporation officially opened the residential communities of Monarch Bay and Niguel Terrace which comprised of a total of 565 homes. Two years later, the residential population had grown to 1,000 and by 1966 the Laguna Niguel Homeowner's Association was formed. In 1986, a community services district was formed following a residential vote. In November of 1988, voters overwhelmingly supported incorporation which became official on December 1, 1989, making Laguna Niguel the 29th city in Orange County.

By 1990, the local population had grown to 45,000 which spurred future development of neighborhood parks and additional public facilities. In 2011, a new City Hall was opened.

5.7.4 Cultural Resources

A search of the California Historic Resources Inventory System (CHRIS) at the South Central Coastal Information Center (SSCIC) located at California State University, Fullerton on August 14, 2023. The records search covered the entire City. Thirty-six (36) cultural resources have been recorded within Laguna Niguel. Of these, 27 are prehistoric archaeological sites, four are prehistoric archaeology isolates, and five are historic-aged built environment resources. The prehistoric archaeology resources range from habitation sites, lithic scatters, middens, and bedrock milling sites. All archaeology sites are unevaluated for NRHP/CRHR listing. Of the five historic-aged built environment resources previously recorded within the City, four of the resources have been evaluated for NRHP eligibility. The four historic-aged built environment resources are described below.

P-30-176950 was originally recorded in 2009 by Roderic McClean as a historic cylindrical steel water storage tank known as Pacific Island Reservoir No. 2. The tank was built in 1963 with a capacity of one million gallons which services the City of Laguna Niguel. The tank was recommended ineligible for listing on the National Register of Historic Places (NRHP). In 2014, the tank was revisited by K. A. Crawford and the associated water system was recorded as part of the site. The concrete foundation, steel exterior, metal ladders, piping system and ancillary equipment building were all added to the site record. The tank was again recommended to be ineligible for listing on the NRHP.

P-30-177041 was recorded in 2010 by K. A. Crawford as a historic cylindrical steel water storage tank reservoir of recycled water. The water tank is in a complex of 3 total water storage tanks with associated equipment buildings. The tank was recommended to be ineligible for listing on the NRHP.

P-30-177064 was recorded in 2011 by Roderic McClean as a historic cylindrical steel water storage tank reservoir of potable water. The tank was built in 1964 and services the City of Laguna Niguel. The tank was recommended to be ineligible for listing on the NRHP.

P-30-177527 was recorded in 2014 by K. A. Crawford as a historic cylindrical steel water storage tank reservoir. The tank has associated equipment storage areas and perimeter fence. The tank was recommended to be ineligible for listing on the NRHP.

In addition, a variety of other sources were consulted, including the California State Historic Property Data File (which includes the National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest), the Built Environment Resource Directory (BERD), California Office of Historic Preservation's Historic Resources Inventory (HRI) directory, as well as a review of known cultural resource surveys, excavation reports, and historic aerial photos and maps. No resources were identified in the City in the NRHP, CRHR, CHL, or Caltrans Historic Bridge Inventory.

Built Environment Resource Directory (BERD)

Below are descriptions of the results found in the BERD record search:

Chet Holifield Federal Building (OTIS ID: 665856)

The most current version of the Built Environment Resource Directory (BERD) assigns the Chet Holifield Federal Building (CHFB) (OTIS ID: 665856) the California Historical Resource Status Code: 2S2 (Individual property determined eligible for National Register by a consensus through Section 106 process. Listed in the California Register).

Built between 1968 and 1971, the Chet Holifield Federal Building was designed to resemble a ziggurat by William L. Pereira & Associates. The architectural design of this building is rare in the United States with key features including seven-stepped tiers, precast concrete panels, textured finish, and incorporates some elements of Brutalism style (exposed concrete surfaces, massive forms, and recessed windows) (GSA 2023). The building was originally constructed for North American Aviation and Rockwell International, however, ownership changed to the General Services Administration in 1974. Primary tenants today include various federal agencies.

Rancho Niguel Water Tank Clearwire (CA-ORC5083A; OTIS ID 517624)

No additional information could be located regarding the history of this resource. This resource is assigned the California Historical Resource Status Code: 2S (Individual property determined eligible for National Register by the Keeper. Listed in the California Register).

Pacific Island Reservoir No.2 (OTIS ID 5714593)

No additional information could be provided regarding the history of this resource. This resource is assigned the California Historical Resource Status Code: 6Y (Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or local listing.)

Niguel Water Tank No. 2 (OTIS ID 517625)

No additional information could be provided regarding the history of this resource. This resource is assigned the California Historical Resource Status Code: 6Y (Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or local listing.)

Niguel Water Tank No. 3 (OTIS ID 517625)

No additional information could be provided regarding the history of this resource. This resource is assigned the California Historical Resource Status Code: 6Y (Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or local listing.)

5.7.5 Paleontological Resources

A search for paleontological records was completed by the Natural History Museum of Los Angeles County. Published literature, unpublished paleontological reports, and online databases were also searched for fossil records. Unpublished reports included an earlier literature review from the near vicinity of the City. Databases included the Natural History Museum of Los Angeles County Invertebrate Paleontology, the Paleobiology Database, and the University of California Museum of Paleontology. Summaries of the paleontological resources within and near Laguna Niguel are provided below.

Late Eocene to Latest Early Miocene: Sespe Formation

At least 25 fossils of terrestrial animals have been recovered from 17 localities in the Sespe Formation in Orange County. Two localities were recovered from the Lower Bowerman Landfill, nine localities were recovered from the Upper Bowerman Landfill, four localities were recovered from the Foothill Transportation Corridor-Oso segment, and a locality was recovered from the San Joaquin Hills. The OCPC listed one locality from the El Toro 7.5' USGS topographic quadrangle. These localities have produced fossils of canine, weasel, peccary, oreodont, camel, musk deer, opossum, shrew, pika, squirrel, rodent, and iguana

Early Miocene: Vaqueros-Sespe Formation

At least 2400 fossils of terrestrial animals and plants have been recovered from 122 localities in the Vaqueros-Sespe Formation in Orange County. These localities have produced fossils of canine, bear, weasel, rhinoceros, horse, peccary, pig-like artiodactyl, oreodont, camel, deer-like artiodactyl, musk deer, hedgehog, shrew, pika, rabbit, squirrel, rodent, opossum, and reptile.

Middle Miocene: Topanga Group

At least 375 fossils of marine and terrestrial animals have been recovered from 37 localities in the Topanga Group in Orange County. These localities have produced fossils of pinnipeds, baleen and toothed whales, dugongs, sea cows, desmostylians, proboscideans, rodents, birds, sea turtles, bony fish, sharks, rays, and invertebrates.

Late Miocene: Monterey Formation

At least 150 fossils of marine animals have been recovered from 31 localities within and near to the City. These localities have produced fossils of pinnipeds, baleen and toothed whales, dugongs, desmostylians, birds, crocodiles, sea turtles, bony fish, sharks and rays, and invertebrates. Numerous species of land plants and algae have also been recovered from these localities.

Late Miocene to Early Pliocene: Capistrano Formation

At least 375 fossils of marine and terrestrial animals have been recovered from 33 localities from the Oso Sand of the Capistrano Formation. These localities have produced fossils of pinnipeds, rodents, camels, baleen and toothed whales, horses, rhinoceros, mastodon, dugong, sea cows, desmostylians, birds, sea turtles, tortoise, bony fish, sharks and rays, and invertebrates. Numerous species of land plants and algae have also been recovered from these localities.

At least 100 fossils of marine and terrestrial animals have been recovered from 30 localities from undifferentiated deposits of Capistrano Formation. These localities have produced fossils of pinnipeds, camels, baleen and toothed whales, horses, birds, sea turtles, tortoise, crocodile, bony fish, sharks and rays, and invertebrates.

Pliocene To Pleistocene: Niguel Formation- Quaternary Terrace

A fossil of a sea lion and a camel have been recovered from two localities in Niguel Formation – Quaternary terrace deposits.

Pleistocene Deposits

At least 225 fossils of terrestrial animals have been recovered from 29 localities from Pleistocene deposits outside of Laguna Niguel. These localities have produced fossils of ground sloth, short faced bear, American lion, mammoth, mastodon, horses, ancient bison, shrews, reptiles, and amphibians. The most significant of these localities is Costeau Pit, located nearby Laguna Niguel in the City of Laguna Hills, which has additionally produced coyote, dire wolf, saber-toothed cat, camel, llama, diminutive pronghorn, long-horned bison, rabbits, rodents, and birds.

The following units include Pleistocene sediments:

- Quaternary very old axial channel deposits (Qvoa, Qvoa2, Qvoa3); early to middle Pleistocene
- Quaternary very old alluvial fan deposit (Qvof); early to middle Pleistocene
- Quaternary young axial channel deposit (Qya); late Pleistocene to Holocene
- Quaternary young alluvial fan deposit (Qyf); late Pleistocene to Holocene
- Quaternary young landslide deposit (Qyls); late Pleistocene to Holocene

Holocene Deposits

No fossils are known from any of the Holocene deposits as they are all too young to contain fossils. The following units are Holocene in age:

- Very young colluvial deposits (Qc); late Holocene
- Very young slope wash deposits (Qsw); late Holocene
- Very young landslide deposits (Qls); late Holocene
- Artificial fill; modern

5.7.6 References

Cogstone Resource Management, October 2024. *Cultural and Paleontological Resources Assessment for the Laguna Niguel General Plan Update Project, City of Laguna Niguel, Orange County, California.* Appendix B: Cultural and Paleontological Resources Study.

5.8 VISUAL RESOURCES

Laguna Niguel occupies a hilly basin near the southern end of the San Joaquin Hills, a small coastal mountain range in southern Orange County. Elevations in Laguna Niguel range from near sea level to 936 feet at the summit of Niguel Hill, in the southwest corner of the City. Low mountain ridges, some of which attain heights of one- to two-hundred feet, trend northeast to southwest and dissect much of the Laguna Niguel area.

The City's visual character is defined by an abundance of open space and development consisting predominantly of detached single-family residential communities. There are nearly 200 distinct neighborhoods or subdivisions, with most of the detached single-family communities within a homeowners association (HOA). These residential uses are connected by landscaped corridors and surrounded by extensive open space and recreational uses. The natural setting of Laguna Niguel is characterized by low lying hills and steeper escarpments that create several prominent landforms. Most of the natural landscape of Laguna Niguel has been altered by previous grading activities; however, there are still several prominent ridgelines in the City. One of the more important ridge areas is in the southwestern portion of the City, in the Aliso Canyon area. This area is characterized by predominantly steep slopes with elevations ranging from 818 to 220 feet and provides distant views of the ocean. Other ridges are in the Salt Creek and Colinas Bluff areas. Many of these ridge areas have slopes that are more than 30 percent.

Retail, office, industrial, and public/institutional land uses make up a small proportion of the City's total land area and are primarily located along major corridors, such as Crown Valley Parkway, Alicia Parkway, La Paz Road, and Golden Lantern. Most retail land uses are concentrated within neighborhood and community shopping centers such as Town Center, the Marketplace at Laguna Niguel, Plaza de la Paz, Ocean Ranch Village, Laguna Niguel Promenade, Crown Valley Mall, Laguna Niguel Plaza, Laguna Heights and the Center at Rancho Niguel.

5.8.1 Scenic Vistas

While the City's existing General Plan does not designate scenic vistas (publicly accessible viewsheds that include scenic resources), views of scenic resources are available from numerous public vantage points within the Planning Area, including public trails, parks and open space areas, and streets. Mid-to-long range views of the San Joaquin Hills and long-range views of the Santa Ana Mountains are generally available throughout much of the Planning Area. Long-range views of the Pacific Ocean are also afforded from public trails, parks, and streets within the southern portion of the Planning Area, such as Aliso Summit Trail, Laguna Ridge Trail, Colinas Bluff Trail, and Long View Trail. Views of these scenic resources are highly dependent on topographic features of the area and atmospheric conditions. Publicly accessible long-range views are primarily provided from elevated locations at public trails, parks, and streets within the Planning Area. Other features that contribute to the visual character within the Planning Area include open space areas, trees and landscaping, the density and distribution of existing development, and the architecture of the built environment.

5.8.2 Scenic Highways

No eligible or designated State Scenic Highways exist within the Planning Area.² The nearest officially designated State Scenic Highway is a portion of State Route 91 (SR-91) in the City of Anaheim, beginning at the intersection of SR-91 and SR-55. The portion of SR-91 that is officially designated as a State Scenic Highway is located approximately 20 miles north of the Planning Area; the Planning Area is not within the viewshed of this State Scenic Highway. The nearest eligible State Scenic Highways include a portion of SR-1 from the City of Long Beach to the intersection of Interstate 5 (I-5) in Dana Point, approximately 0.25-miles west of the City at its closest point; a portion of I-5 from San Diego to the intersection of SR-74 near San Juan Capistrano, approximately one mile southeast of the City at its closest point; and a

² California Department of Transportation, *California State Scenic Highway System Map*, <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>, accessed March 18, 2025.

portion of SR-74 from its intersection with I-5 to Idyllwild, approximately 1.2 miles east of the City at its closest point.

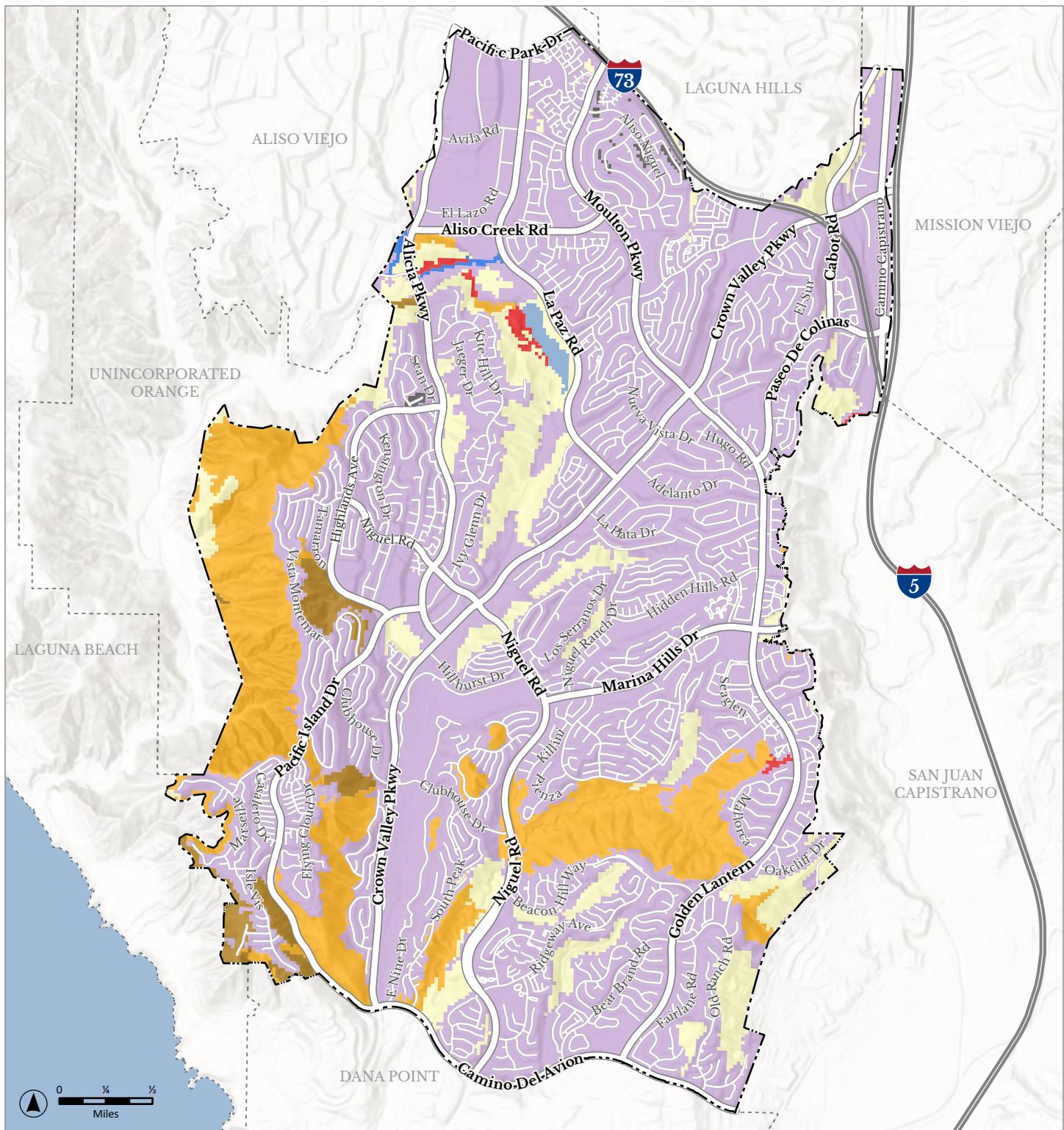
While there are no designated State Scenic Highways, Laguna Niguel has identified multiple thoroughfares that are designated as Landscape Corridors, which are valued for their scenic character and intended to enhance the driving experience and overall visual quality of the community.³ These routes are consistent with the County of Orange Master Plan of Scenic Highways, apart from the addition of the portion of Alicia Parkway between Aliso Creek Road and Crown Valley Parkways and Pacific Island Drive. Adjacent landscaping and public and private properties contribute to the visual appeal of Landscape Corridors and help soften the transition to surrounding developed areas. See Figure 5-13, for a map of designated Landscape Corridors within Laguna Niguel.

5.8.3 References

California Department of Transportation, 2023. *California State Scenic Highways*. <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>, accessed August 17, 2023.

City of Laguna Niguel, 1992. *City of Laguna Niguel General Plan*.

³ City of Laguna Niguel, 1992. *City of Laguna Niguel General Plan*.



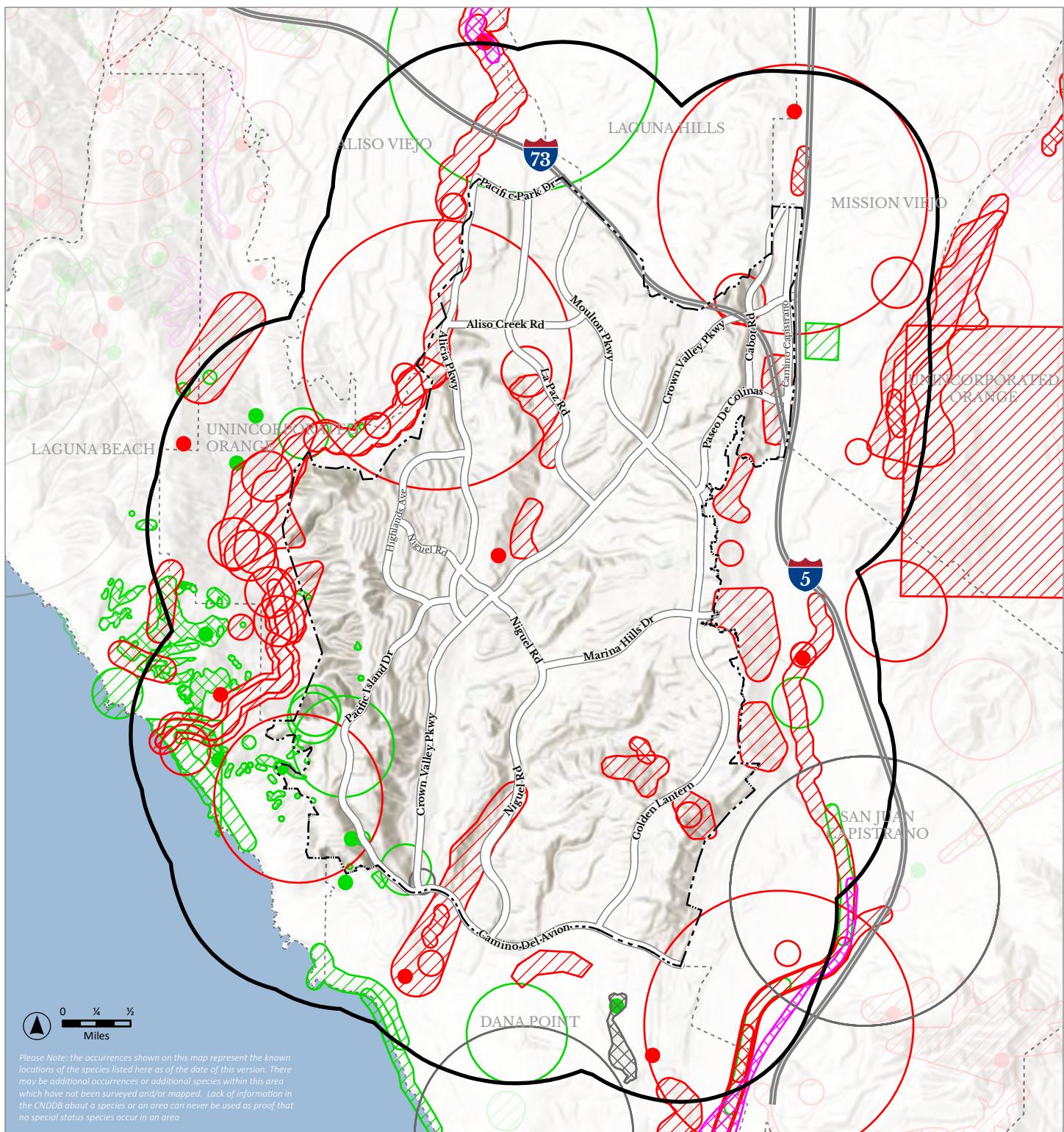
Data sources: CALFIRE/FRAP 2015; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
October 2, 2023

LEGEND

Laguna Niguel City Boundary	Coastal Scrub	Barren
Other Jurisdictions	Mixed Chaparral	Valley Foothill Riparian
Annual Grassland	Eucalyptus	Urban

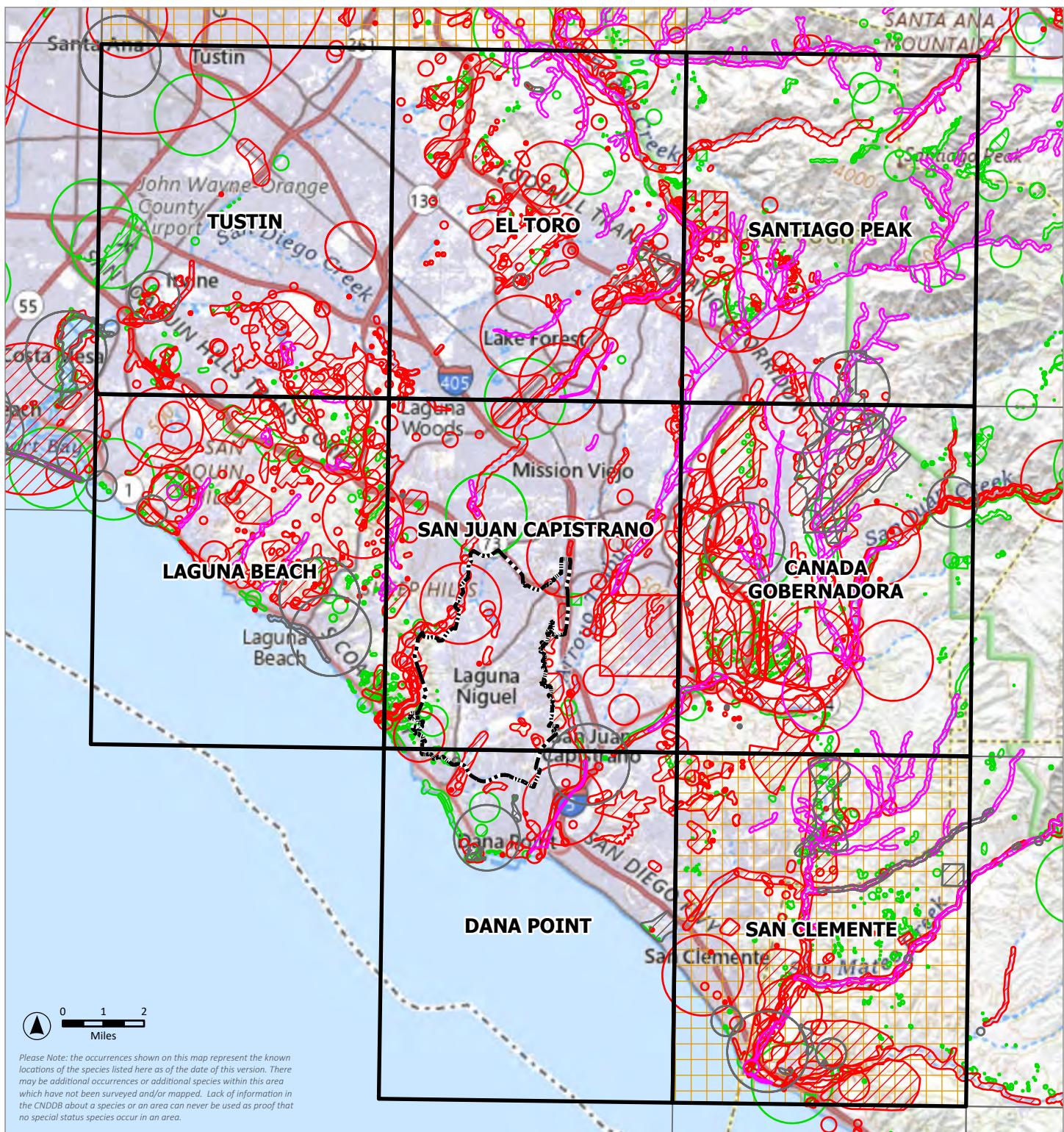
Figure 5-1.
Land Cover Types



LEGEND

<input type="checkbox"/> Laguna Niguel City Boundary	<input type="checkbox"/> Plant (specific)	<input type="checkbox"/> Animal (specific)	<input type="checkbox"/> Multiple (specific)
<input type="checkbox"/> Other Jurisdictions	<input type="checkbox"/> Plant (non-specific)	<input type="checkbox"/> Animal (non-specific)	<input type="checkbox"/> Multiple (circular)
Special Status Species Occurrence	<input type="checkbox"/> Plant (circular)	<input type="checkbox"/> Animal (circular)	
<input type="checkbox"/> Plant (80m)	<input type="checkbox"/> Animal (80m)	<input type="checkbox"/> Terrestrial Comm. (specific)	

Figure 5-2.
California Natural Diversity Database 1-mile Search



LEGEND

Laguna Niguel City Boundary

Special Status Species Occurrence

Sensitive Environmental Occurrence

Plant (80m)

Plant (specific)

Plant (non-specific)

Plant (circular)

Animal (80m)

Animal (specific)

Animal (non-specific)

Animal (circular)

Terrestrial Comm. (specific)

Terrestrial Comm. (circular)

Multiple (80m)

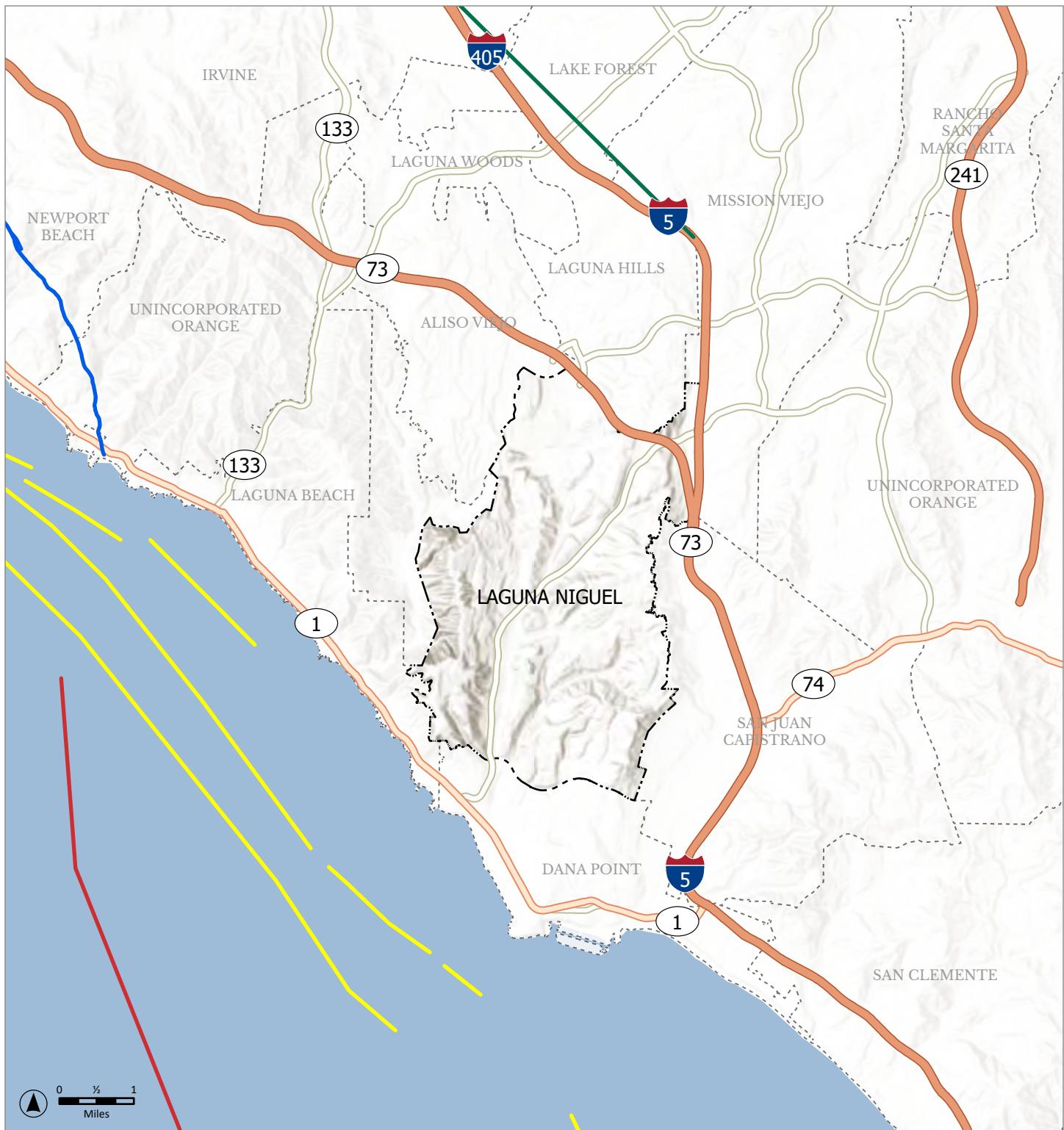
Multiple (specific)

Multiple (non-specific)

Multiple (circular)

Figure 5-3.

California Natural Diversity Database 9-quad Search



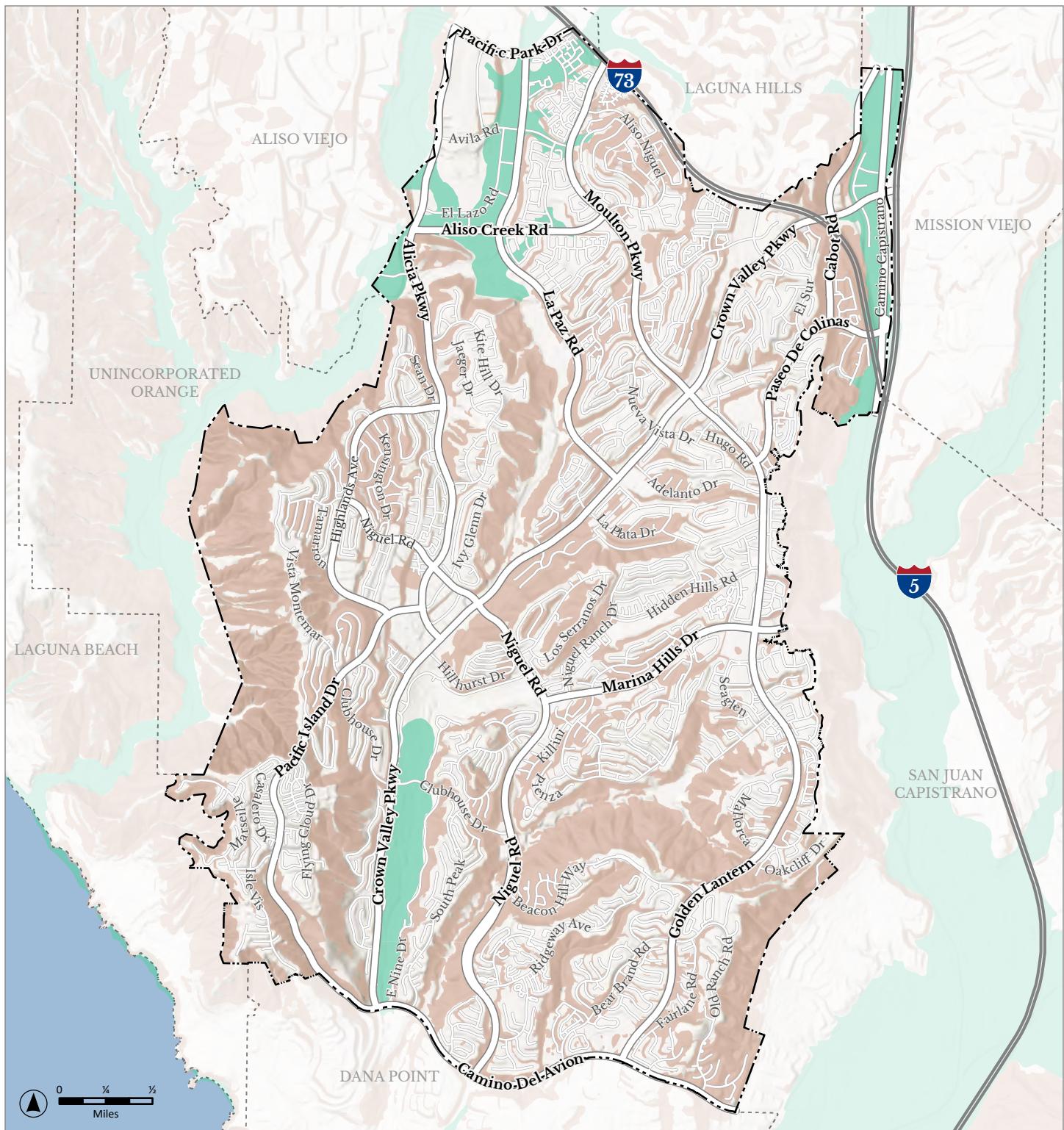
Data sources: USGS; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
October 26, 2023

LEGEND

<input type="checkbox"/> Laguna Niguel City Boundary	Yellow line: Newport-Inglewood-Rose Canyon fault zone
<input type="checkbox"/> Other Jurisdictions	Red line: Oceanside fault
	Blue line: Pelican Hill fault
	Green line: San Joaquin Hills thrust

Figure 5-4.
Geologic Faults



Data sources: CGS Information Warehouse, Seismic Hazards Zonation Program (Dana Point/San Juan Capistrano/Laguna Beach quads); City of Laguna Niguel; Orange County GIS.

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LEGEND

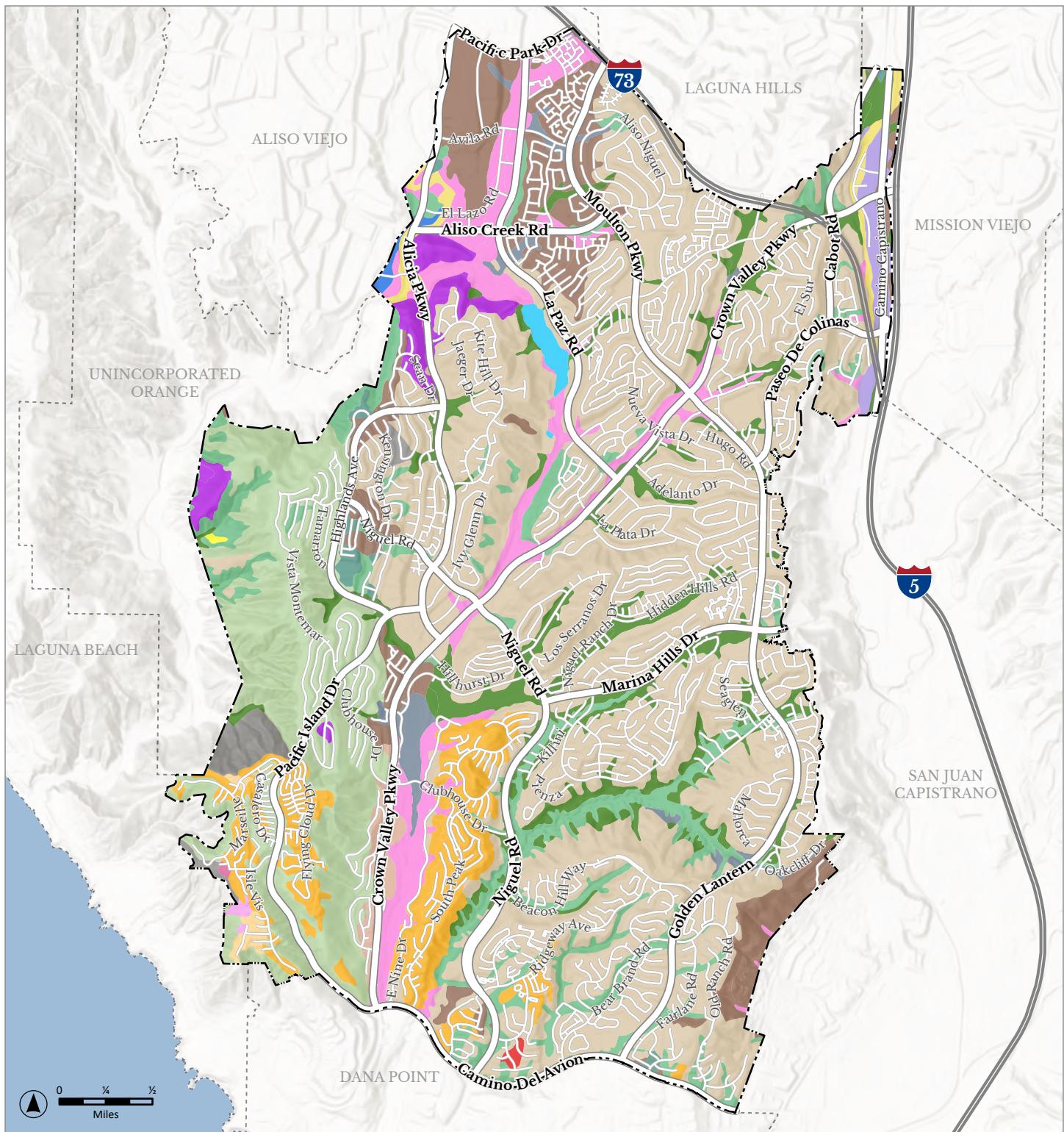
Laguna Niguel City Boundary
 Other Jurisdictions

Seismic Hazard Zones

	Liquefaction Zone
	Landslide Zone

Figure 5-5.

Seismic Hazard Zones



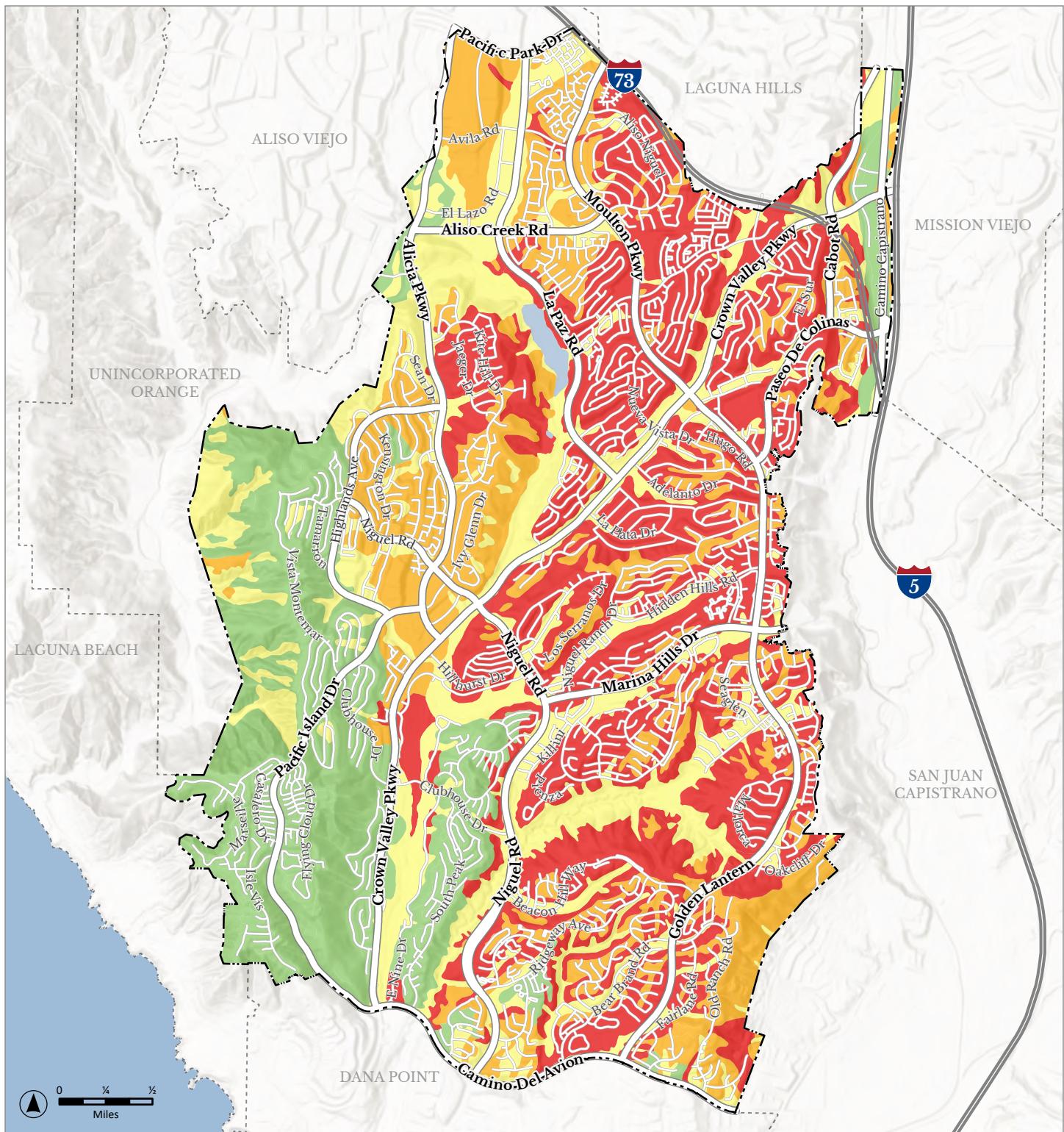
Data sources: NRCS Web Soil Survey, CA678 v16, 9/6/2022; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
September 21, 2023

LEGEND

Laguna Niguel City Boundary	Bolsa silty clay loam	Chino silty clay loam	Myford sandy loam	Soper gravelly loam/rock outcrop complex
Other Jurisdictions	Bosanko clay	Cieneba-Rock outcrop complex	Riverwash	Sorrento loam
Alo clay	Botella loam/clay loam	Corralitos loamy sand	Rock outcrop-Cieneba complex	Yorba gravelly sand
Balcom clay loam	Calleguas clay loam	Cropley clay	Soboba cobbley loamy sand	Water
Beaches	Capistrano sandy loam	Modjeska gravelly loam		
	Chesterton loamy sand			

Figure 5-6.
Soils Map



Data sources: NRCS Web Soil Survey, CA678 v16, 9/6/2022; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
September 21, 2023

LEGEND

□ Laguna Niguel City Boundary

Other Jurisdictions

Shrink-Swell Potential of Soils*

A vertical color scale with four levels: Low (green), Moderate (yellow), High (orange), and Very High (red).

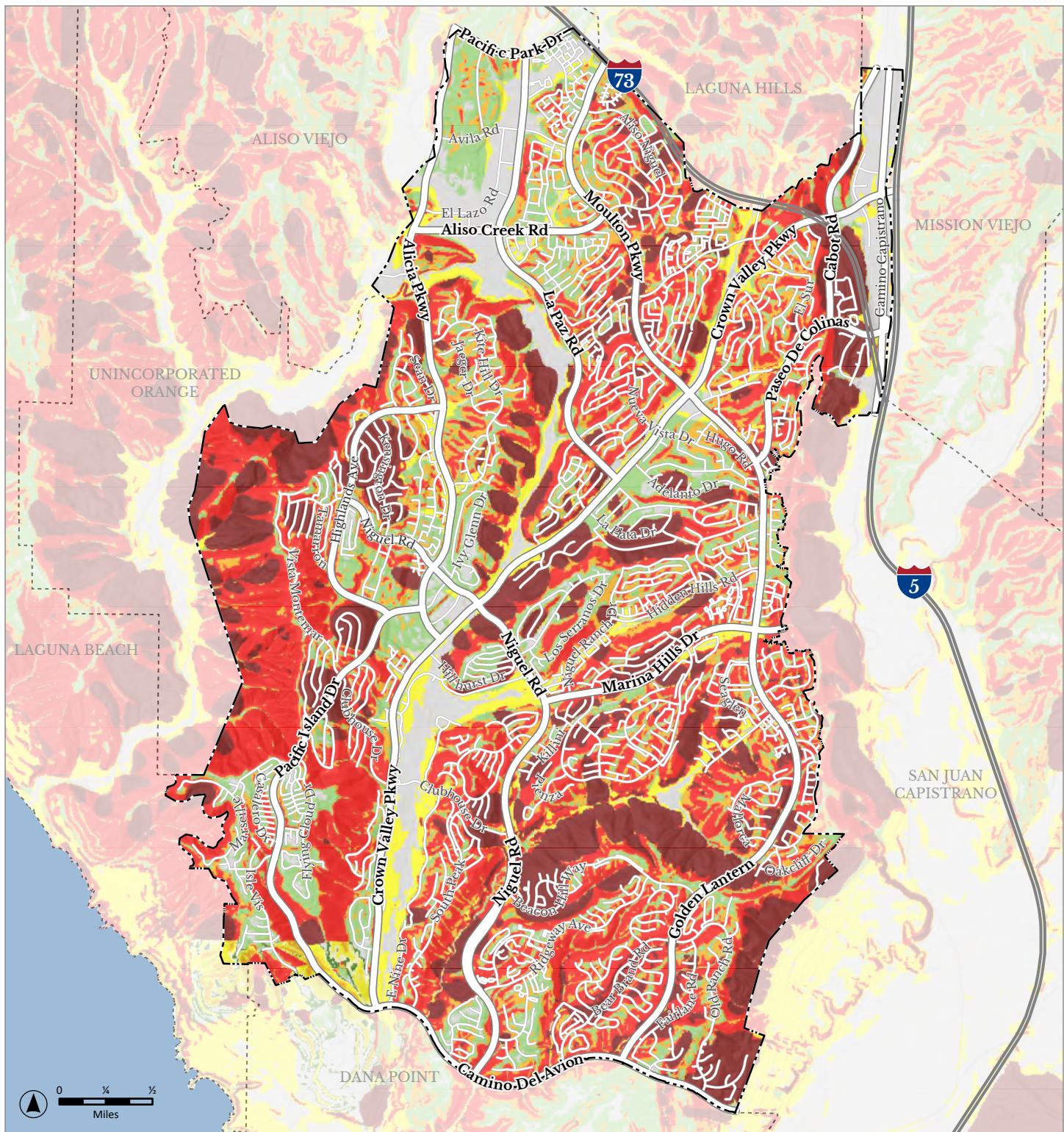
* Shrink-Swell Potential is based on a linear extensibility rating. Linear extensibility refers to the change in volume of an unconfined clod of soil as moisture content is decreased from a moist to a dry state. The volume change is reported as percent change for the whole soil.

A map unit is typically composed of one or more soil/rock components. Each of these components may have its own linear extensibility rating. For mapping purposes, these individual ratings are aggregated into a single value that represents the map unit as a whole. For each map unit, linear extensibility is actually recorded as three separate values: a low value, a high value, and a "representative" value. The "representative" value indicates the expected value for the soil component. This map is based on the "representative" value of each aggregated map unit, using the Weighted Average Aggregation method where percent composition is the weighting factor.

Map units with a representative values of 0-3% linear extensibility are considered Low for shrink-swell potential. Ratings of 3-6% are considered moderate. Ratings of 6-9% are considered high, and ratings above 9% are very high. Some map units are not rated.

Figure 5-7.

Shrink–Swell Potential of Soils



Data sources: California Geological Survey Map Sheet 58, Susceptibility to Deep-Seated Landslides in California, 2011; City of Laguna Niguel; Orange County GIS.

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October 2, 2023

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions

Landslide Susceptibility Class

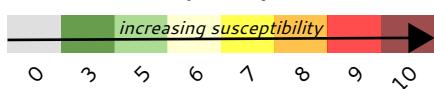
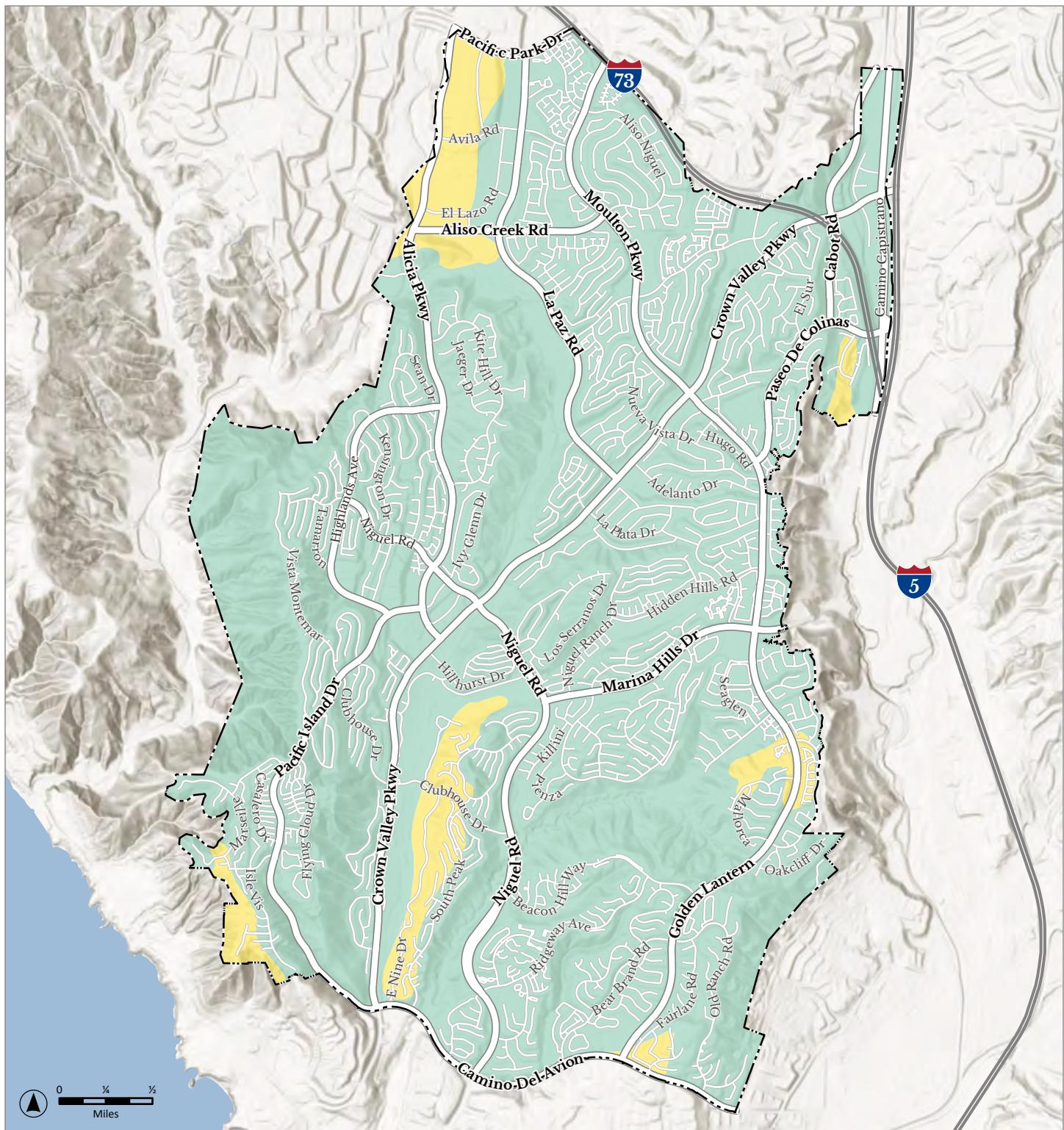


Figure 5-8.
Landslide Susceptibility



Data sources: California Department of Conservation Division of Mines and Geology, Open-File Report 94-15, Update of Mineral Land Classification of the Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, California, Part III - Orange County, 1994; City of Laguna Niguel; Orange County GIS.

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October 26, 2023

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.

Figure 5-9.
Mineral Resource Zones



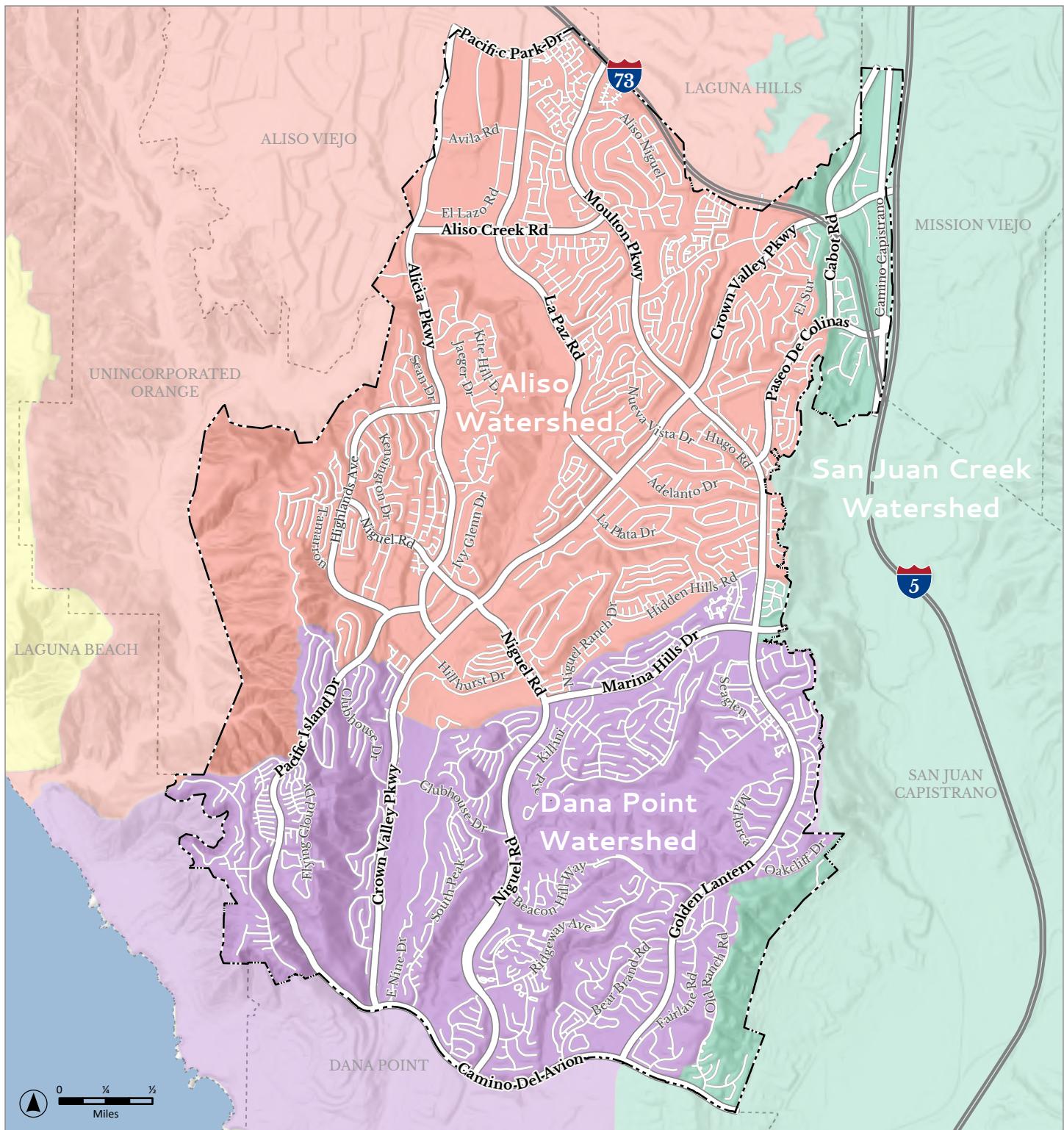
Data sources: USGS Watershed Boundary Dataset; California State Geoportal; City of Laguna Niguel; Orange County GIS.

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October 26, 2023

LEGEND

Laguna Niguel City Boundary	Hydrologic Basins (HU-6)	Hydrologic Subbasins (HU-8)
California State Boundary	Laguna-San Diego Coastal	
	Salton Sea	
	Santa Ana	

Figure 5-10.
Hydrologic Basins



Data sources: Orange County GIS.

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February 9, 2024.

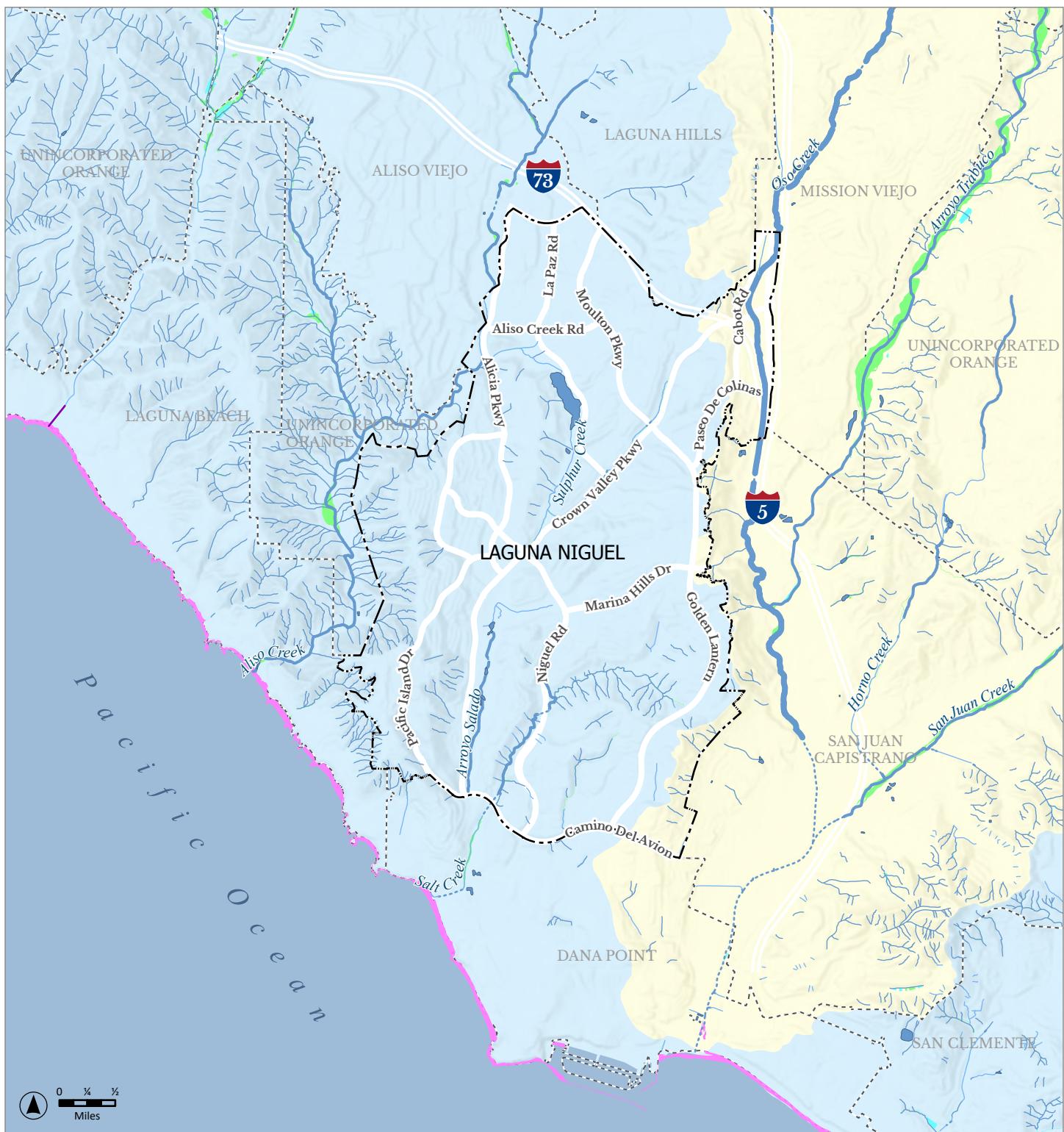
LEGEND

Laguna Niguel City Boundary
 Other Jurisdictions

Regional Watersheds

- Aliso
- Dana Point
- Laguna Coast
- San Juan Creek

Figure 5-11.
Regional Watersheds



Data sources: USGS Watershed Boundary Dataset and National Wetlands Inventory; City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
October 26, 2023

LEGEND

Laguna Niguel City Boundary

Watersheds (HU-10)

Aliso Creek-Frontal Gulf of Santa Catalina

San Juan Creek

Water Features

- Perennial Stream
- Intermittent Stream
- Ephemeral Stream

Connector/Artificial Path

Canal/Ditch

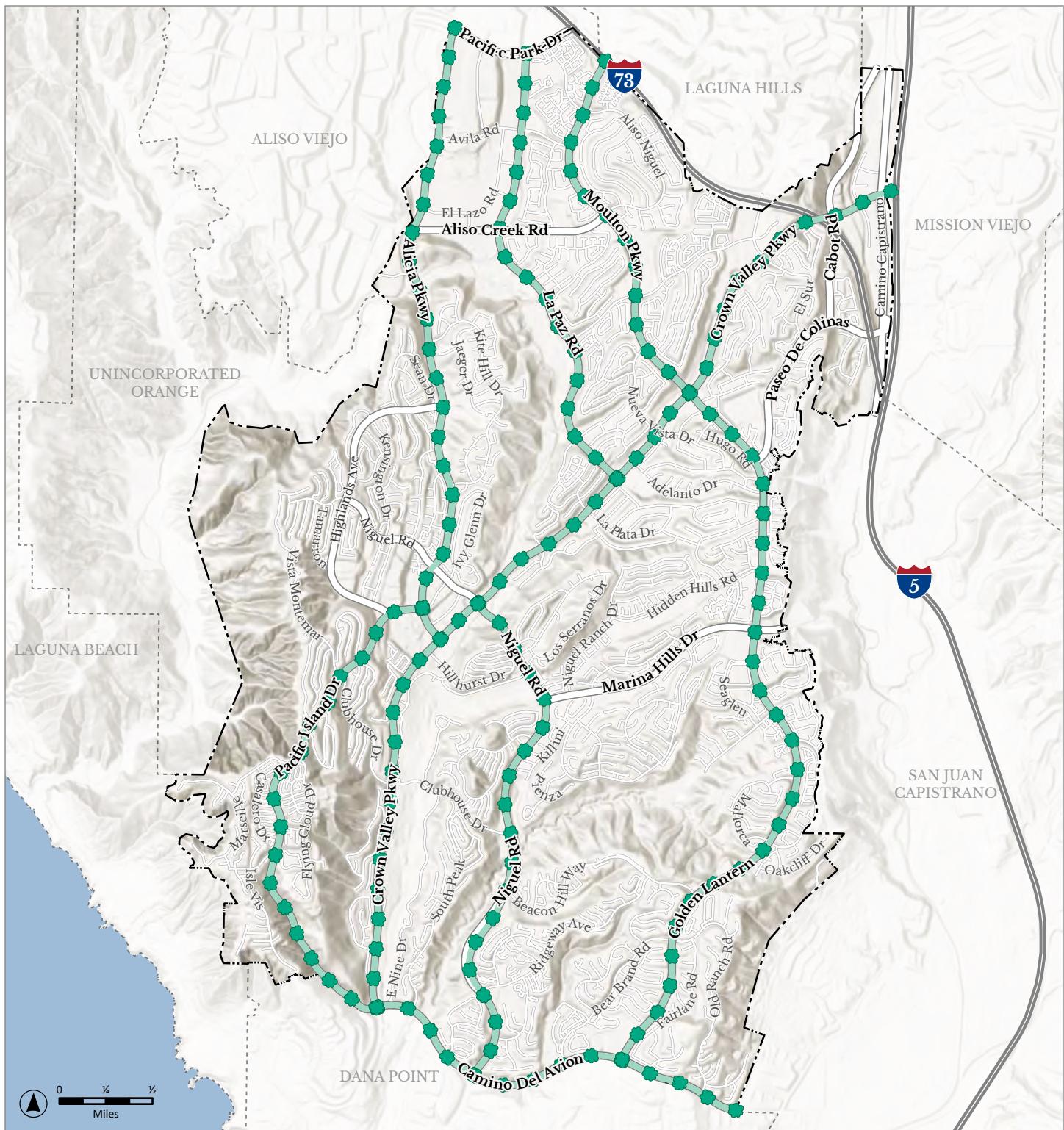
Underground Pipeline

Lake/Pond/Reservoir

Wetlands

- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Figure 5-12.
Watersheds and Surface Water



Data sources: City of Laguna Niguel; Orange County GIS.

Prepared for the City of Laguna Niguel by De Novo Planning Group
September 12, 2023

LEGEND

- Laguna Niguel City Boundary
- Other Jurisdictions
- Landscape Corridors

Figure 5-13.

Landscape Corridors

6 COMMUNITY HEALTH AND WELLNESS

This chapter addresses community health and wellness in Laguna Niguel. Community health and wellness are related to several environmental categories and topics.

There are numerous references to other sections in this report. For example, conditions regarding parks and recreational facilities are discussed in Chapter 3, Utilities and Community Services. Hazards and hazardous materials and applicable regulations are addressed in Chapter 4, Hazards, Safety, and Noise. Air quality and air quality regulations, as well as water quality and water quality regulations, are addressed in Chapter 5, Conservation.

This chapter includes the following sections:

- 6.1 Health and the Built Environment
- 6.2 Health Indicators
- 6.3 Opportunities for Physical Activity
- 6.4 Healthy Food Access
- 6.5 Access to Healthcare and Health Facilities
- 6.6 Local Programs Related to Health and Wellness



6.1 HEALTH AND THE BUILT ENVIRONMENT

This section describes the relationship between health and the built environment and outlines how city planning policies can directly impact resident health.

6.1.1. Historical Background

The field of city planning, and the role of city planners grew out of concerns for public health and welfare during the periods of rapid industrialization and urban growth in American cities in the early 20th century. These concerns were related to pollution and unsanitary conditions in cities where industrial operations such as tanneries and slaughterhouses abutted homes and schools, and tall skyscrapers blocked light and air from streets. Poor living conditions for city residents often resulted in infectious disease outbreaks and public health emergencies. Early planners required sanitary sewers to prevent cholera epidemics and zoned city blocks to buffer residential neighborhoods from polluting industries, often resulting in a strict separation of uses that is still common today.

These land use restrictions, infrastructure requirements, and development regulations went far beyond the 19th century common law theory of nuisance that addressed public health and safety by prohibiting “unreasonable” uses of land to prevent similar outbreaks of infectious diseases.

By 1926, the U.S. Supreme Court’s decision on *Village of Euclid v. Ambler Realty Co.* established the right of local governments to control land use through zoning laws and introduced the concept of “Euclidean” zoning that segregated land uses to minimize conflicts. While these laws and trends prevented factories from locating close to neighborhoods and offered centralized wastewater and waste disposal services which decreased instances of disease and epidemics, they also resulted in a shift in the built environment.

Strong zoning regulations that separated industrial and residential uses gave rise to the rapid expansion of suburbs and the “suburban lifestyle” during the 1950s. Increased U.S. investments in the national highway system and the increased accessibility of the automobile to average American families resulted in people living farther and farther away from their place of work, schools, shopping centers, and recreational centers. Improvements in the transportation system, including the construction of freeways, further weakened the connection between work, home, retail, and other daily services, isolating them from one another and making them accessible only by car.

While these laws and trends prevented factories from locating close to neighborhoods and offered a means to escape from the polluted city center, they also provided local governments the power to exclude and segregate communities and supported the growth of suburbs. People were protected from infectious diseases such as tuberculosis and cholera, but they now faced new epidemics such as obesity, asthma, heart disease, and diabetes, all related to the design of the built environment.

Despite the historical connection between public health and planning, addressing public health through city planning became less common as the 20th century progressed. One reason is that early planning practices successfully resolved many of the public health issues plaguing urban areas during the early 20th century, such as overcrowding and the proximity of housing to heavy industry. Public health professionals began to focus on disease treatment, education, and discouraging unhealthy behaviors, while planning professionals shifted their attention to such issues as economic development and transportation. Planners particularly focused on how to accommodate rapid population growth and the desire for unlimited personal mobility through driving. Zoning increasingly became a means to protect property values and bolster the tax base, and infrastructure projects more often served to provide for efficient movement of vehicles.

In recent decades, however, there has been a rediscovery and professional shift in city planning that recognizes the role our built and natural environments play in public health and well-being. The environmental movement in the 1970s gave rise to the environmental review process, including the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Other urban planning concepts such as New Urbanism and smart growth have suggested a reassessment of urban development policies of the previous decades in favor of a return to the traditional neighborhoods and urban form that valued a mix of uses, pedestrian and transit amenities, and compact development.

6.1.2 Current Trends

The places where people live, work, and play profoundly shape the health of a community. Transportation options, accessible parks, crosswalks, the availability of grocery stores, and the prevalence of fast-food restaurants, and real or perceived levels of crime and safety are a few examples of physical indicators that provide a framework for a community, sculpt the daily routines of residents, impact lifestyle choices, and ultimately affect public health and longevity. Collaborative work between city planners and public health professionals can help strategically develop spaces and systems for safe and healthy human activity.

A growing body of evidence supports the idea that the built environment (urban form, design, and street configurations) has a strong impact on the public's health. Between 1995 and 2010, the number of Americans who are overweight or obese (as measured by body mass index, or BMI) increased from 15.9 percent to 27.6 percent (Centers for Disease Control and Prevention, 2010). Additionally, between 2004 and 2010, the percentage of Americans diagnosed with diabetes increased from 7 percent to 8.7 percent.

Based on current obesity trends, for the first time in American history, children are not predicted to live as long as their parents (Besser & Dannenberg, 2005). Increasing rates of these chronic conditions in the U.S. have paralleled higher levels of physical inactivity, auto-dependence, and consumption of foods high in calories and low in nutrients. There is a movement to better understand our decisions about the way we structure our community. Walkable urban form, more compact development, a mix of land uses, transportation choices, and access to recreation spaces all increase physical activity, which can improve health outcomes (Frank, Kavage, & Litman, 2006).

Although California is meeting the Healthy People 2030 targets, a significant percentage (30.3%) of California adults are obese as of 2021 and the obesity rate for children and adolescents aged 10–17 years was 30.4% (United Health Foundation, 2022).

Land use and planning decisions play a role in determining community members' behavioral and lifestyle choices that ultimately impact their physical health and mental well-being. The quality, safety, location, and convenience of the pedestrian or bicycle environment, such as sidewalks, bicycle lanes, signals, and crosswalks, may impact a resident's decision to use them, which in turn influences physical activity levels. Similarly, neighborhood parks and open space provide an avenue for increased physical activity. Infrastructure and zoning to support local food processing and distribution enables local food to be used in the community where it was grown. Access to full-service grocery stores and farmers' markets is also correlated with increased consumption of fruits and vegetables. The physical presence and distribution of health care providers and facilities influence how easily people can access health care.

Furthermore, urban design and maintenance can contribute to or decrease levels of crime and perceptions of pedestrian comfort and safety. Poor mental health is associated, in part, with several factors related to planning, including long commute times, exposure to crime, lack of transportation choice, driving related stress, lack of access to public spaces, and lack of opportunities for recreation and physical activity. Emissions from transportation sources are strongly linked with respiratory diseases, and various toxic air contaminants are known or suspected to cause asthma and cancer. Driving carries with it the risk of accidents that are fatal and or cause injuries for drivers, cyclists, or pedestrians. Automobile accidents alone kill roughly 30,000 Americans each year. Additionally, in 2014, 4,884 pedestrians were killed in auto related accidents (National Highway Traffic Safety Administration, 2014).

6.2 HEALTH INDICATORS

6.2.1. Life Expectancy and Death Data

Average life expectancy at birth is one of the most fundamental measures of the overall health of a community. According to the Life Expectancy in Orange County Report (Orange County Health Care Agency, 2015), life expectancy in Orange County has increased by 5.1 years over the past 25 years. With a life expectancy of 82 years, Orange County residents live over three years longer than the State and national averages. Moreover, the County would rank near the top 10 of all the world's nations in terms of longevity. The Life Expectancy in Orange County Report includes data on average life expectancy at birth by city and shows that Laguna Niguel has the same life expectancy as the County.

The California Department of Public Health provides detailed statistics on deaths throughout California. Between 2018-2020, Orange County had an age adjusted death rate of 561.2 per 100,000 people, which is lower than the State at 625.4 per 100,000 people. (California Department of Public Health, 2022). As shown in Table 6-1, in 2021, the top two leading causes of death for both Orange County and the State were diseases of heart, which includes coronary artery disease and malignant neoplasms (cancerous tumors).

Table 6-1: Leading Causes of Death (2021)

Cause	Orange County ¹		California ²	
	Number	Percent	Number	Percent
Diseases of heart	5348	17%	65684	17%
Malignant neoplasms	4903	15%	59853	15%
Accidents (unintentional injuries)	1523	5%	21534	5%
Cerebrovascular diseases	1493	5%	18370	5%
Alzheimer's disease	1480	5%	16950	4%
Chronic lower respiratory diseases	775	2%	11576	3%
Diabetes mellitus	712	2%	11489	3%
Chronic liver disease and cirrhosis	494	2%	7131	2%
Influenza and pneumonia	452	<2%	4668	<2%
Essential hypertension and hypertensive renal disease	437	<2%	6513	<2%
Parkinson's disease	416	<2%	4053	<2%
Nephritis, nephrotic syndrome and nephrosis	400	<2%	4696	<2%
Intentional self-harm (suicide)	338	<2%	4174	<2%
Assault (homicide)	83	<2%	2558	<2%

SOURCE:

1. CALIFORNIA HEALTH AND HUMAN SERVICES, 2014-2021 FINAL DEATHS BY YEAR BY COUNTY

[HTTPS://DATA.CHHS.CA.GOV/DATASET/DEATH-PROFILES-BY-COUNTY](https://data.chhs.ca.gov/dataset/death-profiles-by-county)

2. CALIFORNIA HEALTH AND HUMAN SERVICES, 2014-2021 FINAL DEATHS BY YEAR STATEWIDE

[HTTPS://DATA.CHHS.CA.GOV/DATASET/STATEWIDE-DEATH-PROFILES](https://data.chhs.ca.gov/dataset/statewide-death-profiles)

6.2.2 Obesity and Overweight Trends

Evidence demonstrates that risk of cancer, heart disease, stroke, Alzheimer's, and diabetes can be decreased by avoiding obesity or being overweight through lifestyle and behavior changes such as increased physical activity and reduced consumption of foods high in calories, sugar, and fat (Giles-Corti & Donovan, 2002; Morland, Roux, & Wing, 2006).

The California Health Interview Survey (CHIS) is the nation's largest State health survey. A random-dial telephone survey conducted every two years on a wide range of health topics, CHIS data gives a detailed picture of the health and health care needs of California's large and diverse population. Data regarding obesity for adults, children, and teens is available from CHIS for the City of Laguna Niguel, Orange County, and the entire State. Adult obesity trends are shown in Table 6-2 and child and teen overweight trends are shown in Table 6-3. Obesity and overweight trends for adults, teens, and children are lower in Laguna Niguel than County and State trends.

Table 6-2: Obesity Trends – Adults (18+)

Year/ Region	Obese (BMI 30.0 or higher)
2020/ Laguna Niguel	19.6%
2018/ Laguna Niguel	17.5%
2016/ Laguna Niguel	19.8%
2020/ Orange County	22.5%
2018/ Orange County	20.4%
2016/ Orange County	23.9%
2020/ California	28.2%
2018/ California	26.8%
2016/ California	28.0%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. ASK CHIS NEIGHBORHOOD EDITION. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://askchisne.ucla.edu/_layouts/NE/DASHBOARD.ASPX#/)

Table 6-3: Overweight Trends – Children (2-11) & Teens (12-17)

Year/Region	Overweight Children (Age 2-11) Weight \geq 95th percentile)	Overweight Teens (Age 12-17) BMI \geq 85th percentile)
2020/ Laguna Niguel	9.1%	19.3%
2018/ Laguna Niguel	8.0%	31.0%
2016/ Laguna Niguel	6.3%	27.9%
2020/ Orange County	11.5%	24.3%
2018/ Orange County	12.8%	37.0%
2016/ Orange County	8.9%	34.9%
2020/ California	13.9%	31.2%
2018/ California	14.9%	33.4%
2016/ California	15.1%	38.2%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. ASK CHIS NEIGHBORHOOD EDITION. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://askchisne.ucla.edu/ask/_layouts/NE/DASHBOARD.ASPX#/)

6.2.3 Physical Activity and Fitness

Lack of physical activity is a major risk factor for many chronic diseases and leading causes of death, including cancer, heart disease, diabetes, stroke, and Alzheimer's. CHIS includes data regarding activity levels for adults, children, and teens in the City of Laguna Niguel, Orange County, and the entire State. Table 6-4 shows that the percentage of Laguna Niguel residents who walked at least 150 minutes a week is a bit higher than County rates and about the same as State rates. The rates are overall higher in 2016 than 2014. Likewise, Table 6-5 shows that the percentage of children in Laguna Niguel age 5-17 who engaged in at least 60 minutes of physical activity a week is a bit higher than County rates and about the same as State rates. However, what is different than the data for adults is that the rates are overall lower in 2016 than 2014. This factor could be related to policy changes, demographic shifts, changes to the built environment, or alterations to social norms.

Table 6-4: Adults (18+) who walked for at least 150 minutes a week

Year	Laguna Niguel	Orange County	California
2016	38.9%	36.9%	38.9%
2014	32.3%	31.3%	33.0%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. ASK CHIS NEIGHBORHOOD EDITION. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://askchisne.ucla.edu/ask/_layouts/NE/DASHBOARD.ASPX#/)

Table 6-5: Children & Teens (5-17) who engaged in at least 60 minutes of physical activity a week

Year	Laguna Niguel	Orange County	California
2016	16.8%	14.6%	16.5%
2014	20.4%	16.9%	20.7%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. ASK CHIS NEIGHBORHOOD EDITION. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://askchisne.ucla.edu/ask/_layouts/NE/DASHBOARD.ASPX#/)

6.2.4 Asthma and Heart Disease

Local air quality conditions can be a strong indicator of asthma rates within a community. Table 6-7 includes data from CHIS for asthma rates for Laguna Niguel. Detailed data on local air quality conditions is contained in Chapter 5 (Conservation) of this report. As shown in Table 6-7, 13.6% of Laguna Niguel children and 15.3% percent of Laguna Niguel adults have been diagnosed with asthma at some point in their lives as of the year 2020. The percentage of children diagnosed with asthma in Laguna Niguel is lower than the County but higher than the State for 2020. Conversely, the percentage of adults diagnosed with asthma in Laguna Niguel is higher than the County but lower than the State for 2020. This is an increase in asthmas rates for both children and adults from the year 2018.

Table 6-7: Asthma Rates

Region	Ever Diagnosed with Asthma (Age 1-17)	Ever Diagnosed with Asthma (Age 18+)
2020 Laguna Niguel	13.6%	15.3%
2018 Laguna Niguel	12.7%	13.8%
2020 Orange County	14.6%	13.7%
2018 Orange County	13.6%	12.7%
2020 California	12.3%	16.1%
2018 California	14.5%	15.9%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. ASK CHIS NEIGHBORHOOD EDITION. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/)

6.2.5 Alcohol Use

The American Medical Association (AMA) reports that approximately 11 million American youth under the age of 21 drink alcohol. Nearly half of them drink to excess, consuming five or more drinks in a row, one or more times in a two-week period. Alcohol is the most frequently used controlled substance by high school seniors, and its use is increasing. Boys usually try alcohol for the first time at just 11 years old, while the average age for American girls' first drink is 13. The AMA reports the following facts for teen-related drinking (American Medical Association, 2011):

- Underage drinking is a factor in nearly half of all teen automobile crashes, the leading cause of death among teenagers.
- Alcohol use contributes to youth suicides, homicides, and fatal injuries – the leading cause of death among youth after auto crashes.
- Alcohol abuse is linked to as many as two-thirds of all sexual assaults and date rapes of teens and college students.
- Alcohol is a major factor in unprotected sex among youth, increasing their risk of contracting HIV or other sexually transmitted diseases.

Research indicates that the density of alcohol outlets may be correlated to the level of crime, domestic violence, and sexual assault in a community. An “alcohol outlet” is defined as a location where alcohol can be purchased and can be moved into an on-premise setting such as a bar or restaurant, or off-premise settings (e.g., packaged liquor stores, grocery stores, convenience stores). Areas with a higher density of alcohol outlets also tend to have higher rates of vehicular accidents and fatalities, underage drinking, and adult alcohol and drug use (Kearns, Reidy, & Valle, 2015). In Laguna Niguel, there is currently a total of 109 active on-and off-sale retail licenses for alcohol sales, which includes 31 active off-sale and 78 active on-sale retail licenses (California Department of Alcoholic Beverage Control, 2023). Table 6-8 summarizes retail liquor licenses per capita in Laguna Niguel, and neighboring cities. The Laguna Niguel active retail license per capita density is less than most neighboring cities. U.S. Census population data was utilized for the year 2021 to calculate retail license per capita.

Table 6-8: Retail Liquor Licenses per Capita (2021-2022 Fiscal Year)

City	Active Off- and On-Sale Retail Licenses	2021 Population	License per Capita
Laguna Niguel	109	64,239	1/589
Aliso Viejo	61	51,824	1/849
Laguna Hills	74	30,965	1/418
San Juan Capistrano	101	34,955	1/346
Dana Point	148	32,821	1/222
Laguna Beach	176	22,795	1/129

SOURCE: DEPARTMENT OF ALCOHOLIC BEVERAGE CONTROL, ALCOHOLIC BEVERAGE LICENSES, AUGUST 2023.

AVAILABLE AT: [HTTP://WWW.ABC.CA.GOV](http://www.abc.ca.gov)

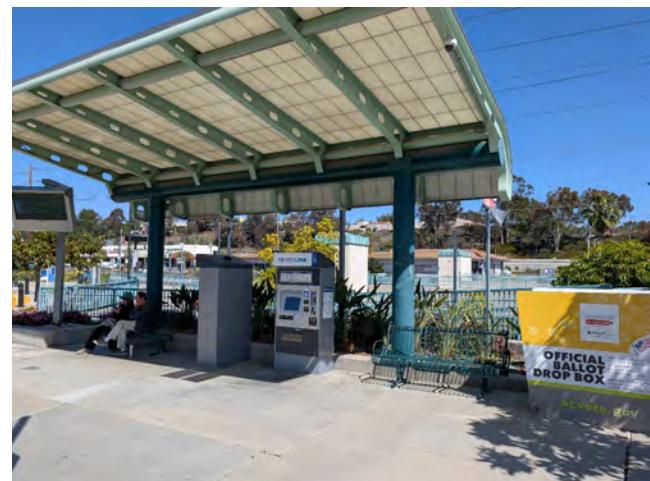
6.3 OPPORTUNITIES FOR PHYSICAL ACTIVITY

This section focuses on levels of neighborhood walkability and existing commercial services (and other destinations) that enable or encourage physical activity. Other chapters of this Existing Conditions Report address topics that also impact physical activity and health, including Chapter 3 (Utilities and Community Services), and Chapter 5 (Conservation).

6.3.1 Active Transportation Use

Active transportation is any form of transportation that is non-motorized. The use of active transportation during a daily commute increases physical activity levels. Increased physical activity has positive health benefits, including mortality risk reduction, disease prevention, cardiorespiratory fitness, and metabolic health. In a comprehensive study of transportation, land use, air quality, and health, researchers found that when many destinations are near the home and there is a direct path to get there, people are more likely to engage in active transportation for at least 30 minutes on any given day (Frank et al., 2005). These results highlight the importance of urban form and of a comfortable, safe, and inviting pedestrian environment. They suggest that a mix of land uses and development densities, a connected and well-maintained pedestrian network, and traffic calming measures can increase physical activity and health.

The American Community Survey (ACS) 2019 5-year estimates report that most workers living in Laguna Niguel (71.7%) drove alone to work, 6.4% carpooled, 0.2% took public transit, 1.6% walked, 0.2% rode a bicycle, 1.3% took a taxicab, motorcycle, or other means.¹ Based on this data, active transportation use within Laguna Niguel is not very prevalent. Utilizing active transportation is an effective way of engaging in physical exercise and can be a factor in improving community health outcomes in general.



¹ U.S Census Bureau. American Community Survey. 2021: ACS 5-Year Estimates Subject Table S0801.

6.3.2 Walkability and Bikeability

A factor that determines physical activity levels is the distance between the home and other neighborhood amenities, including shopping centers, parks, transit, schools, and places of work. If this distance is perceived as "walkable" (safe, pleasant, and distance-appropriate), residents may be more likely and willing to walk to those amenities. A quarter mile is a commonly cited threshold for how far most people are willing to walk for neighborhood services, while many people are willing to walk up to a half mile for work or access to regional transit. Many factors contribute to a neighborhood's real or perceived walkability. Land uses, pedestrian facilities such as lighting and benches, commercial services, urban design, and residents' perceptions of safety, distance, and relative need for goods and services are some indicators that may promote or impede the decision to walk, rather than drive. Residents of higher-density, mixed-use areas make fewer vehicle trips and drive fewer miles than residents of lower-density, more single-use areas (Crane, 2000).

"Bikeability" is like walkability, but on wheels. For an average cyclist, a distance of up to five miles is considered easy, six to ten miles moderate, and more than ten miles difficult. Riding 10 miles at a moderate pace in normal traffic conditions takes about one hour.²



² Bicycle2Work: <https://bicycle2work.com/how-far-is-too-far-to-bike-to-work/>, accessed August 9, 2023.

Within Laguna Niguel, different areas of the City have different levels of walkability and bikeability. One way of measuring these is with Walk Score and Bike Score, which are based on access and proximity to various destinations and amenities from a selected location within a community. Walk Score and Bike Score provide numerical rankings of an area's walkability/bikeability on a scale of 0-100. A description of the numerical ranking system is provided below.

- 90-100: Daily errands do not require a car.
- 70-89: Most errands can be accomplished on foot/bicycle.
- 50-69: Some amenities within walking/cycling distance.
- 25-49: A few amenities within walking/cycling distance.
- 0-24: Almost all errands require a car.

Table 6-9 shows the Walk Score and Bike Score for the overall City and various neighborhoods within Laguna Niguel. The overall Walk Score for Laguna Niguel is 33, which means the City is considered car-dependent as most errands require a car. The overall Bike Score for the City is 31, which means the City is somewhat bikeable and has minimal bike infrastructure. The most walkable/bikeable Laguna Niguel neighborhoods are Country Village, Rolling Hills, and Rancho Niguel.

Table 6-9: Walk and Bike Scores

Neighborhoods	Walk Score	Bike Score
City Overall	33	31
Country Village	58	50
Rolling Hills	50	30
Rancho Niguel	44	29
San Marin	39	30
Laguna Heights	37	39

SOURCE: [HTTPS://WWW.WALKSCORE.COM/CA/LAGUNA_NIGUEL](https://www.walkscore.com/CA/LAGUNA_NIGUEL). ACCESSED AUGUST 9, 2023.

6.3.3 Activity-Related Commercial Services

Another proxy measure for physical activity is the availability of activity-related commercial services, such as health clubs, gyms, and personal training facilities. The location of each facility and its Walkscore are listed in Table 6-10 below.

Laguna Niguel has an ample amount of commercial recreation centers for physical activity. In addition, surrounding cities have additional gyms and workout centers that may be accessible to residents. These resources are important to maintaining good physical health for residents as they provide opportunities for physical activity outside of a traditional city environment.

Still, research suggests that formal spaces for physical activity, such as gyms and health clubs, may not be enough to increase overall individual physical activity levels, even if it is easily accessible (Giles-Corti & Donovan, 2002). This demonstrates the importance of providing an environment where residents can easily incorporate physical activity into their everyday routines. This can be accomplished through improvements to the physical environment such as the addition of bicycle lanes, sharrows, and convenient bicycle parking near shops and restaurants, or improving the pedestrian realm with wider sidewalks and count-down signals.



Table 6-10: Activity-Related Commercial Services

Facility	Address	Walk Score	Bike Score
BE Fit Modern Pilates Laguna Niguel	27281 La Paz Road	76	60
24 Hour Fitness	27921 La Paz Road	61	71
24 Hour Fitness	32451 Golden Lantern Street	55	33
Barre3	23882 Aliso Creek Road	56	41
Orangetheory Fitness	24034 Aliso Creek Road	61	66
Life Time Fitness	25600 Rancho Niguel Road	66	28
Perles Personal Training	28121 Crown Valley Parkway Suite H	74	30
Laguna Niguel Family YMCA	29831 Crown Valley Parkway	44	29
The Perfect Workout	30001 Crown Valley Parkway	57	46
Club Pilates	30100 Town Center Drive, Suite B-1	75	61
9Round Kickboxing Fitness	30100 Town Center Drive, Suite S	75	61
OC Planet Fitness	30272 Crown Valley Parkway	67	45
Royce Gracie Academy OC	30232 Crown Valley Parkway, Suite A1 -A2	77	49
F45 Training Laguna Niguel	30251 Golden Lantern Street, Suite H	66	60
StretchLab	30271 Golden Lantern Street, Suite C	67	63
Pure Pilates	30301 Golden Lantern Street, Suite B	69	56
Optimus Brazilian Jiu Jitsu	31151 Niguel Road	41	39
Fitness Elite	31271 Niguel Road, Suite J	48	39
Pilates Plus Laguna Niguel	31161 Niguel Road, # L	41	39

SOURCES: [HTTP://WWW.GOOGLE.COM/](http://WWW.GOOGLE.COM/) AND WWW.WALKSCORE.COM. ACCESSED DECEMBER 2024.

NOTE: THIS LIST OF FACILITIES IS NOT EXHAUSTIVE

6.4 HEALTHY FOOD ACCESS

Residents of neighborhoods with higher concentrations of “unhealthy” food outlets such as fast food and liquor stores rather than full-service grocery stores have more health problems and higher mortality rates than residents of neighborhoods with more full-service grocery stores and other vendors selling fruits and vegetables, even when other factors are held constant (Mari Gallagher Research and Consulting Group, 2006). The presence of a grocery store in a neighborhood is linked to higher fruit and vegetable consumption and reduced prevalence of overweight and obesity (Inagami et al., 2006). Fresh, minimally processed, local food is generally the most nutritionally valuable and the least detrimental to the environment. Access to affordable specialty grocery stores and farmers markets increases the likelihood that people will eat healthy, locally sourced food.

The concentration of food outlets is important, but it is more significant to concentrate on the impact of the entire food system. In response to the environmental and health implications of food systems, the popularity of local food is on the rise. The proliferation of the term “food miles” to measure the impact of the food system on the environment reinforces the logic of local production. Locally sourced food attempts to address the negative externalities associated with packaging, preparing, and shipping food, which is higher for fresh food that is grown at long distances; because many foods do not travel a single or logical route, but take many steps along the supply chain from “field to plate”.

6.4.1 Retail Food Environment

Laguna Niguel's retail food environment includes many restaurant and non-restaurant options. The City has a range of dining options that vary from chain restaurants to unique dining experiences. Table 6-11 lists examples of non-restaurant food options within the City including grocery stores and specialty food shops, which provide residents with a full range of grocery options and provide a wide variety of healthy and organic grocery options.

Table 6-11: Non-restaurant Food Vendors

Retail Food Type	Examples
Grocery Stores	Pavilions, Costco, Sprouts, Target, Walmart, Whole Foods, Ralphs, Mucho Mucho Market, Albertsons, Grocery Outlet, Smart & Final, Trader Joe's
Small and/or Specialty Markets	Laguna Niguel Farmers' Market
Convenience & Discount Stores	KR Food Mart, AM PM, Walgreens, CVS, Circle K, 7-Eleven

SOURCES: WWW.GOOGLE.COM. ACCESSED AUGUST 2023.

NOTE: THIS LIST OF FACILITIES IS NOT EXHAUSTIVE.



6.4.2 Eating Habits

A person's overall health and well-being is strongly correlated to food choices. Food choices are influenced by the availability of different types of food in the community. A high number of fast-food establishments per capita is correlated with a higher obesity rate. There are approximately 30 fast-food restaurants in Laguna Niguel. Fast foods tend to be high in saturated fats, high in simple sugars, and low in fiber and nutritional value. Studies suggest that junk food consumption alters brain activity in a manner similar to addictive drugs (Johnson & Kenny, 2010).

Fast food restaurants are also a source of sugar-sweetened beverages and sodas. According to the California Center for Public Health Advocacy, scientific evidence suggests that sugar-sweetened beverages and sodas are contributing to the obesity epidemic. One 20-ounce bottle of soda has almost 17 teaspoons of sugar and contains 250 calories. Drinking a sugar-sweetened soda daily can increase a child's risk for obesity by 60 percent (California Center for Public Health Advocacy, 2020).

Table 6-12 below shows the percentage of adults (18+) in Laguna Niguel who drink at least one sugary drink (soda or sweet beverages) a day is less than compared to the county and State.

Table 6-12: Percentage of Adults that Consume 1+ Sugary Drinks a Day

Location	Percentage of Adults (18+)
Laguna Niguel	7.4%
Orange County	11.3%
California	13.7%

SOURCE: CALIFORNIA HEALTH INTERVIEW SURVEY. CHIS 2020 SUGAR DRINKS SOURCE FILE. LOS ANGELES, CA: UCLA CENTER FOR HEALTH POLICY RESEARCH. ACCESSED AUGUST 2023. AVAILABLE AT: [HTTPS://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/](https://ASKCHISNE.UCLA.EDU/ASK/_LAYOUTS/NE/DASHBOARD.ASPX#/)

6.5 ACCESS TO HEALTHCARE AND HEALTH FACILITIES

Access to health care and mental health services is an important determinant of health and disease prevention, and increased access is very likely to improve public health. Preventive measures, such as screening for common health problems like diabetes and respiratory illnesses, and dental care have been shown to reduce the incidence and severity of illnesses and are often less expensive than care once someone has become sick (U.S. Department of Health and Human Services, 2003).

Laguna Niguel has multiple health care providers. This primarily includes private practice medical facilities such as South Coast Family Medical Center and urgent care facilities such as Clineva Urgent Care and Cali Quick Urgent Care. Though there are no major hospitals within Laguna Niguel, there are numerous hospitals within a 5-mile radius of the City. This includes Providence Mission Hospital Mission Viejo, located less than half a mile from Laguna Niguel, and Providence Mission Hospital Laguna Beach, located approximately one quarter mile from Laguna Niguel.

According to Data USA, 96% of the population of Laguna Niguel has health coverage, with 54.5% on employee plans, 9.23% on Medicaid, 13.8% on Medicare, 18% on non-group plans, and 0.39% on military or VA plans.³



³ Data USA: <https://datausa.io/profile/geo/laguna-niguel-ca>, accessed August 2023.

6.6 LOCAL PROGRAMS RELATED TO HEALTH AND WELLNESS

The City provides a wide variety of innovative, diverse, and inclusive opportunities to enhance the overall wellness of all residents of Laguna Niguel, with many programs aimed at youth, teens, and senior citizens. These activities not only provide physical health benefits, but also offer social and mental health benefits. Public recreation programs promote community engagement and the opportunity for social interaction, thereby increasing social capital – characterized by the level of neighborhood trust and community participation. The Parks & Recreation Department offers City sponsored recreation programs including aquatics, fitness classes, summer day camps, youth, and adult sports. Programs for youth and teens include classes, workshops, and special events that provide opportunities for youth and teens to create new friendships and experiences. The Department offers a multitude of senior services to foster senior citizen well-being. These senior services include educational classes, recreational classes, games and social activities, health & wellness presentations, exercise & fitness classes, special events, trips/excursions, and senior services



One of the elements of a sustainable and healthy city is adequate urban parks, open space, and street trees, which contribute to a local healthy environment. Laguna Niguel has over 30 parks that provide the community with benefits including improved air quality, shade, and reduced urban heat island effects. Within Chapter 3, Utilities and Community Services, Figure 3-9 shows parks and recreation facilities within Laguna Niguel and Table 5-8 lists the amenities contained within each park.

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7 REGULATORY ENVIRONMENT

The vast range of topics addressed in the General Plan are informed by – and respond to – existing regulatory structures at the federal, State, and local levels. This section presents an overview of the myriad of programs and policies that impact the way the City addresses its General Plan topics. The material below is organized by Existing Conditions Report section topics, but a number of regulations inform more than one topic area and may appear more than once.

7.1 LAND USE AND COMMUNITY CHARACTER

7.1.1 State Regulatory Environment

This regulatory section ties in with the analysis of existing land use conditions presented in Chapter 2.0, Land Use and Community Character. Land use regulations at the State and local levels are presented here. The information in this section provides a current regulatory perspective on land use in the City and is intended to assist the General Plan Update process by providing a baseline of existing land use information to be used when formulating and considering amendments to the City's current land use pattern.

Land Use**California General Plan Law**

Government Code Section 65300 requires that each county and city adopt a General Plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning."

The General Plan is a comprehensive long-term plan for the physical development of the county or city and is considered a "blueprint" for development. The General Plan provides a Statement of the community's development, economic, circulation, and environmental goals and includes diagrams and text setting forth objectives, standards, policies, and programs. The General Plan must contain seven State-mandated elements: Land Use, Open Space, Conservation, Housing, Circulation, Noise, and Safety. Cities and counties that have identified disadvantaged communities must also address environmental justice in their general plans. It may also contain any other elements that the county wishes to include. The land use element designates the general location and intensity of designated land uses to accommodate housing, business, industry, open space, education, public buildings and grounds, recreation areas, and other land uses.

The Governor's Office of Planning and Research (OPR) is required to adopt and periodically revise the State General Plan Guidelines (GPG) for the preparation and content of general plans for all cities and counties in California. The GPG serves as the "how to" resource for drafting a general plan. For mandatory and common optional elements of the general plan, the GPG sets out each statutory requirement in detail, provides OPR recommended policy language, and includes online links to city and county general plans that have adopted similar policies. The GPG was last updated comprehensively in 2017, and OPR continues to monitor relevant legislation and new general plan requirements that have become effective since that time. OPR continues to update the GPG and issue technical advisories that supplement the GPG to reflect new information or requirements. The City of Laguna Niguel General Plan will be prepared in accordance with all applicable laws and regulations.

*Land Use***California Housing Element Law**

The Housing Element is one of the General Plan Elements that are mandated by the State of California (California Government Code Sections 65580 to 65589.8). California State law requires that the Housing Element consists of, “an identification and analysis of existing and projected housing needs and a Statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing” (Government Code Section 65580).

State law requires that each city and county identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community, commensurate with local housing needs.

*Land Use***Office of Planning and Research General Plan Guidelines**

The Governor’s Office of Planning and Research (OPR) publishes General Plan Guidelines as a “how to” for cities and counties developing their general plans. OPR released its updated guidelines in 2017, which includes legislative changes, new guidance, policy recommendations, external links to resource documents, and additional resources. For each general plan element, the guidelines discuss statutory requirements in detail, provide recommended policy language, and include examples of city and county general plans that have adopted similar policies.

*Land Use***General Plan Annual Progress Report**

All counties and general law cities in the State are required to submit an annual report on the status of their general plan and progress in its implementation per Government Code Section 65400. The General Plan Annual Progress Report (APR) is due on April 1 and covers the previous year’s 12-month reporting period. This report must be provided to both the Governor’s Office of Planning and Research (OPR) and the Department of Housing and Community Development (HCD).

*Land Use***California Environmental Quality Act**

The California Environmental Quality Act (CEQA) was developed to protect the quality of the environment, and the health and safety of persons from adverse environmental effects. Discretionary projects are required to be reviewed consistent with the requirements of CEQA to determine if there is potential for the project to cause a significant adverse effect on the environment. Depending on the type of project and its potential effects, technical traffic, noise, air quality, biological resources, and geotechnical reports may be needed. If potential adverse effects can be mitigated, a mitigated negative declaration is required. If potentially adverse effects cannot be mitigated, an environmental impact report is required. These documents have mandated content requirements and public review times. Preparation of CEQA documents can be costly and, despite maximum time limits set forth in the Public Resources Code, can extend the processing time of a project by a year or longer.

*Land Use***California Subdivision Code**

A subdivision is any division of land for the purpose of sale, lease or finance.

The State of California Subdivision Map Act (Government Code § 66410) regulates subdivisions throughout the State. The goals of the Subdivision Map Act are as follows:

- To encourage orderly community development by providing for the regulation and control of the design and improvement of a subdivision with proper consideration of its relationship to adjoining areas.
- To ensure that areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community.
- To protect the public and individual transferees from fraud and exploitation.

The Map Act allows counties some flexibility in the processing of subdivisions. The City controls this process through its subdivision ordinance in the Municipal Code (Sec. 9-1-201). These regulations ensure that minimum requirements are adopted for the protection of the public health, safety and welfare; and that the subdivision includes adequate community improvements, municipal services and other public facilities.

7.1.2 Local Regulatory Framework

*Land Use***Orange County Local Agency Formation Commission**

In 1963, the State Legislature created a local agency formation commission (LAFCO) for each county, with the authority to regulate local agency boundary changes. Subsequently, the State has expanded the authority of LAFCO. The goals of Orange LAFCO include delivery of effective and efficient public services such as water, sewer, public safety, and parks by local governments to Orange County residents. The Orange County LAFCO has authority over land use decisions in Orange County affecting local agency boundaries. Its authority extends to the incorporated cities, including annexation of County lands into a city, and special districts within the County.

Land Use **Orange County General Plan**

Orange County adopted its General Plan in 1999. The County's General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the County's growth. The County's General Plan includes the following elements:

- Housing
- Land Use
- Noise
- Public Services and Facilities
- Recreation
- Resources
- Safety
- Transportation

Land Use **City of Laguna Niguel General Plan**

The City of Laguna Niguel adopted its General Plan in 1992. Except for the Housing and Land Use Elements, most of the elements are original per the 1992 adoption. The City's General Plan provides a comprehensive set of goals, policies, and implementing actions to guide the City's growth. The City's General Plan includes the following elements:

- Circulation
- Community Service Standards
- Housing
- Growth Management
- Land Use
- Noise
- Public Facilities
- Open Space and Parks
- Seismic/Public Safety

Land Use **Gateway Specific Plan**

On November 15, 2011, the Laguna Niguel City Council adopted a comprehensive update to the Laguna Niguel Gateway Specific Plan to provide for up to 2,994 residential units and 2.26 million square feet of retail, office, entertainment, hotel and other non-residential uses resulting in 28% fewer average daily trips than would have been generated under the previously approved 1999 Gateway Specific Plan. It allows existing businesses to remain, but will serve as a guide for the private market to attract and develop new land uses that will gradually transition the Gateway area into an attractive and desirable transit and pedestrian-oriented urban village where people live, work, shop, are entertained and recreate.

Land Use **City of Laguna Niguel Local Coastal Program**

The California Coastal Act requires each local government lying wholly or partly within the State-designated Coastal Zone to prepare a Local Coastal Program (LCP). The City's LPC is comprised of portions of the South Laguna Specific Plan and the Aliso Creek Specific Plan, both of which were certified by the California Coastal Commission prior to incorporation. After incorporation, the California Coastal Commission certified the Laguna Niguel Local Coastal Program as a single plan. The City is responsible for the issuance of Coastal Development permits in the Coastal Zone.

Land Use **City of Laguna Niguel Planned Communities and Specific Plans**

The City of Laguna Niguel is largely composed of master planned communities (PCs) and Specific Plan (SP) areas that were approved by the County of Orange prior to the City's incorporation in 1989. These Planned Communities are the Laguna Niguel PC, the Country Village PC, the Colinas de Capistrano PC, the Beacon Hill PC, the Bear Brand Hill PC, the Bear Brand PC, and the Narland Business Center PC. Each of the Planned Communities is implemented through Feature Plans, Area Plans, and Site Plans. Prior to incorporation, the Planned Community development plans provided policy guidance and regulatory control over development in Laguna Niguel. Currently, the Planned Communities are subject to the policies and regulations of the Laguna Niguel General Plan and the Zoning Ordinance. Portions of the City are located in the South Laguna Specific Plan area and are subject to the land use and zoning regulations of that plan.

*Land Use***City of Laguna Niguel Zoning Ordinance**

The Laguna Niguel Zoning Ordinance (Title 9 of the Municipal Code) carries out the policies of the General Plan by classifying and regulating the uses of land and structures within the City, consistent with the General Plan. The Zoning Ordinance is adopted to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents, and businesses in the City.

Zoning provides a legal mechanism for local government regulation of the land uses described in the General Plan. It provides specific regulations for each zoning district, such as minimum lot sizes, building heights, setbacks, lot coverages, etc., The Zoning Code also identifies which uses are permitted, potentially conditionally allowed, or prohibited in each district. For certain uses, additional regulations may apply. The Zoning Code further outlines the permitting process required to evaluate and approve specific uses within a given district.

7.2 UTILITIES AND COMMUNITY SERVICES

This regulatory section ties in with the analysis of existing community services and utility conditions presented in Chapter 3.0, Utilities and Community Services. The utilities and community services regulations at the federal, State, and local levels are presented here. The information in this section provides a current regulatory perspective on utilities and community services in the City and is intended to assist the General Plan Update process.

7.2.1 Federal Regulatory Framework

Stormwater **Clean Water Act**

and Drainage The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

Stormwater **National Pollutant Discharge Elimination System**

and Drainage National Pollutant Discharge Elimination System (NPDES) permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.).

The Regional Water Quality Control Board (RWQCB) issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including

pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

Construction activities in the Planning Area that could disturb more than one acre of land surface are subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit [CGP]), as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). The CGP regulates discharges of pollutants in stormwater associated with construction activity to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The CGP requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off-site into receiving waters. The SWPPP BMPs are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.

Solid Waste

Resource Conservation and Recovery

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of

the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

7.2.2 State Regulatory Framework

<i>Water Services</i>	California Department of Health Services
	The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund ("SRF") and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE (Methyl Tertiary Butyl Ether) and other oxygenates.

**Water
Services****Consumer Confidence Report Requirements**

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

**Water
Services****Urban Water Management Planning Act**

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An “urban water supplier” is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier’s water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources (DWR) must receive a copy of an adopted urban water management plan.

*Water
Services***Senate Bill 610 and Assembly Bill 901**

The State Legislature passed Senate Bill (SB) 610 and Assembly Bill (AB) 901 in 2001. Both measures modified the Urban Water Management Planning Act. SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to the California Environmental Quality Act (CEQA) to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts.

AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

*Water
Services*

Senate Bill 221

Senate Bill (SB)221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

Wastewater State Water Resources Control Board Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The City falls within the jurisdiction of the San Diego RWQCB.

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The SWRCB's role has historically been one of providing overall policy direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities, or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

<i>Stormwater and Drainage</i>	California Water Code California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product. Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.
<i>Stormwater and Drainage</i>	State Water Resources Control Board (State Water Board) Storm Water Strategy The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board's role in storm water resources management and evolve the Storm Water Program by a) developing guiding principles to serve as the foundation of the storm water program, b) identifying issues that support or inhibit the program from aligning with the guiding principles, and c) proposing and prioritizing projects that the Water Boards could implement to address those issues. The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

Solid Waste **California Integrated Waste Management Act (Assembly Bill 939 and Senate Bill 1322)**

The California Integrated Waste Management Act of 1989 Assembly Bill (AB) 939 and Senate Bill (SB) 1322 requires every city and county in the State to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory State waste diversion goals of 25 percent by 1995 and 50 percent by 2000. The purpose of AB 939 and SB 1322 is to “reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible.” The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal.

Solid Waste **California Integrated Waste Management Board Model Ordinance**

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (§42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

*Solid Waste***California's Mandatory Commercial Recycling Law (Assembly Bill 341)**

Assembly Bill (AB) 341 directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. The purpose of AB 341 is to reduce greenhouse gas (GHG) emissions by diverting commercial solid waste to recycling efforts, and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California.

Beginning on July 1, 2012, businesses have been required to recycle, and each jurisdiction has implemented programs that include education, outreach, and monitoring. Jurisdictions were required to start reporting on their 2012 Electronic Annual Report (due Aug. 1, 2013) on their initial education, outreach, and monitoring efforts, and, if applicable, on any enforcement activities or exemptions implemented by the jurisdiction.

In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. The 50 percent disposal reduction mandate still stands for cities, counties, and State agencies (including community colleges) under AB 939. CalRecycle continues to evaluate program implementation as it has in the past through the Annual Report review process for entities subject to either AB 939.

*Electricity
and Natural
Gas***California Public Utilities Commission**

The California Public Utilities Commission (PUC) is the primary State agency that regulates privately owned public utilities in California. These utilities include telecommunications, electricity, natural gas, water, railroad, rail transit, and passenger transportation companies. A primary role of the PUC is to authorize utility rate changes. It also establishes service standards and safety rules, monitors the safety of utility and transportation operations, prosecutes unlawful marketing and billing activities, and oversees the merger and restructure of utility corporations.

<i>Electricity and Natural Gas</i>	Executive Order #S-06-06 - Bioenergy Action Plan
	Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the State to meet a target for use of biomass electricity, including biomass cogeneration facilities.
<i>Electricity and Natural Gas</i>	Senate Bill 14 and Assembly Bill 64
	Prior to the passage of Senate Bill (SB) 14 and Assembly Bill (AB) 64 in 2009, California law required investor-owned utilities (IOUs) and energy service providers (ESPs) to increase their existing purchases of renewable energy by 1 percent of sales per year such that 20 percent of their retail sales, as measured by usage, are procured from eligible renewable resources (including biomass cogeneration) by December 31, 2010. This is known as the Renewable Portfolio Standard (RPS). SB 14 and AB 64 require IOUs, publicly-owned utilities (POUs), and ESPs to increase their purchases of renewable energy such that at least 33 percent of retail sales are procured from renewable energy resources by December 31, 2020. For IOUs and ESPs, this is required only if the PUC determines that achieving these targets will result in just and reasonable rates.

<i>Electricity and Natural Gas</i>	California Code of Regulations - Title 24 Title 24, Part 6, of the California Code of Regulations is also known as California's Energy Efficiency Standards for Residential and non-residential Buildings. Title 24 was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2008 Energy Efficiency Standards went into effect on January 1, 2010. Title 24, Part 11, of the California Code of Regulations establishes the California Green Building Standards Code (CalGreen). Initially, the code requirements were voluntary; however, CalGreen became mandatory in 2011. CalGreen addresses five areas of green building: 1) planning and design, 2) energy efficiency, 3) water efficiency and conservation, 4) material conservation and resources efficiency, and 5) environmental quality. The mandatory requirements are separated into non-residential and residential projects. CalGreen also includes two optional tiers: Tier 1 and Tier 2. The tiers employ higher thresholds that jurisdictions may adopt or that projects may meet voluntarily.
<i>Fire Protection</i>	California Occupational Safety and Health Administration In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment," the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.
<i>Fire Protection</i>	Office of Emergency Services The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Parks and Quimby Act

Recreation The Quimby Act (California Government Code Section 66477) states that "the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map." Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development.

Schools, Libraries, and Other Public Facilities

Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill (SB) 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the \$9.2 billion education bond act approved by the voters in November 1998 known as "Proposition 1A," reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for State construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development, and provided the authority for school districts to levy fees at three different levels:

- Level I fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction, and are increased biannually.
- Level II fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15 to 30 percent of the district's bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district's teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- Level III fees are outlined in Government Code Section 65995.7. If State funding becomes unavailable, this code section authorizes

a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of State funding.

*Schools,
Libraries, and
Other Public
Facilities*

California Department of Education

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use, and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by State regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;
- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses; and
- Traffic and school bus safety issues.

7.2.3 Local Regulatory Framework

Water [**Municipal Water District of Orange County Urban Water Management Plan \(2020\)**](#)

The Municipal Water District of Orange County (MWDOC) prepared this 2020 Urban Water Management Plan (UWMP) to satisfy the UWMP Act of 1983 and the California Water Code requirements. MWDOC is a wholesale water supplier, that provides water to 28 retail water suppliers (including the City of Laguna Niguel) in Orange County using imported water supplies obtained from its regional wholesaler, Metropolitan Water District of Southern California (MET). UWMPs are comprehensive documents that present an evaluation of a water supplier's reliability over a long-term (20-25 year) period. The 2020 UWMP provides an assessment of the existing and projected water supply sources, and demands within the MWDOC's service area.

Water [**Moulton Niguel Water District Urban Water Management Plan \(2020\)**](#)

Moulton Niguel Water District's (MNWD or District) 2020 Urban Water Management Plan (UWMP) has been prepared in accordance with the California Water Code Sections 10610 through 10657 of the Urban Water Management Planning Act (UWMP Act). UWMPs are comprehensive documents that present an evaluation of a water supplier's reliability over a long-term (20-25 year) period. The 2020 UWMP provides an assessment of the existing and projected water supply sources, and demands within the MNWD's service area.

Wastewater [**Sewer System Management Plan for Orange County Sanitation District \(2022\)**](#)

The Orange County Sanitation District (OC San) is required to comply with the State Water Resources Control Board Order No. 2006-0003-DWQ adopted May 2, 2006, entitled statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Monitoring and Reporting Program (MRP) requires each local or regional sewer agency to appoint a legally responsible official and establish a monitoring and reporting organization to monitor and report all SSOs in accordance with the

requirements of the Order and to have the LRO certify the SSO report using the California Integrated Water Quality System (CIWQS) website in the timeframe required by the Order. The OC San has enrolled and applied for coverage and agrees to comply with all conditions and provisions of this Order.

*Stormwater
and Drainage*

Orange County Public Works, Regional Stormwater Program

The County of Orange, Orange County Flood Control District (OCFCD), and the 26 cities of North Orange County stormwater and non-stormwater discharges are regulated by Phase I MS4 Permit issued by the Santa Ana RWQCB. Similarly, the County of Orange, OCFCD, and the 10 cities of South Orange County (south of El Toro Road) stormwater and non-stormwater discharges are regulated by a Phase I Regional MS4 Permit issued by the San Diego RWQCB. The main goals for these MS4 Permits is to require the development of the stormwater program(s) to (a) effectively prohibit non-stormwater discharges into the storm drain system and (b) reduce the discharge of pollutants to the maximum extent practicable through the implementation of best management practices (BMPs) and other control strategies.

7.3 HAZARDS, SAFETY, AND NOISE

This regulatory section ties in with the analysis of hazards and public safety conditions presented in Chapter 4.0, Hazards, Safety, and Noise. The hazards and public safety regulations at the federal, State, and local levels are presented here. The information in this section provides a current regulatory perspective on hazards and public safety conditions in the City and is intended to assist the General Plan Update process.

7.3.1 Federal Regulatory Framework

<i>Hazardous Materials and Waste</i>	Comprehensive Environmental Response, Compensation & Liability Act
	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.
<i>Hazardous Materials and Waste</i>	Resource Conservation and Recovery Act
	The Resource Conservation and Recovery Act established EPA's "cradle to grave" control (generation, transportation, treatment, storage, and disposal) over hazardous materials and wastes. In California, the Department of Toxic Substances Control (DTSC) has RCRA authorization.
<i>Hazardous Materials and Waste</i>	Clean Air Act
	According to the Clean Air Act, the Environmental Protection Agency (EPA) has established National Emissions Standards for Hazardous Air Pollutants. Exceeding the emissions standard for a given air pollutant may cause an increase in illnesses and/or fatalities.

<i>Hazardous Materials and Waste</i>	Clean Water Act The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into waters of the U.S., and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).
<i>Hazardous Materials and Waste</i>	Environmental Protection Agency The primary regulator of hazards and hazardous materials is the Environmental Protection Agency (EPA), whose mission is to protect human health and the environment. The County of Orange is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.
<i>Hazardous Materials and Waste</i>	Hazardous Materials Transportation Act The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interState commerce. This law gives the U.S. Department of Transportation (DOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.
<i>Air Traffic</i>	Aviation Act of 1958 The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA was charged with the creation and maintenance of a National Airspace System.
<i>Air Traffic</i>	Federal Aviation Regulations (CFR, Title 14) The Federal Aviation Regulations (FAR) establish regulations related to aircraft, aeronautics, and inspections and permitting.
<i>Fire Hazards</i>	FY 2001 Appropriations Act

Title IV of the Appropriations Act required the identification of “Urban Wildland Interface Communities in the Vicinity of federal Lands that are at High Risk from Wildfire” by the U.S. Departments of the Interior and Agriculture.

Fire Hazards **Disaster Mitigation Act (2000–present)**

Section 104 of the Disaster Mitigation Act of 2000 (Public Law 106-390) enacted Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which created incentives for State and local entities to coordinate hazard mitigation planning and implementation efforts and is an important source of funding for fuels mitigation efforts through hazard mitigation grants.

Fire Hazards **National Incident Management System (NIMS)**

The Orange County Sheriff’s Department adopted NIMS, which provides a systematic, proactive approach to guide government agencies, nongovernmental organizations, and the private sector to work together to prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment. NIMS improves the County’s ability to prepare for and respond to potential incidents and hazard scenarios.

Fire Hazards **National Fire Plan 2000**

The summer of 2000 marked a historic milestone in wildland fire records for the United States. Dry conditions (across the western United States), led to destructive wildfire events on an estimated 7.2 million acres, nearly double the 10-year average. Costs in damages including fire suppression activities were approximately 2.1 billion dollars. Congressional direction called for substantial new appropriations for wildland fire management. This resulted in action plans, interagency strategies, and the Western Governor’s Association’s “A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment – A 10-Year Comprehensive Strategy – Implementation Plan,” which collectively became known as the National Fire Plan. This plan places a priority on collaborative work within communities to reduce their risk from large-scale wildfires.

Fire Hazards* *Healthy Forest Initiative 2002/Healthy Forest Restoration Act 2003

In August 2002, the Healthy Forests Initiative (HFI) was launched with the intent to reduce the severe wildfires risks that threaten people, communities, and the environment. Congress then passed the Healthy Forests Restoration Act (HFRA) on December 3, 2003 to provide the additional administrative tools needed to implement the HFI. The HFRA strengthened efforts to restore healthy forest conditions near communities by authorizing measures such as expedited environmental assessments for hazardous fuels projects on federal land. This Act emphasized the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on fuel treatments identified by communities themselves in their Community Wildfire Protection Plans.

Flooding***Federal Emergency Management Agency***

The Federal Emergency Management Agency (FEMA) operates the National Flood Insurance Program (NFIP). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the California Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

Flooding***Rivers and Harbors Appropriation Act of 1899***

One of the country's first environmental laws, this Act established a regulatory program to address activities that could affect navigation in waters of the United States.

Flooding***Water Pollution Control Act of 1972***

The Water Pollution Control Act (WPCA) established a program to regulate activities that result in the discharge of pollutants to waters of the United States.

Flooding**Clean Water Act of 1977**

The Clean Water Act (CWA), which amended the WPCA of 1972, sets forth the §404 program to regulate the discharge of dredged and fill material into waters of the U.S., and the §402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into waters of the U.S. The §401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of federal permits and approvals (including CWA §404, CWA §402, FERC Hydropower and §10 Rivers and Harbors).

Flooding**Flood Control Act**

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights-of-way necessary for the construction of flood control infrastructure were to be provided to the federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

Flooding**National Flood Insurance Program**

Per the National Flood Insurance Act of 1968, the National Flood Insurance Program (NFIP) has three fundamental purposes: better indemnify individuals for flood losses through insurance; reduce future flood damages through State and community floodplain management regulations; and reduce federal expenditures for disaster assistance and flood control.

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

Flooding**Flood Disaster Protection Act**

The Flood Disaster Protection Act (FDPA) of 1973 was a response to the shortcomings of the National Flood Insurance Program (NFIP), which were experienced during the flood season of 1972. The FDPA prohibited federal assistance, including acquisition, construction, and financial assistance,

within delineated floodplains in non-participating NFIP communities. Furthermore, all federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated Special Flood Hazard Areas (SFHAs) in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials, and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

Climate Change and Resiliency Planning	Federal Climate Change Policy
	The Environmental Protection Agency (EPA) published the latest version of the <i>Climate Change Indicators</i> report in 2016, in collaboration with more than 40 government agencies, academic institutions, and other organizations, to compile a key set of indicators related to the causes and effects of climate change. The EPA also currently administers multiple programs that encourage voluntary greenhouse gas (GHG) reductions, including "ENERGY STAR," "Climate Leaders," and Methane Voluntary

Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Noise

Federal Highway Administration

The Federal Highway Administration (FHWA) has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Noise**Environmental Protection Agency**

The Environmental Protection Agency (EPA) has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design, and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less – an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn – a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of

attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.

- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

7.3.2 State Regulatory Framework

<i>Hazardous Materials and Waste</i>	California Health & Safety Code
	Division 20 of the Health and Safety Code establishes Department of Toxic Substances Control (DTSC) authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a State superfund framework that mirrors the federal program.
	Division 26 of the Health and Safety Code establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per federal regulations and charges the Board with meeting Clean Air Act requirements.

<i>Hazardous Materials and Waste</i>	California Food and Agriculture Code Division 6 of the California Food and Agricultural Code (FAC) establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.
<i>Hazardous Materials and Waste</i>	California Water Code Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In addition, water quality responsibilities are established for the SWRCB and RWQCBs.
<i>Hazardous Materials and Waste</i>	California Code of Regulations Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands, and all surrounding properties. Title 3 prohibits any application that would: <ul style="list-style-type: none">• Contaminate persons not involved in the application• Damage non-target crops or animals, or any other public or private property• Contaminate public or private property, or create health hazards on said property Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8. Title 14 of the CCR establishes minimum standards for solid waste handling and disposal. Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a medley of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the State's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

Hazardous**California Code of Regulations*****Materials and
Waste***

The Department of Toxic Substances Control (DTSC) is primarily responsible for regulating the handling, use, and disposal of toxic materials. The SWRCB regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the State. The Regional Water Quality Control Board (RWQCB) oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the federal and State level (Cal OSHA) and the California Department of Health Services (DHS) at the State level. Air quality is regulated through the California Air Resources Board (CARB) and the South Coast Air Quality Management District (SCAQMD). The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CAL FIRE provides fire protection services for State and privately-owned wildlands.

Fire Hazards**California Strategic Fire Plan**

This statewide plan is a strategic document, which guides fire policy for much of California. The plan is aimed at reducing wildfire risk through pre-fire mitigation efforts tailored to local areas through assessments of fuels, hazards, and risks.

Fire Hazards

California State Multi-Hazard Mitigation Plan

The purpose of the State Multi-Hazard Mitigation Plan (SHMP) is to significantly reduce deaths, injuries, and other losses attributed to natural- and human-caused hazards in California. The SHMP provides guidance for hazard mitigation activities emphasizing partnerships among local, State, and federal agencies as well as the private sector.

Fire Hazards

California Government Code

California Government Code Section 65302.5 requires the State Board of Forestry and Fire Protection to provide recommendations to a local jurisdiction's General Plan fire safety element at the time that the General Plan is amended. While not a direct and binding fire prevention requirement for individuals, General Plans that adopt the Board's recommendations will include goals and policies that provide for contemporary fire prevention standards for the jurisdiction.

California Government Code Section 51175 defines Very High Fire Hazard Severity Zones and designates lands considered by the State to be a very high fire hazard.

California Government Code Section 51189 directs the Office of the State Fire Marshal to create building standards for wildland fire resistance. The code includes measures that increase the likelihood of a structure withstanding intrusion by fire (such as building design and construction requirements that use fire-resistant building materials), provides protection of structure projections (such as porches, decks, balconies, and eaves), and structure openings (such as attics, eave vents, and windows).

Fire Hazards

California Public Resources Code

The State's Fire Safe Regulations are set forth in Public Resources Code §4290, which include the establishment of State Responsibility Areas (SRA).

Public Resources Code §4291 sets forth defensible space requirements, which are applicable to anyone that ...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material (§4291(a)).

Public Resources Code § 4292-4296 and 14 CCR 1256: Fire Prevention for Electrical Utilities address the vegetation clearance standards for electrical utilities. They include the standards for clearing around energy lines and conductors, such as power-line hardware and power poles. These regulations are critical to wildland fire safety because of the substantial number of power lines in wildlands, the historic source of fire ignitions associated with power lines, and the extensive damage that results from power line caused wildfires in severe wind conditions.

Fire Hazards

Assembly Bill 337

Per Assembly Bill (A)B 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CalFire) are required to identify "Very High Fire Hazard Severity Zones" (VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire-resistant materials in fire hazard severity zones are also established.

Fire Hazards

California Uniform Fire Code

The Uniform Fire Code (UFC) establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the UFC range from designing for access by firefighters and equipment, and minimum requirements for automatic sprinklers and fire hydrants, to the appropriate storage and use of combustible materials.

Fire Hazards

California Code of Regulations Title 8

In accordance with California Code of Regulations (CCR), Title 8, §1270 and §6773 (*Fire Prevention and Fire Protection and Fire Equipment*), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

Fire Hazards

California Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

Fire Hazards

California Code of Regulations Title 19 (Public Safety)

Title 19 of the California Code of Regulations (CCR) establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Fire Hazards

California Code of Regulations Title 24 (Building Standards Code)

The California Fire Code is set forth in Part 9 of the Building Standards Code. The CA Fire Code, which is pre-assembled with the International Fire Code by the ICC, contains fire-safety building standards referenced in other parts of Title 24.

Fire Hazards

California Health and Safety Code and Uniform Building Code Section 13000 et seq.

State fire regulations are set forth in §13000 et seq. of the California Health and Safety Code, which is divided into "Fires and Fire Protection" and "Buildings Used by the Public." The regulations provide for the enforcement of the UBC and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

Fire Hazards

California Health and Safety Code Division 11 (Explosives)

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 et seq. establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Fire Hazards

California Health and Safety Code Division 12.5 (Buildings Used by the Public)

This Division establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings.

<i>Fire Hazards</i>	California Vehicle Code §31600 (Transportation of Explosives) Establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.
<i>Flooding</i>	Assembly Bill 162 Assembly Bill (AB) 162 requires a general plan's land use element to identify and annually review those areas covered by the general plan that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources (DWR). The bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the conservation element of the general plan to identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management. By imposing new duties on local public officials, the bill creates a State-mandated local program. This bill also requires, upon the next revision of the housing element, on or after January 1, 2009, the safety element to identify, among other things, information regarding flood hazards and to establish a set of comprehensive goals, policies, and objectives, based on specified information for the protection of the community from, among other things, the unreasonable risks of flooding.
<i>Flooding</i>	Assembly Bill 70 Assembly Bill (AB) 70 provides that a city or county may be required to contribute its fair and reasonable share of the property damage caused by a flood to the extent that it has increased the State's exposure to liability for property damage by unreasonably approving, as defined, new development in a previously undeveloped area, as defined, that is protected by a State flood control project, unless the city or county meets specified requirements.
<i>Flooding</i>	California Government Code The Senate and Assembly bills identified above have resulted in various changes and additions to the California Government Code. California Government Code §8589.4, commonly referred to as the Potential

Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the National Flood Insurance Program (NFIP). NFIP flood zones are areas along streams or coasts where storm flooding is possible from a "100-year flood." In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services (OES). Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

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Assembly Bill 2140

Under the Federal Disaster Mitigation Act of 2000, each municipality must develop a Local Hazard Mitigation Plan (LHMP) or participate in a multi-jurisdictional LHMP in order to be eligible for pre-disaster mitigation grants or post-disaster recovery assistance from the federal government. Assembly Bill (AB) 2140 authorizes local governments to adopt their LHMP's with the safety elements of their general plans. Integration or incorporation by reference is encouraged through a post-disaster financial incentive which authorizes the State to use available California Disaster Assistance Act funds to cover local shares of the 25 percent non-federal portion of grant-funded post-disaster projects.

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Climate Action Program at Caltrans

Caltrans prepared a Climate Action Program in response to new regulatory directives. The goal of the Climate Action Program is to promote clean and energy efficient transportation, and provide guidance for mainstreaming energy and climate change issues into business operations. The overall approach to lower fuel consumption and CO₂ from transportation is twofold: (1) reduce congestion and improve efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems; and (2) institutionalize energy efficiency and greenhouse gas (GHG) emission reduction measures and technology into planning, project

development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

The reasoning underlying the Climate Action Program is the conclusion that “the most effective approach to addressing GHG reduction, in the short-to-medium term, is strong technology policy and market mechanisms to encourage innovations. Rapid development and availability of alternative fuels and vehicles, increased efficiency in new cars and trucks (light and heavy duty), and super clean fuels are the most direct approach to reducing GHG emissions from motor vehicles (emission performance standards and fuel or carbon performance standards).”

7.3.3 Local Regulatory Framework

Hazards **Orange County Sheriff's Department Local Hazard Mitigation Plan 2021**

The 2021 County of Orange and Orange County Fire Authority Local Hazard Mitigation Plan (LHMP) is a multi-jurisdiction plan developed jointly between the County of Orange, a local government, and the Orange County Fire Authority, a Joint Powers Authority. The document is an update to the 2015 LHMP. The purpose of the LHMP is to promote sound public policy designed to protect residents, critical facilities, infrastructure, key resources, private property, and the environment from natural hazards in unincorporated areas, fire hazards in the Fire Authority service area, and County and Fire Authority owned facilities. This policy document will increase public awareness, list resources for risk reduction and loss prevention, and identify activities to guide the County toward building a resilient, safer and sustainable community.

Laguna Niguel Local Hazard Mitigation Plan 2023

The City of Laguna Niguel Local Hazard Mitigation Plan (LHMP) establishes mitigation strategies (a list of actions, measures, projects) to help reduce and/or eliminate impacts from threats and hazards within the City of Laguna Niguel. The September 2023 plan is an update to the previous plan and assesses relevant existing conditions and capabilities within the City; identifies potential threats and hazards and their impacts within the

City; and proposes mitigation measures to address the impacts to the threats and hazards within the City.

Hazard Response **Unified County of Orange and Orange County Operational Area Emergency Operations Plan 2019**

Unified County of Orange and Orange County Operational Area Emergency Operations Plan was adopted in 2019. The Emergency Operations Plan 2019 (EOP) provides guidance and procedures for Orange County and the County as the Operational Area to prepare for and respond to emergencies that are natural, technological, conflict-related, and human-caused incidents creating situations, which all requires a coordinated response. The policy document provides guidance for management concepts, identifies organizational structures and relationships and describes responsibilities and functions of the emergency organization to protect life and property within Orange County.

Hazard Response **Laguna Niguel Emergency Plan**

The City of Laguna Niguel Emergency Operations Plan was adopted in 2002. This plan is designed to provide the framework for responding to major emergency disasters in the Planning Area. The main goals for this plan are to (1) prepare for, (2) respond to, and (3) recover from an emergency or disaster that affects the Planning Area.

Hazards and **Laguna Niguel Municipal Code**

Hazardous Materials There are various references to hazards and hazardous materials in Laguna Niguel Municipal Code. Section 9-1-45.22 discusses hazardous waste and materials. Section 6-3-220 outlines additional designations of hazardous materials. Section 6-3-260 make information available to fire departments and emergency response personnel, upon request, regarding hazardous wastes, extremely hazardous wastes and underground tanks, when the information is obtained by the health officer.

Geology, **Laguna Niguel Grading and Excavation Code**

Soils, and Seismicity Article 8 of the City of Laguna Niguel Municipal Code is the City's Grading and Excavation Code. The code sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and

embankments, site drainage and relevant water quality requirements, and establishes administrative requirements for issuance of permits and approvals of plans and inspection of grading construction in accordance with the requirements for grading and excavation as contained in the most recently adopted California Building Code.

Climate Change and Resiliency Planning

Climate Change Scoping Plan

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by Assembly Bill (AB) 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce carbon dioxide-equivalent (CO₂e) emissions by 169 million metric tons (MMT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT of CO₂e under a business-as-usual scenario. (This is a reduction of 42 MMT CO₂e, or almost 10 percent, from 2002–2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.) The Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO₂e);
- The Low-Carbon Fuel Standard (15.0 MMT CO₂e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO₂e); and
- A renewable portfolio standard for electricity production (21.3 MMT CO₂e).

CARB updated the Scoping Plan in 2013 (*First Update to the Scoping Plan*) and again in 2017. The 2013 Update built upon the initial Scoping Plan with new strategies and recommendations, and also set the groundwork to reach the long-term goals set forth by the State. Successful implementation of existing programs (as identified in previous iterations of the Scoping Plan) has allowed California to meet

the 2020 target. The 2017 Update expands the scope of the plan further by focusing on the strategy for achieving the State's 2030 GHG target of 40 percent emissions reductions below 1990 levels (to achieve the target codified into law by SB 32), and substantially advances toward the State's 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

The 2017 Update relies on the preexisting programs paired with an extended, more stringent Cap-and-Trade Program, to deliver climate, air quality, and other benefits. The 2017 Update identifies new technologically feasible and cost-effective strategies to ensure that California meets its GHG reduction goals.

CARB adopted the 2022 Scoping Plan Update (2022 Scoping Plan) on December 15, 2022. The 2022 Scoping Plan Update assesses progress towards the SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030, while laying out a path to achieving carbon neutrality no later than 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.

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Executive Order S-13-08

EO S-13-08 was issued on November 14, 2008. The EO is intended to hasten California's response to the impacts of global climate change, particularly sea level rise, and directs State agencies to take specified actions to assess and plan for such impacts, including requesting the National Academy of Sciences to prepare a Sea Level Rise Assessment Report, directing the Business, Transportation, and Housing Agency to assess the vulnerability of the State's transportation systems to sea level rise, and requiring the Office of Planning and Research and the Natural Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts.

The order also required State agencies to develop adaptation strategies to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. The adaption strategies report summarizes key climate change impacts to the State for the following areas: public health; ocean and coastal resources; water supply and flood protection; agriculture; forestry; biodiversity and habitat; and transportation and energy infrastructure. The report recommends

strategies and specific responsibilities related to water supply, planning and land use, public health, fire protection, and energy conservation.

Noise**California Department of Transportation (Caltrans)**

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by Federal Highway Administration (FHWA).

Noise**Governor's Office of Planning and Research (OPR)**

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2017). The guidelines include land use compatibility guidelines for noise exposure.

7.4 CONSERVATION

This regulatory section ties in with the analysis of conservation and natural resources conditions presented in Chapter 5.0, Conservation. The conservation regulations at the federal, State, and local levels are presented here. The information in this section provides a current regulatory perspective on conservation and natural resources in the City and is intended to assist the General Plan Update process.

7.4.1 Federal Regulatory Framework

Biological Resources**Federal Endangered Species Act**

The Federal Endangered Species Act, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Once a species is listed it is fully protected from a “take” unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting of wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Biological Resources**Migratory Bird Treaty Act**

To kill, posses, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Biological Resources**Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take, and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews federal agency actions that may affect these species.

Biological Resources**Clean Water Act – Section 404**

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into waters of the U.S. Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)].

Waters of the U.S. include lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows [33 C.F.R. §328.3(a)]. Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Waters of the U.S. exhibit a defined bed and bank, and ordinary high water mark (OHWM). The OHWM is defined by the U.S. Army Corps of Engineers (USACE) as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

The USACE is the agency responsible for administering the permit process for activities that affect waters of the U.S. Executive Order 11990

is a federal implementation policy, which is intended to result in no net loss of wetlands.

Biological Resources

Clean Water Act - Section 401

Section 401 of the Clean Water Act (CWA) (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board. To obtain the water quality certification, the Regional Water Quality Control Board must indicate that the proposed fill would be consistent with the standards set forth by the State.

Biological Resources

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife, and Waterfowl Refuges, and Historic Sites as follows:

It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the states, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park,

recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Air Quality

Environmental Protection Agency

At the federal level, the Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. The EPA's air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required the EPA to establish primary and secondary national ambient air quality standards (NAAQS). The FCAA also required each State to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The Federal Clean Air Act Amendments of 1990 (FCAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The EPA has responsibility to review all State SIPs to determine conformity to the mandates of the FCAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Air Quality

Federal Hazardous Air Pollutant Program

Title III of the Federal Clean Air Act (FCAA) requires the Environmental Protection Agency (EPA) to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAP may differ for major sources than for area sources of HAPs (major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of any HAP, or more than 25 TPY of any combination of HAPs; all other sources are considered area sources). The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce

the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology (MACT). These federal rules are also commonly referred to as MACT standards, because they reflect the Maximum Achievable Control Technology. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk-based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards. The FCAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, §219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

Greenhouse***Gases*****Clean Air Act**

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: national ambient air quality standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

Greenhouse***Gases*****Energy Policy and Conservation Act**

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through

this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

*Greenhouse
Gases*

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government, and private fleets, to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

*Greenhouse
Gases*

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

*Greenhouse
Gases*

Intermodal Surface Transportation Efficiency Act

Intermodal Surface Transportation Efficiency Act (ISTEA) (49 U.S.C. § 101 et seq.) promoted the development of intermodal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEА contained factors that metropolitan planning organizations (MPOs), such as the Southern California Association of Governments (SCAG), were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEА requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process was then to address these policies. Another requirement was to consider the consistency of transportation planning with federal, State, and local energy goals. Through this requirement, energy consumption was expected to become a criterion, along with cost and other values that determine the best transportation solution.

Greenhouse Gases

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 U.S.C. § 507), renewed the Transportation Equity Act for the 21st Century (TEA-21) of 1998 (23 U.S.C.; 49 U.S.C.) through FY 2009. SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit. SAFETEA-LU addressed the many challenges facing our transportation system today—such as improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment—as well as laying groundwork for addressing future challenges. SAFETEA-LU promoted more efficient and effective federal surface transportation programs by focusing on transportation issues of national significance, while giving State and local transportation decision makers more flexibility to solve transportation problems in their communities. SAFETEA-LU was extended in March of 2010 for nine months, and expired in December of the same year. In June 2012, SAFETEA-LU was replaced by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which will take effect October 1, 2012.

Greenhouse Gases **Presidential Executive Order 13783 - Promoting Energy Independence and Economic Growth**

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

Geology, International Building Code

Soils, and Seismicity The purpose of the International Building Code (IBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. IBC standards address foundation design, shear wall strength, and other structurally related conditions.

Hydrology Clean Water Act

and Water Quality The Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), is the primary statute governing water quality. The CWA establishes the basic structure for regulating the discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA) the authority to implement pollution control programs. The statute's goal is to regulate all discharges into the nation's waters and to restore, maintain, and preserve the integrity of those waters. The CWA sets water quality standards for all contaminants in surface waters and mandates permits for wastewater and stormwater discharges. The CWA also requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The following CWA sections assist in ensuring water quality for the water of the United States:

- CWA Section 208 requires the use of best management practices (BMPs) to control the discharge of pollutants in stormwater during construction.
- CWA Section 303(d) requires the creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities that may impact impaired water

bodies; and preparation of plans to improve the quality of these water bodies. CWA Section 303(d) also establishes total maximum daily loads (TMDLs), which is the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

- CWA Section 404 authorizes the US Army Corps of Engineers to require permits that will discharge dredge or fill materials into waters in the US, including wetlands.

In California, the EPA has designated the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) with the authority to identify beneficial uses and adopt applicable water quality objectives.

*Cultural
Resources*

National Historic Preservation Act

The National Historic Preservation Act (NHPA) is the primary federal law governing the preservation of cultural and historic resources in the United States. The law establishes a national preservation program and a system of procedural protections which encourage the identification and protection of cultural and historic resources of national, State, tribal, and local significance. A primary component of the act requires that federal agencies take into consideration actions that could adversely affect historic properties listed or eligible for listing on the National Register of Historic Places, known as the Section 106 Review Process.

*Cultural
Resources*

National Register of Historic Places

The National Register of Historic Places is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archeology, engineering, and culture. The National Register recognizes resources of local, State, and national significance which have been documented and evaluated according to uniform standards and criteria.

Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The National Register is

administered by the National Park Service, which is part of the U.S. Department of the Interior.

To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Is associated with the lives of persons significance in our past.
- C. Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. Has yielded, or may be likely to yield, information important in history or prehistory.

Cultural Resources

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Cultural Resources

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archaeological sites. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archaeological sites on federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands. The Historic Sites Act of 1935 declared

that it is national policy to "preserve for public use historic sites, buildings, and objects of national significance."

7.4.2 State Regulatory Framework

<i>Biological Resources</i>	Fish and Game Code §2050-2097 - California Endangered Species Act The California Endangered Species Act (CESA) protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission.
<i>Biological Resources</i>	Fish and Game Code §1900-1913 - Native Plant Protection Act In 1977 the State Legislature passed the Native Plant Protection Act (NPPA) in recognition of rare and endangered plants of the State. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the California Department of Fish and Wildlife (CDFW) 10 days in advance of approving a building site.
<i>Biological Resources</i>	Fish and Game Code §3503, 3503.5, 3800 - Predatory Birds Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned, or cause a reduction or loss in a reproductive effort, is considered a take. This generally includes construction activities.

<i>Biological Resources</i>	Fish and Game Code §1601-1603 - Streambed Alteration Under the California Fish and Game Code, , California Department of Fish and Wildlife (CDFW) has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.
<i>Biological Resources</i>	Public Resources Code § 21000 - California Environmental Quality Act The California Environmental Quality Act (CEQA) identifies that a species that is not listed on the Federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.
<i>Biological Resources</i>	California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and Federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Air Quality

California Air Resources Board

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), which was adopted in 1988. The CCAA requires that all air districts in the State endeavor to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

CARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the U.S. National Ambient Air Quality Standards (NAAQS). CARB is primarily responsible for statewide pollution sources and produces a major part of the State Implementation Plan (SIP). Local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The CARB combines this data and submits the completed SIP to EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality

management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Air Quality**Transport of Pollutants**

The California Clean Air Act, Section 39610 (a), directs the California Air Resources Board (CARB) to "identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants." The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of State ambient air quality standards. Numerous studies conducted by the CARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993). Among the air basins affected by air pollution transport from the South Coast Air Basin (SCAB) are the South Central Coast Air Basin, the Mojave Desert Air Basin, the Salton Sea Air Basin, and the San Diego County Air Basin. The SCAB was also identified as an area impacted by the transport of air pollutants from the South Central Coast region.

Air Quality**Toxic Air Contaminant Programs**

California regulates toxic air contaminants (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the California Air Resources Board (CARB) to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified over 21 TACs, and adopted the EPA's list of HAPs as TACs. Most recently, diesel exhaust particulate was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology (BACT) to minimize emissions. None of the TACs identified by CARB have a safe threshold.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level:

1. Prepare a toxic emission inventory;

2. Prepare a risk assessment if emissions are significant;
3. Notify the public of significant risk levels; and
4. Prepare and implement risk reduction measures.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors and generators). In February 2000, CARB adopted a new public transit bus fleet rule and emission standards for new urban buses. These new rules and standards provide for: 1) more stringent emission standards for some new urban bus engines beginning with 2002 model year engines, 2) zero-emission bus demonstration and purchase requirements applicable to transit agencies, and 3) reporting requirements with which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Upcoming milestones include the low sulfur diesel fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially less TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, and diesel PM) have been reduced significantly over the last decade, and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be reduced by 85 percent in 2020 from the estimated year 2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

Greenhouse***Assembly Bill 1493******Gases***

In response to Assembly Bill (AB) 1493, the California Air Resources Board (CARB) approved amendments to the California Code of Regulations (CCR) adding greenhouse gas GHG emission standards to California's existing motor vehicle emission standards. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961), and adoption of Section 1961.1 (CCR 13 1961.1), require automobile manufacturers to meet fleet average

GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. For passenger cars and light-duty trucks 3,750 pounds or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 pounds gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

CARB requested a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. The intent of the waiver is to allow California to enact emissions standards to reduce carbon dioxide and other greenhouse gas emissions from automobiles in accordance with the regulation amendments to the CCRs that fulfill the requirements of AB 1493. The EPA granted a waiver to California to implement its greenhouse gas emissions standards for cars.

Greenhouse Gases **California Executive Orders S-3-05 and S-20-06, and Assembly Bill 32**

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's greenhouse gas (GHG) emissions to: 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80 percent below 1990 levels by 2050.

In 2006, this goal was further reinforced with the passage of Assembly Bill 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that the California Air Resources Board (CARB) create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs State agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Greenhouse Gases **Assembly Bill 1007**

Assembly Bill (AB) 1007 (Pavley, Chapter 371, Statutes of 2005) directed the California Energy Commission (CEC) to prepare a plan to increase the use of alternative fuels in California. As a result, the CEC prepared the State Alternative Fuels Plan in consultation with State, federal, and local agencies. The plan presents strategies and actions California must take to increase

the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-State production. The Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce greenhouse gas emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.

Greenhouse Gases **Executive Order #S-06-06 - Bioenergy Action Plan**

Executive Order #S-06-06 establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The executive order establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The executive order also calls for the State to meet a target for use of biomass electricity.

Greenhouse Gases **Executive Order S-01-07 - Governor's Low Carbon Fuel Standard**

Executive Order S-01-07 establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through establishment of a Low Carbon Fuel Standard. The Low Carbon Fuel Standard is incorporated into the State Alternative Fuels Plan and is one of the proposed discrete early action greenhouse gas (GHG) reduction measures identified by the California Air Resources Board (CARB) pursuant to Assembly Bill (AB) 32.

Greenhouse Gases **Executive Order B-30-15 - Greenhouse Gas Reduction**

On April 29, 2015, Governor Jerry Brown issued Executive Order B-30-15, which establishes a State GHG reduction target of 40 percent below 1990 levels by 2030. The new emission reduction target provides for a mid-term goal that would help the State to continue on course from reducing greenhouse gas (GHG) emissions to 1990 levels by 2020 (per AB 32) to the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050 (per Executive Order S-03-05). This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will

likely be major climate disruptions. Executive Order B-30-15 also addresses the need for climate adaptation and directs State government to:

- Incorporate climate change impacts into the State's Five-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the State climate adaptation strategy, to identify how climate change will affect California infrastructure and industry, and what actions the State can take to reduce the risks posed by climate change;
- Factor climate change into State agencies' planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions.

Greenhouse Gases **Senate Bill 97**

Senate Bill (SB) 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State California Environmental Quality Act (CEQA) Guidelines for addressing greenhouse gas emissions. OPR prepared its recommended amendments to the State CEQA Guidelines to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions, and the effects of greenhouse gas emissions, in draft CEQA documents. The Amendments became effective on March 18, 2010.

Greenhouse Gases **Senate Bill 375**

Senate Bill (SB) 375 requires the California Air Resources Board (CARB) to develop regional greenhouse gas emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. The 18 metropolitan planning organizations (MPO) in California will prepare a "sustainable communities strategy" to reduce the amount of greenhouse gas emission in their respective regions and demonstrate the ability for the region to attain CARB's reduction targets. CARB would later determine if each region is on track to meet their reduction targets. In addition, cities would have extra time -- eight years instead of five -- to update housing plans required by the State.

Greenhouse Gases **Senate Bill 32**

An update to Assembly Bill (AB) 32 was passed in August 2016, which extends the State's targets for reducing greenhouse gases from 2020 to 2030. Under Senate Bill (SB) 32, the State would reduce its greenhouse gas emissions to 40 percent below 1990 levels by 2030.

<i>Greenhouse Gases</i>	Assembly Bill 1279 Assembly Bill (AB) 1279, passed in 2022, declares the State's objective to achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter. This is in addition to, and does not replace or supersede, statewide greenhouse gas emissions reduction targets.
<i>Geology, Soils, and Seismicity</i>	California Building Standards Code Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.
<i>Geology, Soils, and Seismicity</i>	Alquist-Priolo Earthquake Fault Zoning Act The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Earthquake Fault Zoning Act.

Geology, Soils, and Seismicity **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until

the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.

- The State Mining and Geology Board provides additional regulations, policies, and criteria to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Geology,**California Department of Transportation Seismic Design Criteria*****Soils, and Seismicity***

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 Seismic Design Methodology (Caltrans 1999) outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components, and seismic design practices that collectively make up Caltrans' seismic design.

Mineral and Energy Resources**Surface Mining and Reclamation Act of 1975**

The California Department of Conservation Surface Mining and Reclamation Act of 1975 (§ 2710), also known as SMARA, provides a comprehensive surface mining and reclamation policy that permits the continued mining of minerals, as well as the protection and subsequent beneficial use of the mined and reclaimed land. The purpose of SMARA is to ensure that adverse environmental effects are prevented or minimized, and that mined lands are reclaimed to a usable condition and readily adaptable for alternative land uses. The production and conservation of minerals are encouraged, while giving consideration to values relating to

recreation, wildlife, range, and forage, as well as aesthetic enjoyment. Residual hazards to public health and safety are eliminated. These goals are achieved through land use planning by allowing a jurisdiction to balance the economic benefits of resource reclamation with the need to provide other land uses.

If a use is proposed that might threaten the potential recovery of minerals from an area that has been classified mineral resource zone 2 (MRZ-2), SMARA would require the jurisdiction to prepare a Statement specifying its reasons for permitting the proposed use, provide public notice of these reasons, and forward a copy of the Statement to the State Geologist and the State Mining and Geology Board (Cal. Pub. Res. Code Section 2762). Lands classified MRZ-2 are areas that contain identified mineral resources.

Hydrology and Water Quality **California Fish and Wildlife Code**

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that "an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake" (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

Hydrology and Water Quality **State Updated Model Landscape Ordinance**

Under Assembly Bill (AB) 1881, the updated Model Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by January 31, 2010 or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance (MO). The Orange County Municipal Code includes a section addressing landscaping water use standards.

Hydrology and Water Quality **California Department of Health Services**

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The

Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund ("SRF") and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

*Cultural
Resources*

California Register of Historic Resources

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the State. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks number 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under the California Environmental Quality Act (CEQA) (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission, and are nominated; their listing in the California Register is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, State, or national level under one or more of the following four criteria:

- 1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- 2) It is associated with the lives of persons important to local, California, or national history;

- 3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- 4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information, or specific data.

*Cultural
Resources*

Public Resources Code Section 5097.5

Public Resources Code Section 5097.5 states as follows: No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands (lands under State, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority, or public corporation, or any agency thereof.

*Cultural
Resources*

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires that lead agencies determine whether projects may have a significant effect on archaeological and historical resources. This determination applies to those resources which meet specific criteria qualifying them as "unique," "important," listed on the California Register of Historic Resources (CRHR), or eligible for listing on the CRHR. If the agency determines that a project may have a significant effect on a significant resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. If a cultural resource is found not to be significant under the qualifying criteria, it need not be considered further in the planning process.

CEQA emphasizes avoidance of archaeological and historical resources as the preferred means of reducing potential significant environmental effects resulting from projects. If avoidance is not feasible, an excavation program or some other form of mitigation must be developed to mitigate the impacts. In order to adequately address the level of potential impacts, and thereby design appropriate mitigation measures, the significance and nature of the cultural resources must be determined. The following are steps typically taken to assess and mitigate potential impacts to cultural resources for the purposes of CEQA:

- Identify cultural resources;
- Evaluate the significance of the cultural resources found;
- Evaluate the effects of the project on cultural resources; and
- Develop and implement measures to mitigate the effects of the project on cultural resources that would be significantly affected.

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in a project's area of potential affect, assessment of potential impacts on significant or unique resources, and development of mitigation measures for potentially significant impacts, which may include monitoring combined with data recovery and/or avoidance.

*Cultural
Resources*

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human

remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission. The California Environmental Quality Act (CEQA) Guidelines (Section 15064.5) specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the Native American Heritage Commission.

Several sections of the California Public Resources Code protect paleontological resources.

Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any “vertebrate paleontological site, including fossilized footprints,” on public lands, except where the agency with jurisdiction has granted express permission. “As used in this section, ‘public lands’ means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority, or public corporation, or any agency thereof.”

California Public Resources Code, Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The sections of the California Administrative Code relating to the State Division of Beaches and Parks afford protection to geologic features and “paleontological materials” but grant the director of the State park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the State park system and for State park purposes (California Administrative Code, Title 14, Section 4307 – 4309).

*Cultural
Resources*

Senate Bill 18 (Burton, Chapter 905, Statutes 2004)

Senate Bill (SB) 18, authored by Senator John Burton and signed into law by Governor Arnold Schwarzenegger in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places (“cultural places”) through local land use planning. This legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and added §65352.3, §653524, and §65562.5 to the Government Code, also requires the

Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments on how to conduct these consultations. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. This consultation and noticing requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

*Cultural
Resources*

Assembly Bill 52

Assembly Bill (AB) 52, approved in September 2014, creates a formal role for California Native American tribes by creating a formal consultation process and establishing that a substantial adverse change to a tribal cultural resource has a significant effect on the environment. Tribal cultural resources are defined as:

- 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - A) Included or determined to be eligible for inclusion in the CRHR.
 - B) Included in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k).
- 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1 (c). In applying the criteria set forth in PRC Section 5024.1 (c) the lead agency shall consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria above is also a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. In addition, a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a "non-unique archaeological resource" as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with above criteria.

AB 52 requires a lead agency, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

*Cultural
Resources*

California Administrative Code, Title 14, Section 4307

This section states that "No person shall remove, injure, deface, or destroy any object of paleontological, archeological, or historical interest or value."

*Cultural
Resources*

Mills Act

Under California Government Code Section 50280 et seq., the City is authorized to enter into contracts with the owners of qualified historical properties to provide for the appropriate use, maintenance, and rehabilitation so that such properties retain their historic characters. As an incentive to entering the contract, the provisions of the Act allow the County Tax Assessor to assess the property using a different formula which typically results in a lower tax bill.

*Visual
Resources
and
Community
Image*

California Department of Transportation – California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and map showing their locations may be obtained from the Caltrans Scenic Highway Coordinators.

If a route is not included on a list of highways eligible for scenic highway designation in the Streets and Highways Code Section 263 et seq., it must be added before it can be considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

When a local jurisdiction nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic highway designation protects the scenic values of an area. Jurisdictional boundaries of the nominating agency are also considered, and the agency must also adopt ordinances to preserve the scenic quality of the corridor, or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

To receive official designation, the local jurisdiction must follow the same process required for official designation of State Scenic Highways. The minimum requirements for scenic corridor protection include:

- Regulation of land use and density of development;
- Detailed land and site planning;
- Control of outdoor advertising (including a ban on billboards);
- Careful attention to and control of earthmoving and landscaping; and
- Careful attention to design and appearance of structures and equipment.

7.4.3 Local Regulatory Framework

Air Quality

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) shares responsibility with the California Air Resources Board (CARB) for ensuring that all State and federal ambient air quality standards are achieved and maintained over an area of approximately 10,743 square miles. This area includes all of Orange County and Los Angeles County

except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County.

The SCAQMD reviews projects to ensure that they would not (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay the timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the South Coast Air Basin. In coordination with the Southern California Association of Governments (SCAG), SCAQMD is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the South Coast Air Basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the national and/or California ambient air quality standards.

In 2003, an AQMP was prepared by SCAQMD to bring the South Coast Air Basin, as well as portions of the Salton Sea Air Basin under SCAQMD jurisdiction, into compliance with the 1-hour O₃ and PM₁₀ national standards. The 2003 AQMP also replaced the 1997 attainment demonstration for the federal CO standard and provided a basis for a maintenance plan for CO for the future. It also updated the maintenance plan for the federal NO₂ standard, which the South Coast Air Basin has met since 1992.

A subsequent AQMP for the Basin was adopted by SCAQMD on June 1, 2007. The goal of the 2007 AQMP was to lead the South Coast Air Basin into compliance with the national 8-hour O₃ and PM_{2.5} standards. The 2007 AQMP outlined a detailed strategy for meeting the national health-based standards for PM_{2.5} by 2015 and 8-hour O₃ by 2024 while accounting for and accommodating future expected growth. The 2007 AQMP incorporated significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling. Most of the reductions were to be from mobile sources, which

are currently responsible for about 75 percent of all smog and particulate-forming emissions.

The SCAQMD approved the 2012 AQMP on December 7, 2012. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2012 AQMP outlines a comprehensive control strategy that meets the requirement for expeditious progress toward attainment with the 24-hour PM_{2.5} federal ambient air quality standard with all feasible control measures and demonstrates attainment of the standard by 2014. The 2012 AQMP also updates the 8-hour O₃ control plan with new emission reduction commitments from a set of new control measures that implement the 2007 AQMP's Section 182 (e)(5) commitments. The goal of the Final 2012 AQMP is to lead the Basin into compliance with the national 8-hour O₃ and PM_{2.5} standards.

The SCAQMD approved the Final 2016 AQMP on March 3, 2017. The 2016 AQMP includes transportation control measures developed by SCAG from the 2016–2040 RTP/SCS, as well as the integrated strategies and measures needed to meet the NAAQS. The 2016 AQMP demonstrates attainment of the 1-hour and 8-hour O₃ NAAQS as well as the latest 24-hour and annual PM_{2.5} standards.

The SCAQMD has also prepared the 2010 Clean Communities Plan (Formerly the Air Toxics Control Plan), the Air Quality Monitoring Network Plan, the Vision for Air: A Framework for Air Quality and Climate Plan.

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board that (1) limit the emissions that can be generated by various uses and activities; and (2) identify specific pollution reduction measures, which must be implemented in association with various uses and activities. These rules regulate the emissions of not only the federal and State criteria pollutants, but also TACs and acutely hazardous materials. The rules are also subject to ongoing refinement by SCAQMD.

Among the SCAQMD rules applicable to the project are Rule 403 (Fugitive Dust), Rule 1113 (Architectural Coatings), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Rule 403 requires the use of stringent best available control measures (BACMs) to minimize PM₁₀ emissions during grading and construction activities. Rule 1113 requires reductions in the VOC content of coatings. Compliance with SCAQMD Rule 1403 requires the owner or operator of any demolition or renovation activity to have an asbestos survey performed prior to demolition and to provide notification to the SCAQMD prior to commencing demolition activities.

*Air Quality/
Greenhouse
Gases*

Southern California Association of Governments - Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is the metropolitan planning organization (MPO) for the region in which the City of Laguna Niguel is located. Every four years, SCAG updates Connect SoCal, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) as required by federal and State regulations.

The plan was developed through a four-year planning process involving rigorous technical analysis, extensive stakeholder engagement and robust policy discussions with local elected leaders. Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies and strategies for achieving the region's shared goals through 2050. The Plan elements that are necessary to bring this vision to fruition are organized within the pillars of Mobility, Communities, Environment and Economy. However, the conditions of the region and impacts of our decisions are all intertwined. Investment decisions for our transportation system impact the quality of our environment and the resilience of the economy, while SCAG decisions about how to develop our communities impact demands on our transportation system and our residents' access to opportunities. The most recent RTP/SCS was approved by SCAG's Regional Council in April 2024.

*Greenhouse
Gases*

South Coast Air Quality Management District (SCAQMD)

The South Coast Air Quality Management District (SCAQMD) adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in

rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1- trichloroethane or TCA), carbon tetrachloride, and halons by December 1995.
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000.
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415).
- Develop an emissions inventory and control strategy for methyl bromide
- Support the adoption of a California GHG emission reduction goal.

SCAQMD released draft guidance regarding interim California Environmental Quality Act (CEQA) greenhouse gas (GHG) significance thresholds in 2008. Within its October 2008 document, SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 MT CO₂e per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where SCAQMD is the lead agency.

7.5 COMMUNITY HEALTH AND WELLNESS

This regulatory section ties in with the analysis of the community health and built environment conditions presented in Chapter 6.0, Community Health and Wellness. The community health and built environment regulations at the federal, State, and local levels are presented here. The information in this section provides a current regulatory perspective on community health and built environment conditions in the City and is intended to assist the General Plan Update process.

7.5.1 Federal Regulatory Framework

Access to Affordable Care Act

Health Care and Health Facilities The Affordable Care Act (ACA) is a comprehensive federal health care reform law that was enacted in March of 2010. The ACA expanded the Medicaid program to cover more adults by adjusting income requirements and provides consumers with subsidies that lower costs for households with incomes between 100 percent and 400 percent of the federal poverty level. Consumer subsidies are paid in the form of "premium tax credits". The Internal Revenue Service (IRS) is responsible for tax provisions of the current ACA law and the Center for Consumer Information and Insurance Oversight (CCIIO) is responsible for overseeing the implementation of current private health insurance legislation within the ACA.

Access to Medicaid/Medicare

Health Care and Health Facilities Medicaid is a federal program that provides health coverage to Americans. Medicaid was established in July 1965, authorized by Title XIX of the Social Security Act. The program is a federal program that also functions at the State level. Each State uses unique financial eligibility guidelines to determine if you are eligible for Medicaid coverage. In general, the Medicaid program is intended to provide health coverage for people with limited income and assets. There are Medicaid funded programs for various subgroups of people including; Older adults, People with disabilities, Children, Pregnant people, and Parents and/or caretakers of children.

Medicare is a federal health insurance program established under Title XIX in July of 1965. Medicare insurance benefits are intended for:

- People who are 65 and older
- Certain younger people with disabilities
- People with End-Stage Renal Disease

Different components of Medicare help cover specific health-related services. These services include: hospital Insurance (Medicare Part A), medical Insurance (Medicare Part B), and prescription drug coverage (Medicare Part D).

Food Access

Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP) is a federal aid program administered by the United States Department of Agriculture under the Food and Nutrition Service (FNS) agency. Benefits are distributed in the form of basic nutritional needs to low-income persons who qualify. SNAP benefits are administered through electronic debit cards (EBT), which may be used to purchase groceries at authorized SNAP retailers. The regulation is targeted toward at-risk citizens within the United States, and eligibility is limited based on income. SNAP is administered by the States, which may adapt the program to best meet their needs.

7.5.2 State Regulatory Framework

Food Access

California Healthy Food Financing Initiative

The California Healthy Food Financing Initiative (CHFFI) was established in 2011 to increase access to grocery stores and healthy food retailers for underserved communities. Governor Brown signed Assembly Bill (AB) 581 into law, formally creating the CHFFI. The law establishes an advisory group under the California Department of Food and Agriculture to develop recommendations for measures to increase healthy food accessibility within the State. In addition, the law functions as a private-public partnership program. The program includes the CHFFIC Fund within the State Treasurer's Office, which incorporates public and private funds to provide financing for grocery stores and other forms of healthy food retail.